HOUSE M.D. AND CREATIVITY: A CORPUS LINGUISTIC SYSTEMIC FUNCTIONAL MULTIMODAL DISCOURSE ANALYSIS APPROACH

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House M.D. and Creativity: a Corpus Linguistic Systemic Functional Multimodal Discourse Analysis Approach

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CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

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Lok Hei LAW

Dedication

For my family

– "And I say that with all the love in the world" (*House M.D.* Season 4 Episode 13 *No More Mr. Nice Guy*)

Abstract

This present study has examined the use of creative language / linguistic creativity, i.e pattern-reforming and pattern-forming creativity as defined by Carter (2004), in the television drama dialogue of *House M.D.*, and has investigated its correlation with semiotic modes using a combination of corpus linguistic and systemic functional multimodal discourse analysis (SFMDA) approach.

Based on Halliday's (1985; 2010) systemic functional theory, this study has also proposed two new analytical frameworks to explore and describe linguistic creativity from a systemic functional perspective: the Creativity-In-Register Cube Framework (CIRCF) combines theories from Carter's (2004) creativity matrix, Poynton's (1985) three continua of tenor and Matthiessen's (2009; 2015b) registerial cartography to form a multi-dimensional descriptive model for the representation of the probabilistic nature of linguistic creativity; the Analytical Framework for Creativity in Multimodal Texts (AFCMT) builds upon the notion of Halliday's (1967) information status 'new' and 'given' and Halliday and Matthiessen's (1999 [2006]) reference to establish the concept of Implicit (Assumed) & Explicit (Known), Endo-referenced & Exo-referenced (IEEE), which classifies creativity in terms of implicitness and reference type, and the Cline of Creativity Complexity (CCC), which explains the degree of creativity complexity using the concept of IEEE. Regarding the SFMDA approach, this study has adopted Halliday and Matthiessen's ([1985] 2014) analysis of interpersonal meanings through SPEECH FUNCTION and MOOD analysis, as well as Bednarek's (2010) multimodal analysis of mise-en-scène, nonverbal behaviour and acting.

This study has demonstrated the steps and effectiveness in the computer-assisted extraction of linguistic creativity, and how statistical measures such as *t*-score and MI value may improve efficiency of the extraction process. Quantitative and qualitative analyses have revealed that several multimodal resources in *House M.D.* are involved in the construal of interpersonal meanings at the moments of linguistic

creativity production, and that they are closely related to conversation type (register), field of activity / socio-semiotic process (field), location (field) and power (tenor).

Research output arising from the thesis

Journal articles:

Law, L. (in press). When Creativity Meets Systemic Functional Linguistics: the birth of an innovative 3D model. *Linguistics and Human Sciences*. Equinox.

Law, L. (in press). Creativity & Multimodality: an Analytical Framework for Creativity in Multimodal Texts (AFCMT). *Linguistics and Human Sciences*. Equinox.

Law, L. (in press, mid 2019). Creativity & television drama: a corpus-based multimodal analysis of pattern-reforming creativity in *House M.D. Corpora, 14(2).* Edinburgh University Press.

Manuscripts submitted to journals:

Law, L. (Manuscript submitted on 8 May 2018). Creativity & Television Drama: A *t*-score and MI Value Cut-offs Analysis of Pattern-forming Creativity in *House M.D. Frontiers in Corpora and Intercultural Studies. Springer*.

Book chapters:

Law, L. (in press). Creativity & Multimodality: an Analytical Framework for Creativity in Multimodal Texts (AFCMT). In K. K. Tam (Ed.), *Digital Culture and Humanities: Challenges and Developments in a Globalized Asia* (Vol. 3). Springer.

Conference proceedings:

Law, L. (2015). *House M.D.* Corpus Analysis: A Linguistic Intervention of Contemporary American English. *ASIALEX 2015 : The 9th International Conference of Asian Association of Lexicography* (pp. 230-249). Hong Kong: ASIALEX. Retrieved June 27, 2017, from http://asialex.org/pdf/Asialex-Proceedings-2015.pdf

Conference presentations:

Law, L. (Jun 2017). Creativity & multimodality: an analytical framework for creativity in multimodal texts. Presented at *RIDCH Conference 2017*. The Open University of Hong Kong. http://www.ouhk.edu.hk/wcsprd/Satellite?pagename=OUHK/tcSchWeb2014&l=C_ASS&lid=1471917205471&c=C_ASS&cid=1493167437237&lang=eng&sch=ASS&mid=0 .

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Contemporary American English. Presented at *Asialex 2015*. The Hong Kong
Polytechnic University. http://asialex.org/pdf/Asialex-Proceedings-2015.pdf

Law, L. (2015). *House M.D.* and Creativity: a Corpus Linguistic Systemic Functional
Multimodal Discourse Analysis Approach. Presented at *PolyU Faculty of
Humanities Postgraduate Research Symposium 2015*. The Hong Kong
Polytechnic University.

Working papers:

Law, L. (n.d.). EVERYBODY LIES: A Discourse Analysis of Deceptions in TV Drama
House M.D.

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It is a great honour to have Prof. Matthiessen as my chief supervisor. He is everything that any PhD students can possibly ask for. He is immensely knowledgeable, patient, motivating, encouraging and inspiring. Despite his hyper busy schedule, he has always managed to offer hours and hours of consultation to his students. He treats every one of my emails seriously, replying in the form of near-essays within minutes at his quickest, and rarely more than a few hours at the latest. Prof. Matthiessen is also a great friend with whom I can share any difficulties I face during my study and expect the best advice in the most considerate tone from his reply. I cannot thank him enough.

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1. Chapter 1 -- Introduction

"Everybody has a creative potential and from the moment you can express this creative potential, you can start changing the world." – Paulo Coelho (2015)

1.1. Introduction

The present study conducts a corpus-based systemic functional multimodal discourse analysis of pattern-reforming and pattern-forming creativity from a dialogue corpus of *House M.D.*

The motivation of this study has very much been driven by the extremely rapid development of Artificial Intelligence (AI) in recent years, or more precisely, the lack of development of linguistic creativity in AI. AI has been one of the popular mega-themes in science-fiction movies and TV dramas – The Terminator franchise (1984-2015), A.I. Artificial Intelligence (2001), Her (2013), Battlestar Galactica (2004 – 2009), Humans (2015 –) and Mr. Robot (2015 –), to name a few. We, the 'real-world' audience of these 'unreal' cinematographic experiences, have been mentally trained to recognise the distance between artificial intelligence and humans – the distance between the virtual plane and the reality plane; the distance between two distinctive dimensions. Until recent years, our understanding of the proximity of artificial intelligence has been greatly impacted. From the introduction of mobile intelligent personal assistant Siri in Apple devices in 2011 (Velazco, 2011) and Google Now in Android devices in 2012 (Needleman, 2012), to the YouTube live streaming of Google's AI AlphaGo beating world's best Go players in 2017 (Cadell, 2017), to a Tesla electric vehicle which will know where the driver want to go without asking him (Galeon, 2017), AI has become part of

our everyday life, for work and for leisure, made possible by the advances in internet mobility and the drop in cost of ownership in mobile devices. The simple fact is that the current stage of AI development is already at the creation of linguistic texts (Andrews, 2017), language (Walker, 2017) and artworks (Baraniuk, 2017), but linguistic research in creativity studies is far from adequate for addressing this trend.

One of the major obstacles researchers faced is the absence of a viable method in the extraction of linguistic creativity from a large corpus through computational means. In order to achieve this, there is a need to establish a correlation between the instances of linguistic creativity and their corresponding values of statistical measures.

Since linguistic creativity is a multimodal process and that there may be multimodal cues at the moments of instantiation, there is also a need for an investigation of correlations between linguistic creativity and certain multimodal resources. One of the best resources for these investigations is TV drama, which offers written scripts, spoken languages and audiovisuals from its videos. It also provides the stability and longitudinality in the use of language by the recurring characters across multiple episodes and seasons. Among numerous wholesome TV dramas, *House M.D.* is selected for this project. Both the corpus linguistics approach and the systemic functional linguistics approach to multimodal discourse analysis form the backbone for this study.

In Chapter 1 -- Introduction, the current chapter, I will provide the rationale for the present study, including the choice of topics, approaches and data. I will then discuss the research aims by specifying the research questions and the significance of this research. In Chapter 2 -- Literature Review, I will review the relevant literature, including a brief history of television drama, an introduction to the TV drama *House M.D.*, the background of creativity and creative language studies, an overview of the linguistic creativity and systemic functional linguistics in this study, and a brief introduction of the creative language studies of television drama dialogue. In Chapter 3 – General Method, I provide an introduction to the relevant methods adapted in this study, including the scope of linguistic creativity, the type of tests and measures used in corpus linguistics,

the brief overview of the development of systemic functional multimodal discourse analysis (SFMDA) and the SFMDA adapted specifically for this study. I will then discuss the project design and the choice of COCA as reference corpus before listing the steps required to constructing the *House M.D.* Corpus (HMDC). In Chapter 4 – Analytical Framework for Creativity in Multimodal Texts (AFCMT), I will first propose a new framework for the analysis of creativity in multimodal texts, which will involve the introduction of the concept of Implicit (Assumed) & Explicit (Known), Endo-referenced and Exo-referenced (IEEE), as well as the Cline of Creativity Complexity (CCC). Then, I will explain the various combinations of IEEE in AFCMT with examples, consisting of, but not limited to, TV drama and movie scenes, animal's sign language, MTV and song, graphics and digital arts, and 're-creativity' and social media. In Chapter 5 – Pattern-reforming creativity, I will first extract instances of pattern-reforming creativity from *House M.D.* using corpus methods and multimodally transcribe the corresponding scenes of these instances, then perform quantitative analysis on the extracted data. From the output of the quantitative analysis, three selected scenes will be analysed qualitatively using AFCMT and SFMDA. In Chapter 6 – Pattern-forming creativity, I will first extract instances of pattern-forming creativity from the TV drama, which will include a detailed walkthrough of the steps and calculations involved in generating MI value cut-off and *t*-score cut-off. I will then perform a crucial cut-off analysis on the MI values and t-score values collected which will further speed up the process of pattern-forming creativity extraction. Next, I will propose and explain another analytical framework, the Creativity-In-Register Cube Framework (CIRCF), and then applying that to the quantitative analysis of pattern-forming creativity. From the output of the quantitative analysis, two selected scenes will be analysed qualitatively using AFCMT and SFMDA. Finally, I will conclude this thesis in Chapter 7 -- Conclusion by first itemising the limitations of this study, before offering a general conclusion by answering the three research questions established in Chapter 1. Adopting the section names from IMDb.com, I name the last few sub-sections as Final scene Easter egg and Did You Know?. The latter is sub-divided into five other sub-sections including Trivia, Goofs, Quotes, Connections and

Soundtracks. All these subsections will take the readers of this thesis – that means you – behind the scenes and get a glimpse of the 'fun stuff' which will normally not be included in a PhD thesis. Last but not least, the reference list is furnished without request under the section. (Creativity intended)

1.2. Rationale for the study

The rationale for this study can be explained through answering the following questions:

1. Why creativity?
2. Why television drama dialogue?
3. Why *House M.D.*?
4. Why adopt a combination of corpus linguistic and systemic functional multimodal (SFMDA) perspective?

Each of these questions will be answered below in their respective subsections.

1.2.1. Why creativity?

For centuries, creativity has been one of the most intriguing and debated phenomena. Its definitions vary with time and culture (Carter, 2004), from creation to invention (Maslow, 1962; Kemlo, 2008) and ranging from being a product of sanity to a symptom of insanity (Forrest, 1696; Folley & Park, 2005), yet it is precisely such abstraction that has hindered its research development, most notably in the linguistic field. Linguists have only begun their research in the lexicogrammatical forms of creativity in the 1950s, focusing mainly on its written form rather than spoken, and rarely on the language and language use (Carter, 2004).

While linguists continue to ignore or avoid the research in linguistic creativity very much till this day, there had been vast interest in creativity from various non-linguistic disciplines such as psychology starting from the late 1980s (Cacciari & Tabossi, 1988; Gibbs & Nayak, 1989; Gibbs, Nayak, & Cutting, 1989), cognitive science since the early 1990s (Boden, 1994; 1998), pragmatics in 2000s (Tendahl & Gibbs Jr, 2008; Sperber & Wilson, 2008; Moreno, 2007) and, perhaps the most intense of all, computational creativity since early 1990s into present time, most likely as a result of technological

advancement and influx of investment into the research of artificial intelligence (Boden, 2004; 2009; Elgammal & Saleh, 2015).

Inspired by Carter's (2004) *Language and Creativity: The Art of Common Talk*, this study aims to develop the immense potential for linguistic research in creative language use and address the serious lack of contribution of the subject.

To set the scene, the definition of linguistic creativity throughout this study is based on Carter's (2004) creativity hypothesis in all common talk. The hypothesis emphasises two types of creativity – pattern-reforming creativity, which refers to the "creativity by displacement of fixedness, reforming and reshaping patterns of language"; and pattern-forming creativity, which refers to "creativity via conformity to language rules rather than breaking them, creating convergence, symmetry and greater mutuality between interlocutors" (Vo & Carter, 2010, p. 303).

1.2.2. Why television drama dialogue?

While literary text and spoken discourse receive ever-lasting attention from the research fields, with poetry, traditional drama and film-scripts particularly being adored by scholars and researchers, the language of popular culture in general has not been taken seriously by linguists or educators (Norton & Vanderheyden, 2004; Pennycook, 2007; Bednarek, 2010). Thanks to Metz's (1974) seminal work *Film Language: A Semiotics of the Cinema*, cinematic discourse has since enjoyed decades of innovation and discovery. On the other hand, television drama dialogue, a form of "mediated" "represented talk" (Richardson, 2010, p. 177) closely related to cinematic discourse, has not been taken seriously in applied linguistics (Bednarek, 2010; Pennycook, 2007) and sociolinguistics (Androutsopoulos, 2012). The disregard for such potentially pedagogically resourceful text has led to its paucity in linguistic studies.

When compared with the amount of research in film discourse, the severe lack of research in television drama dialogue is an extremely poor reflection of its true value. In

fact, the key advantages of television drama dialogue have over film script are their superiority in size and longitudinality. These two advantages allow the construction of much larger corpora and analysis of linguistic trends which corpora of individual film or multiple films fail to achieve. When compared with spoken language, television drama dialogue "might be even more likely than Carter's *everyday* language to escape critical attention." (Richardson, 2010, p. 194) Therefore, television drama dialogue deserves far greater attention from researchers than it has received so far. This study aims to become an additional force in advocating research in television drama dialogue.

1.2.3. Why *House M.D.*?

House M.D. is selected for a number of reasons. Firstly, it is written with creativity and language quality very much worth exploring and exploiting. Accomplished director of photography of *House M.D.* Gale Tattersall, who commented in an interview by Olson (2010):

> *I think the writing is so superior to a lot of other television shows and also more to the point I think the scriptwriting is usually much more polished than anything you see in 70% of the movies these days, the writing is fantastic!... It has been a constant challenge and I absolutely loved it! (9:20 - 9:52)*

Such a proposition is in line with Richardson's (2010, p. 194):

> *"On the formal side, a possibility exists that dramatic dialogue, approached in the right way, might provide access to patterns of language behavior not (yet) discovered or fully explored in naturally occurring spontaneous interaction – might, indeed, be manifesting its creativity by expressively displaying those patterns. The fake banter exchanges in House (see chapter 9) are an instance of this."*

Secondly, it is a popular television program which has set 3 Guinness World Records (namely the world's popular TV show, the world's most watched leading man and the world's highest-paid TV actor in a drama series) (Guinness World Record News, 2012), as well as winning 2 Golden Globes, 54 awards and 131 nominations (IMDb, n.d.). In 2008, it was one of the top-ten rated shows in the United States as well as the most watched television program in the world (AFP, 2009). By 2011, it had been viewed by a spectacular 81.8 million in 66 countries (The Telegraph, 2011), placing Hugh Laurie's name on the Guinness Book of Records since 2011 as the world's Most-Watched (Leading) Man On Television and the 2nd on Forbes's list of the Highest-Paid TV Actors in 2012 (Pomerantz, 2012) at $400,000 (£247,230) per episode (Guinness World Records, 2011). It is ranked 74th on the 101 Best Written TV Series list by the Writers Guild of American, West (2013). Bignell and Lacey (2005, p. 6) argue that "it is television's very familiarity, and its conventional focus upon the familiar, the present time and the everyday, that opens up alternative formal and stylistic possibilities." Bednarek (2010) echoes that popularity of television and programmes alone is worthy of study due to its significant impact on our daily lives and societies. These world records and arguments make *House M.D.* a worthy candidate for this study.

Thirdly, the main character Dr. Gregory House, who was voted as the second sexiest television doctor ever in 2008 – with ER's doctor Doug Ross (George Clooney) in top spot (Donnelly, 2008), has been the inspiration for many publications from medical science (Sanders, 2009; Holtz, 2006; 2011) , medical humanities (Goodier & Arrington, 2007), philosophy (Jacoby & Irwin, 2008), psychology (Clyman, 2009; Jamieson, 2011; Cascio & Martin, 2011; Whitbourne, 2012; Li & Csikszentmihalyi, 2014) and media studies (Jackman & Laurie, 2010; Holtz, 2011; Hockley & Gardner, 2011), thereby playing a critical role in the construction of popular memory (Bignell & Lacey, 2005) and in academia. A linguistic study of House's creativity will bridge the existing work on House from the aforementioned disciplines.

Fourthly, from the linguistic perspective, there has been a handful of small-scale attempts to discuss the character's sarcasm and meanness (Culpeper, 2005; Culpeper, Bousfield, & Wichmann, 2003; Richardson, 2010), a proper full-scale research is anticipated nonetheless. This study will add to the body of knowledge of *House M.D.* established by the contributions from the philosophy and psychology fields, and provide a key reference for the future studies of creative language in telecinematic discourse.

Lastly, *House M.D.* is a unique creative instance in the modern television history of medical dramedy (Li & Csikszentmihalyi, 2014), one that takes a completely different approach to conventional medical dramedies such as *ER* and *Grey's Anatomy* by building the show around one single central character (Season 8, Swan Song), providing longitudinality in the creativeness of its repertoire and subsequently, an opportunity for the studies of creative language use to expand beyond the written form and into the scripted spoken counterpart.

1.2.4. Why adopt a combination of corpus linguistic and systemic functional multimodal (SFMDA) perspective?

 As technology advances, computers not only can store large amount of data but can also process such data in a considerably short amount of time and transmit the requested results through the Internet across the globe in seconds. With such technology comes the influx of corpus linguistic studies in the last three decades, from a point at which mini-corpora were once stored in local computer hard drives to mega-corpora being made accessible to the world online (McCarthy, O'Keeffe, & Anne, 2010). Linguists can now drill into the data in the search for the least obvious patterns, such as creative language uses (Carter, 2004; Vo & Carter, 2010), through computational corpus research at their fingertips.

Efficiency and accuracy are the two most important criteria in the search for patterns of linguistic creativity through 8 seasons (a total of 177 episodes) of *House M.D.*, which consists of 927,922 words of dialogues. These two criteria can be achieved most appropriately through methods and computational software programs of corpus linguistics (Vo & Carter, 2010). These programmes can generate useful statistics that not only can provide an overview of the corpus data for further quantitative analysis and in-depth qualitative analysis, but can also offer numerical clues which may point to the existence of certain correlations between linguistic creativity in language text (i.e. dialogues) and in multimodal text (i.e. every semiotic resource within the camera frame).

Since I am interested in discovering any intersemiotic correlations between linguistic creativity in language text and in multimodal text, both quantitative and qualitative approaches must be adopted in this study. Quantitative approaches such as corpus-based and corpus-driven investigations are suitable for searching through dialogues from hundreds of episodes of television drama series, but they lack consistency in pinpointing the exact creative phrase, words or figurative language (Moon, 2010) due to the limitation of software development (Vo & Carter, 2010; Carter, 2004). Pure statistical results obtained using corpus methods are not adequate for drawing a definitive conclusion. The adoption of a qualitative multimodal approach to complement the quantitative corpus methods is highly beneficial, particularly when working with video resources. It adds persuasiveness to arguments and provides additional levels of details to any patterns observed and meanings construed (Sripicharn, 2010). In order to describe and explain how such linguistically creative patterns in the multimodal space function in the making of meaning, a systemic functional linguistic to multimodal discourse analysis is adopted for this study.

The rationale for this study and points of interest can be translated into the research aims for this study. They are stated in the following section together with the research questions and significance of the research.

1.3. Research aims

This study aims to examine the use of creative language / linguistic creativity in the television drama dialogue of *House M.D.* and its correlation with telecinematic semiotic modes using a combination of corpus linguistic and systemic functional multimodal discourse analysis (SFMDA) approach.

1.3.1. Research questions

The research aims can be translated into the following research questions for this study:

1. How can linguistic creativity be recognised by computers? If possible, what filtering criteria are needed for the extraction of such creative language types?
2. Are there any correlations between a specific type of linguistic creativity in the dialogues of *House M.D.* (language text) and the multimodal semiotic resources in the frames (multimodal texts)? If so, how do such linguistically creative patterns in the multimodal space function in the making of meaning?
3. What creative language theories can be developed from a systemic functional perspective?

1.3.2. Significance of the research

In terms of significance, there are several key contributions to this research, namely methodological, telecinematic, linguistic and strategic.

The methodological contribution to the field of linguistics lies in the application of the proposed research design, i.e. the synergy of corpus linguistic and SFMDA approach. As far as computer technology is concerned, success in the application of a holistic approach to the extraction of linguistic creativity from corpora through computational power is far from being achieved. One reason behind this is the absence of agreement about creativity (Sawyer, 2006). Without a consensus on a universal definition of creativity means the absence of a starting point for the translation of creativity into computer language and codes. Another reason is that creativity in spoken language itself is a multimodal process (Carter, 2004; Finnegan, 2002) and thus cannot be solely described through text or bounded by formulas (Carter, 2004; Carter & McCarthy, 2004). To tackle the first issue, this study adopts the Carter's (Carter, 2004) definitions of pattern-reforming and pattern-forming creativity, which are defined based on the creative language use found in the CANCODE corpus of spoken English. By adopting such definitions, I can then single out certain linguistic forms of creativity which can be represented using computer language or codes, and thus facilitating the computational extraction process. To tackle the second issue, I have adopted a multimodal discourse analysis based on Systemic Functional Linguistics (SFL) so that linguistic creativity can be described from a functional view and a multimodal perspective.

The telecinematic contribution lies in the discovery of any correlations between the types of linguistic creativity and multimodal semiotic resources inside the video frame. This will contribute to the body of telecinematography of *House M.D.*, which may be applicable to other TV dramas or other genres of telecinematics. Furthermore, since the imitation of the reality on television by "convincingly "real" pseudo-human beings" (Pearson, 2007, p. 47) performing "carefully crafted dialogue" (Bubel, 2006, p. 42; Bednarek, 2010, p. 21) may impact viewers' perception of realism or naturalness over an extended period of time (Perritano, 2011; HowStuffWorks, 2015), the findings in this study may be useful for longitudinal comparative studies on similarities and differences of dramatised conversations and spoken American English in the real world.

Linguistically speaking, this study contributes to the field by offering new insights about creative language in *House M.D.* including the establishment of criteria for extraction of linguistic creativity, and the development of new analytical frameworks for linguistic creativity.

Strategically, this study demonstrates the calculation and effectiveness of statistical cut-offs for a dataset to minimise the time cost of extracting linguistic creativity. It also shows the use of Microsoft Excel in multimodal transcription and SFMDA which will benefit interested parties in carrying out similar analysis without the need for purchasing dedicated multimodal analysis software.

All in all, this study is an original contribution in the revealing of linguistic creativity in *House M.D.* and an advance in the multimodal study of TV drama through by adopting the methodological merger of corpus linguistics and SFMDA approach. All findings may contribute to the field of linguistics, computational linguistics, computational creativity as well as computer science, particularly in AI development.

1.4. Chapter summary

This chapter introduces the rationale for this study by answering four main questions. It then states the research questions and foreseeable significance of the research. As with all chapters in this thesis, this chapter ends with a chapter summary summarising what has been discussed and examined, as well as what will be in the next chapter.

This thesis is divided into 7 chapters. Beginning with this chapter, Chapter 1 -- Introduction gives reasons to support this study, states the research questions and significance of this study. Chapter 2 -- Literature Review reviews the relevant literature of past research and offers background information regarding this study. Chapter 3 – General Method discusses various methods and measures used for this study as well as outlining the overall project design before explaining the choice of reference corpus and preparing the data corpus for analysis. Chapter 4 – Analytical Framework for Creativity in Multimodal Texts (AFCMT) details a proposed analytical framework for the analysis of creativity in multimodal texts and explains the concepts involved using examples from various sources of different modes. Chapter 5 – Pattern-reforming creativity first lists out the steps required in the corpus linguistic extraction and multimodal transcription of pattern-reforming creativity and then performs quantitative analysis on the extracted data. Selected examples will undergo qualitative analysis and compare against the results obtained in the quantitative analysis. Chapter 6 – Pattern-forming creativity performs pattern-forming creativity extraction, quantitative and qualitative analysis in a similar order as the previous chapter. Chapter 7 -- Conclusion lists out all limitations to this study and then concludes by stating the summary of research, potential applications and potential future research.

In the next chapter, the relevant literature leading to this study of linguistic creativity in TV drama *House M.D.* will be reviewed, including literature on the history of television drama leading up to the background of the TV 'dramaedy' *House M.D.*, the background of creativity and creative language studies, and finally, the creative language studies of TV drama dialogue.

2. Chapter 2 -- Literature Review

"As with anything creative, change is inevitable." – Enya (2012)

2.1. The history of television drama

Television drama is a scripted fictional television programme. TV dramas first appeared in the national scale as broadcasted plays in the December 1936 (Shubik, 2000) as part of the BBC's test broadcasts project (BBC, 2007). Since the first multi-episodic drama serial *Ann and Harold* was telecasted in 1938 (Sale, 1996), television dramas have become the major genre of BBC's broadcasted television programmes.

World War II, however, brought a long period of suspension to the BBC television broadcasting and drama telecast had to be ceased between 1st September 1939 (BBC, 2008; Marcus, 2005) and 7th June 1946 (BBC, 2007; Shubik, 2000).

After the telecast had been resumed, television drama development entered a new phase both in Britain and in the United States. Serials, or miniseries in American term, have since expanded exponentially in numbers and in genres. This period is widely recognised as the "Golden Age of Television" (Thompson R. J., 1996). America's 'golden age' of television drama began from about 1947 / 1949 and lasted to approximately 1960 (Everett, 1997; Thompson R. J., 1996), while the 1960s and 70s were hailed as glorious time of the British counterpart (Vahimagi, 2003). The "golden age" television dramas were live original and classic dramas broadcasted on American television, including *Patterns* on *Kraft Television Theater* (1955), *Twilight Zone* (1959-1960), both written by teleplay Emmy award-winning writer Rod Serling (Everett, 1997).

The second golden age of television has been much debated even today. Some consider the period to be from 1980s to early 1990s, driven by the popularisation of Cable TV such as HBO which posed threat to the TV networks (Thompson R. J., 1996; Damico & Quay, 2016), while others ignore the aforementioned period and argue that the 21st-century TV dramas and video-on-demand providers have led to the second golden age of television we are in today (Cowan, 2013; Thompson D. , 2013). Popular TV dramas such as *The X-Files* (1993 – 2002; 2016 – present), *Friends* (1994 – 2004), *ER* (1994 – 2009), *Sex and the City* (1998 – 2004), *The West Wing* (1999 – 2006), *Breaking Bad* (2008 – 2013), *Game of Thrones* (2011 – present) and *House M.D.* (2004 – 2012), for instance, are some of the products of this period which have been listed in the 101 Best Written TV Series by Writers Guild of America, West (2013).

In terms of format, television dramas have undergone big changes throughout the history. A modern television drama series consists of episodes forming a set and it may be called a "*series*" in the United Kingdom or a "*season*" in North America, although the usage of these terms differs from country to country. According to Douglas (2007a; 2007b), before television was popularised in the United States, the term 'dramas' was once referred to "two hour movies … had a predictable beginning, a three act structure, and an end", whereas a typical modern day drama season last 22 to 24 episodes with each episode running an average of "44 minutes of actual dramatic material out of a sixty minute hour" with commercial interruptions.

In terms of distribution, many TV drama series are now made available through syndication and DVDs or Blu-ray discs due to the change in TV viewers'' habit (Douglas, 2007b). Another mean for distribution of TV dramas is through subscription online streaming and video-on-demand provider such as Netflix and Hulu (Moore, 2017).

2.2. The 'dramedy' *House M.D.*

"I'm completely hooked on House, which is odd because normally I don't like medical programmes. ER, Casualty, Grey's Anatomy have all passed me by. But give me Hugh Laurie with a beard, a gammy leg and an American accent and I can't turn it off." – Ian Hislop, British journalist (2006)

*House M.D.*is an American television medical 'dramedy' spanning eight seasons with a total of 177 episodes aired on the FOX Network from 16th November 2004 to 21st May 2012 (Wikia, n.d.), created by Primetime Emmy Awards Outstanding Writing for a Drama Series winner David Shore, executively produced by television writers including film director of *Valkyrie and X-Men* Bryan Singer, and actor Hugh Laurie, whose performance in *House M.D.* has twice crowned him as the winner of the Golden Globe Best Performance by an Actor in a Television Series – Drama (IMDb, n.d.)*.* As of June 2017, it has received an 8.8 / 10 rating from 330, 849 users on IMDb.com (IMDb, n.d.). The show had an audience of over 81.8 million in 66 countries in 2008, representing a potential 1.6 billion viewers and topping as the world's most watched television drama series in that year (AFP, 2009). Other related achievements are listed in section 1.2.3.

For each season of *House M.D.*, character arcs were first mapped out by a team of writers before individual writers created their respective episodes (Wild, 2005a), with diagnoses and accuracy of medical cases checked by actual medical advisers (Gonzalez, 2009; Oldenburg, 2005; Woznicki, 2005). In the pre-production stage of each episode, a director's meeting was first held, followed by a table read involving the actors, the production team and the crew, a production meeting, a series of location scouting and then an art department meeting (Laurie, et al., 2012) before shooting commenced (Season 8, *Swan Song*; Laurie, et al., 2012). During the shoot, there was a unique on-going dialogue between directors, writers and producers during filming, which *House*

M.D. director Greg Yaitanes opined this to be "extremely rare in television" (Yaitanes, 2009). Shooting of each 45-minute episode had to be completed within a tight 8-day schedule (Olson, 2010; Laurie, 2009) covering 8 pages of script per day (Olson, 2010) with two episodes being shot simultaneously on the ninth and tenth day (Laurie, 2009) and was primarily recorded on film, although digital single-lens reflex cameras (DSLR) such as Canon 5D (Olson, 2010) and Canon 5D Mk II were used in several episodes (Canon, 2010) in order to "create an incredible cinematic feeling… even more cinematic than shooting on regular 35mm film" as the "extra shallow depth-of-field" produced with DSLRs was beyond the capability of film (Olson, 2010) (18:13 - 18:37).

While several early episodes of *House M.D.* were inspired by The New Yorker staff writer Berton Roueché's (1988) *The Medical Detectives* (Gibson, 2008)*,* the main character Dr. Gregory House was inspired by Sir Arthur Conan Doyle's renowned fictional detective Sherlock Holmes (Slate, 2006) who, in turn, had been inspired by a real-life surgeon (Slate, 2006) Dr. Joseph Bell at the Royal Infirmary of Edinburgh whom Doyle had served as a clerk (Lycett, 2007). Originally adopting the working title of *Chasing Zebras, Circling the Drain* (a title which is linguistically creative since "zebra" is medical slang for an weird disease (Jensen, 2007), while "circling the drain" refers to a patient on the verge of death (Farlex, 2012)), the show eventually acquired a minimalistic title of *House M.D.* which Shore, a longtime fan of Holmes (Shore, 2006), regarded as a "subtle homage" to Sherlock Holmes, as in the heterograph 'homes' (Season 8, *Swan Song*) (Radio Times, 2006).

The series is based on the premise (which is also the title of the pilot), "Everybody lies" (Werts, 2009), a motto inscribed deep in the mind of Dr. Gregory House (Hugh Laurie), a pain medication-dependent, arrogant, misanthropic, genius diagnostician who heads an innovative Department of Diagnostic Medicine at the fictional Princeton-Plainsboro Teaching Hospital (PPTH) in New Jersey (Jauhar, 2005; Jensen, 2005). His distrust of people has been repeatedly illustrated throughout the series, such as House's saying to Mother Superior at a monastery, "I've found that when you want to know the truth

about someone that someone is probably the last person you should ask."(Season 1 Episode 5 *Damned If You Do*) and to a dying patient's husband Ed Snow, "I don't ask why patients lie, I just assume they all do." (Season 1, Episode 7 *Fidelity*). Such philosophy has led to his avoidance of any patient interactions, as House explains, "If we don't talk to them they can't lie to us, and we can't lie to them." His diagnostic team, ranging from 3 members (Season 1-5) to 5 members (Season 6-8) (Wikia, n.d.), is mainly responsible for the treatment of patients.

Unlike most television medical dramas, *House M.D.* places much emphasis on the diagnostic process (Gonzalez, 2009). Taking around one case a week (Valentine, 2011) of which is "maybe one in twenty cases" (Season 6, Episode 17 *Lockdown*), House shows a strong resemblance to Holmes in his reluctance to accept cases he considers uninteresting (Wild, 2005b). Such routine behaviour makes earning House's acceptance of a case a highly creative negotiated process, ranging from the use of false pretences (Season 1 Episode 1 *Pilot: Everybody Lies*) to striking deals, techniques which are generally performed by Dr. Lisa Cuddy (Lisa Edelstein), House's boss, hospital administrator and Dean of Medicine and Dr. James Wilson (Robert Sean Leonard), House's one true friend and head of the Department of Oncology who shares the same initials "Dr. J. W., M.D." as Holmes's confidant, Dr. John Watson (Season 8, *Swan Song*) (Abrams, 2009). When House eventually takes a case, the case itself must either be diagnostically challenging or the request for his service is made by a colleague in an unusual manner, thus becoming an intellectually challenging puzzle or a mystery (Wild, 2005b).

Supporting House is a diagnostic team consisting of Dr. Robert Chase (Jesse Spencer) who was hired about six months before the series begins "because his dad made a phone call" (Season 1 Episode 1 *Pilot: Everybody Lies*), Dr. Allison Cameron (Jennifer Morrison) who is employed because "It's like having a nice piece of art in the lobby" (Season 1 Episode 1 *Pilot: Everybody Lies*), and the new hire Dr. Eric Foreman (Omar Epps) for his "street smarts… Knows when they're being conned, knows how to con"

(Season 1 Episode 1 *Pilot: Everybody Lies*). After three Seasons, House insists that "it's time for a change" (Season 3 Episode 24 *Human Error*) and dismisses the team. In Season 4 and 5, three new team members are added after they win their "extended job interview slash reality TV show" (Season 4 Episode 5 *Mirror, Mirror*): Dr. Remy "Thirteen" Hadley (Olivia Wilde), Dr. Chris Taub (Peter Jacobson), and Dr. Lawrence Kutner (Kal Penn) while Foreman, Chase and Cameron are rehired by Cuddy to join House's team, chief surgeon Dr. Dave Thomas and the emergency room respectively. Kutner left the team tragically in Season 5. Season 6 marks Cameron's official departure from the hospital while Chase rejoins House's team. Season 7 sees Thirteen mysterious disappearance and Cuddy's hiring of medical student Martha M. Masters (Amber Tamblyn) as the temporary replacement. Both Cuddy and Masters depart as the season draws close leading to Foreman replacing Cuddy as the new dean of medicine, the hiring of new fellows Dr. Jessica Adams (Odette Annable) and Dr. Chi Park (Charlyne Yi), as well as the return of Chase and Taub in Season 8.

Solving the 'unsolvable' not only necessitates the best minds but also the most critical approach. House's employment of a differential diagnosis method (DDX), a systematic diagnostic method of which candidates of the cause of illness are listed and eventually narrowed down by a process of elimination (Challen, 2007), requires constant output of creativity and new ideas from himself as well as his diagnostic team. Even if it means he has to unsettle the team's interpersonal equilibrium, as House once mentioned, "Conflict breeds creativity" (Season 5, Episode 15 *Unfaithful*). With creative ideas comes creative language uses. During the DDX, House is most often seen using creative language such as neologisms, portmanteaus, slang, metaphors and sarcasm (Richardson, 2010). Such uses of creative language in *House M.D.* are not solely for decorative purposes, but as a move to establish character identities and for much deeper meaning-making. In order to understand what meanings are being construed in these creative language uses, it is necessary to review the background of creativity and the development of creative language studies.

2.3. Background of creativity and creative language studies

For centuries, conceptions of 'creativity' have seesawed between two ends of a spectrum: *creation* and *invention* (Sawyer, 2006; Carter, 2004; Macfarlane, 2007). Though these terms are non-standardised and various pairs have been used by different researchers (e.g. *creatio* and *inventio* (Macfarlane, 2007, p. 6), Romanticism and rationalism (Sawyer, 2006, p. 15), primary creativity and secondary creativity (Maslow, 1962), overall opinions on their interpretations do converge. In general, *creation* creativity originates from a conative (Maslow, 1962), unconscious mind (Sawyer, 2006) without pre-acquired knowledge of any similar ideas, producing an original and individual thought (Carter, 2004) at "noumenal moments of afflatus or inspiration" (Macfarlane, 2007, p. 6) whereas *invention* creativity is a rational, conscious decision (Sawyer, 2006) involving active analytical, self-disciplinary and laborious effort of constructing upon original knowledge (Maslow, 1962) and pre-existing materials (Macfarlane, 2007; Carter, 2004).

The origin of debate on the definition of linguistic creativity can be traced back to the mid/late eighteenth century when Romanticism began to transform various arts and literature forms (Brians, 2004). Rather loosely defined and yet to have reached a consensus was the notion of creativity caught in the major crossfire between originality and plagiarism (Macfarlane, 2007). Unlike the time before the Renaissance during which creativity was pertained to the imitation of artistic masteries and replication of reality (Sawyer, 2006), nor in the sixteenth century when 'pasticcio' (originally Italian for a kind of Italian pâté, also a metaphorical description of a "highly imitative painting that synthesised…the styles of major artists, often with seemingly fraudulent intention, i.e. to deceive viewers and patrons" (Hoesterey, 2001, p. 1)) or 'pastiche' (French of the Italian 'pasticci' in the seventeenth century (Hoesterey, 2001), first appeared in 1866 (Merriam-Webster, 2014)) was in high demand (Hoesterey, 2001), creativity was then closely related to literary creation and thus originality (Carter, 2004).

Concurrently, there was also the strong linkage between *originality* and *genius* (Preminger & Brogan, 1993; Carter, 2004), forming what Macfarlane considers *creativity*, *originality* and *genius* as a "mutually defining triumvirate" (2007, p. 3). Such conviction of literary creativity as work of genius is observed in Edward Young's (1683 – 1765) *Conjectures on Original Composition (1759)*, also cited in Williams (1976 [1983, 2013], p. 230), Carter (2004, p. 27) and Macfarlane (2007, p. 18):

> *An Original may be said to be of a vegetable nature; it rises spontaneously*
> *from the vital root of genius; it grows, it is not made: Imitations are often a*
> *sort of manufacture wrought up by those mechanics, art, and labour, out of*
> *pre-existent materials not their own. (Young, 1918, p. 7)*

Young's *genius* versus *manufacturer* analogy clearly reflected a superiority of originality – a unique individual ability (Carter & McCarthy, 2004; Sawyer, 2006), over imitation (Macfarlane, 2007) – an unoriginal collaborative effort. Yet not all geniuses are equally creative or 'ingenious' (Carter, 2004, p. 28) thus not all are equally original. Young considered two species of genius, *infantine* and *adult*:

> *An adult genius comes out of nature's hand, as Pallas out of Jove's head, at*
> *full growth, and mature: Shakespeare's genius was of this kind; On the*
> *contrary, …an infantine genius; a genius, which, like other infants, must be*
> *nursed, and educated, or it will come to nought… (Young, 1918, p. 15)*

Amongst many geniuses at his time, Young hailed Shakespeare as an adult genius who "shew(ed) an original, unindebted, energy" (1918, p. 17) – the "paragon of original genius" who was "incomparable in texture as in stature" and "owed no debts but was wholly unprecedented" (Macfarlane, 2007, p. 19). The definitive pioneer of the idea of creation *ex nihilo* ('out of nothing' in Latin) turned idol or role model for many Romantic poets including Young himself (Macfarlane, 2007) and Percy Bysshe Shelley (1792 – 1822) (Edmondson, 2011), who wrote that he was "unwilling to tread in the footsteps of

any who have preceded me" and committed "to avoid the imitation of any style of language or versification peculiar to the original minds" in his preface to *The Revolt of Islam (1817)* (Macfarlane, 2007, p. 30), albeit such worship of Shakespeare was barely "a delusion, born of bardolatry and a lack of historical research into Shakespeare's sources – ... a delusion shared by many in the eighteenth century" (Macfarlane, 2007, p. 19).

Despite all firm belief in, and commitment to Shakespearean creativity, originality and genius, Renaissance creativity did linger on to trigger some retrospective consideration. In the final years of Shelley's life, he wrote several letters revealing his immense difficulties in any further original creations, and demonstrated a shift to an acceptance of imitation as a form of creation while recognising collaboration as the basis of creativity (Macfarlane, 2007, p. 31), evidently illustrated in the preface of *The Revolt of Islam (1817)* (partially quoted by Macfarlane (2007, p. 32)):

> *I have avoided, as I have said before, the imitation of any contemporary style. But there must be a resemblance, which does not depend upon their own will, between all the writers of any particular age. They cannot escape from subjection to a common influence which arises out of an infinite combination of circumstances belonging to the times in which they live; though each is in a degree the author of the very influence by which his being is thus pervaded... And this is an influence which neither the meanest scribbler nor the sublimest genius of any era can escape; and which I have not attempted to escape.*
> *(Shelley, 1817)*

Shelley's remark on the admission of peer influence, "in its sentiment and its vocabulary, anticipates the growth of communal models of thought later in the century" (Macfarlane, 2007, p. 32).

The Victorian era of British history (1837 - 1901) marked an intellectually and spiritually enlightening period in which many cultural elements such as entertainment, arts and literature feverishly blossomed (Fletcher, 1919). Poetry, novel, play, theatre, drama and opera were amongst the most influential Victorian literature forms (Fletcher, 1919, p.

146). The *Sherlock Holmes* series published between 1880 and 1914 by Sir Arthur Conan Doyle (1859 – 1930), for instance, is a masterpiece of the time (Edwards, 2013) and a creative pillar central to many modern age fictions and television dramas, including *House M.D.*

The success of the *Sherlock Holmes* series, and arguably the Victorian literature as a whole, was built upon creativity (Konnikova, 2012; 2013). The term 'creativity' in the linguistics sense, however, carried various connotations in different periods of the Victorian era (Macfarlane, 2007). Prior to the late nineteenth century, the "representation of literary creativity as origination ex nihilo" remained as the dominant thinking (Macfarlane, 2007, p. 8; Sawyer, 2006), until canonical authors Charles Dickens (1812 – 1870), George Eliot (1819 – 1880), Oscar Wilde (1854 – 1900), Charles Reade (1814 – 1884) and Lionel Johnson (1867 – 1902) challenged the traditional concept by postulating literary creativity as "the inventive reuse of the words of others" or "the selection and recombination of pre-existing words and concepts" (Macfarlane, 2007, pp. 8-9) based upon "appropriation and transformation" (Copinger, 2008, p. xix). In other words, neo-Victorian creativity actually permitted "imitation or counterfeit creation" (Carter, 2004, p. 25; Williams, 1976 [1983, 2013]). Such phenomenon was 'creatively' illustrated by Rupert Brooke (1887-1915), a late-Victorian English poet known for his neo-Romantic work during the First World War (BBC, 2011), who quoted Voltaire, ""Originality" is only plagiarizing from a great many" (Oxford University Press, 2007), hence acknowledging the paradigm shift from *creatio ex nihilo* to the acceptance of *creatio ex materia* (creation out of some pre-existing materials).

This debate over the abstract concept and definition of creativity, which is believed to have spanned the last two decades of the nineteenth century (Copinger, 2008), had failed to generate enough interest in the research field. It was not until 1920s that the study of creativity was officially academised (Pope, 2005, p. 19; Vo & Carter, 2010, p. 302) and eventually permeated into the field of linguistics through the studies of 'literariness' in poetry and literature – a quality which enables categorisation of

'literary', 'poetic' language and 'ordinary' language (Vo & Carter, 2010, p. 302).
Creativity was then defined as 'deviation' (Mukarovsky, 1964 [1932]; de Beaugrande,
1979) or 'defamiliarisation' from the 'ordinary' language (Vo & Carter, 2010, p. 302;
Gerrig & Gibbs Jr, 1988) and was, "following the tradition of Russian formalist aesthetic
theory" (Carter & McCarthy, 2004, p. 62), perceived as a discriminant which sets literary
and non-literary language apart (Carter & McCarthy, 2004; Vo & Carter, 2010).

The term 'creativity' was first popularised in art-education circle in mid-1940s (Johnson,
1948; Blair, 1949) and was strongly linked with pedagogy in subjects such as arts (Nahm,
1950; Guilford, 1957; Tomas, 1958; Beittel, 1959) and language arts (Cober, 1952;
Melby, 1952; Wilson, 1954). Creativity had not expanded too far from this circle until
Guilford's presidential address on creativity in 1950 which opened a research interest
'floodgate' (Guilford, 1950; Sawyer, 2006; Amabile & Pillemer, 2011), causing an
explosion of publications (Sawyer, 2006). Led by the field of psychology and sociology,
contributions ranged from the studies of creativity in intelligence (Meer & Stein, 1955),
social activities (Bush & Hattery, 1956), culture (Stein, 1953) to attempts at the
theorisation of creativity (Rogers, 1954; Drevdahl, 1956; Drevdahl & Cattell, 1958;
Anderson, 1959).

By the 1960s, research in linguistic creativity finally gathered pace after the introduction
of Austin's (1962) and Searle's (1969) Speech Act Theory in reader-receiver interaction
(Vo & Carter, 2010). Since the theory shows that both literary texts and ordinary
language share many properties of speech acts, it is inferred that ordinary language can
also be susceptible to creative language productions and therefore, literary texts are no
longer the sole beneficiary of linguistic creativity (Vo & Carter, 2010). This breakthrough
in the interpretation of creative use of language has proven to be a monumental step in
shaping the landscape for future creativity development.

Until the late 1980s, perceptions towards such privileged use and ownership of
creativity by literary texts had gradually experienced a turn of the tide as computer-
assisted corpus-based research began to provide evidence for the abundance of

creativity in 'ordinary' language (Gerrig & Gibbs Jr, 1988; Carter, 2004), moving away from what was once purely individualistic productions of written language to joint collaborative effort of verbal utterances (Sawyer, 2006; Gerrig & Gibbs Jr, 1988). This has largely expanded the base of creativity to cover a much wider range of linguistic forms – that is, forms of bidirectional communicative process which demand "indirect, interpretative inferences" from the recipients (Carter, 2004, p. 23) and therefore possess various social aims and purposes facilitated (Pennycook, Language as a Local Practice, 2010) through the co-creational and co-constructional play (Gerrig & Gibbs Jr, 1988; Carter, 2004), namely figure of speech (Carter, 2004, p. 81) such as puns, wordplay, neologism, metaphors, hyperbole, idioms (Carter, 2004, p. 115), proverbs and slang (Carter, 2004, p. 134), as well as literary techniques such as humour (Carter, 2004, p. 21), irony, sarcasm, satire, understatement (Carter, 2004, p. 23) and repetition (Tannen, [1989] 2007; Carter, 2004, p. 156).

Research on each of the aforementioned creativity forms has been unceasingly popular in pragmatics (Tendahl & Gibbs Jr, 2008; Sperber & Wilson, 2008; Moreno, 2007), cognitive science (Boden, 1994; 1998; 2004; 2009), psychology and psycholinguistics (Cacciari & Tabossi, 1988; Gibbs & Nayak, 1989; Gibbs, Nayak, & Cutting, 1989; Gibbs, 1992; Cacciari & Tabossi, 2014), with a number of models developed by well-known researchers including Amabile (1983; 1996), Sternberg & Lubart (1991), Weisberg (1986; 1993), Dacey & Lennon (1998), Simonton (2003), but perhaps the most widely cited of all is Csikszentmihalyi's Systems Model of Creativity (1988; 1997; 1999) (Figure 1), of which *individual*, *field* and *domain* interact to generate creativity (McIntyre, 2008).
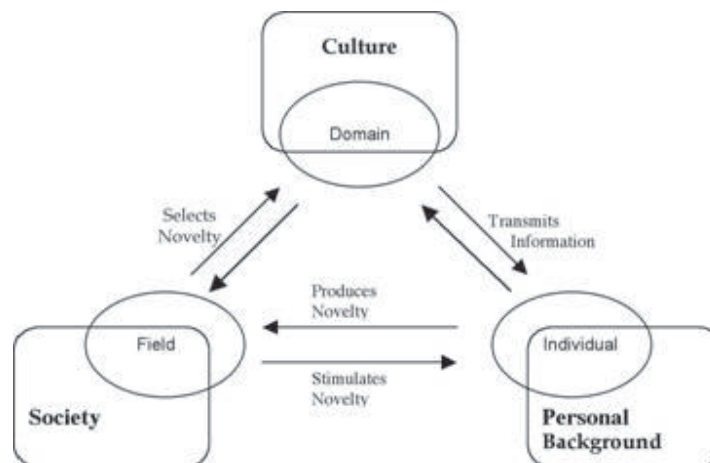
Figure 1 The Systems Model of Creativity, reproduced from Csikszentmihalyi (1988; 1997; 1999)

In 2013, a revised graphical representation of the Systems Model of Creativity by Kerrigan (2013) further emphasises convergence of elements (Figure 2).
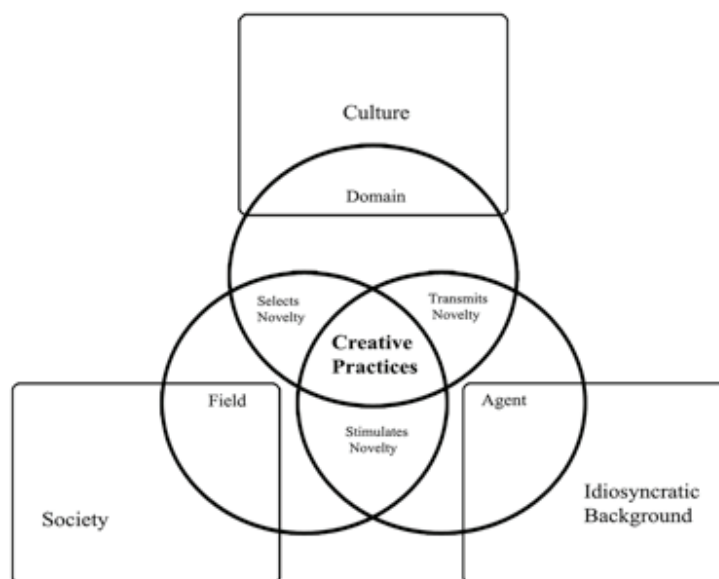
Figure 2 Revised Systems Model of Creativity, reproduced from Kerrigan (2013)

However, fundamentally speaking, "neither psychological nor sociocultural approaches to creativity have paid detailed, systematic attention to language and language use." (Carter, 2004, p. 53) Furthermore, because creativity in its written form has traditionally been privileged (Carter, 2004), the devotion of focuses, aims and findings on the

exploration of spoken creativity as a whole, particularly from the linguistics department, has been relatively scarce (Carter, 2004).

Although attempts on theorising creativity in general before the new millennium (de Beaugrande, 1979; Gerrig & Gibbs Jr, 1988; Tannen, [1989] 2007) as well as the seminal work in spoken creativity by Carter (Carter, 2004), in particular, have enjoyed some success in identifying certain key factors influencing creative language production such as the relationships of participants, topics and social contexts, the proposed models are far from perfect, being either overly loose – thus inefficient in describing how the degree of such factors affect creativity production as well as the interrelationship between them, or overly vague – requiring one's understanding of highly complex instruction multi-sets in the categorisation of boundary setting. Evidence has thus suggested that a much-needed system which is capable of providing a "fuller description of context in terms of relations of power, gender, social class, ethnicity, age and identity of the interactants in creative processes" (Carter, 2004, p. 212).

While most of these values often vary with the context of culture, of which "there are still no comprehensive descriptions" (Halliday & Matthiessen, [1985] 2014, p. 33), Halliday's (1985) systemic functional linguistics (SFL) approach to language as a social semiotic system offers domains for describing ever-changing contexts of human interactions, namely *tenor, field* and *mode*. Considering that *mode* is spoken English, Poynton's (1985) sub-classification of *tenor* into *power*, *contact* and *affective involvement* readily provide coverage for tenor-related categories such as power, gender, social class, age and identity, adding Matthiessen's (2009; 2015b) registerial cartography which further factorises *field* into its socio-semiotic processes or activities, it is highly possible that a systemic functional linguistics approach, through a combination of these named theories, can be the answer to the missing link between linguistic creativity and context. The will be further elaborated in section 6.3.

2.4. Linguistic creativity and Systemic Functional Linguistics

To understand the links between linguistic creativity and Systemic Functional Linguistics, I should first quote at some length a highly relevant paragraph regarding written and spoken language by Carter (2004):

> Explorations of language in use indicate the extent to which speakers and writers make choices from the underlying system for purposes of communicating meanings. Sometimes these choices can alter perceptions and create new meanings; sometimes they serve to reinforce existing meanings; sometimes new blends can be made from the resources of spoken and written forms. Such choices will often be specific to a particular context, and meanings will therefore often be emergent. Examples of such language use would be the recent phenomenon of email … or texting, in which, on account of informality and speed of composition associated with the medium, the character of written language is made more closely approximate the spoken language in form and function. Our understanding of such language use is more likely to be assisted by the kinds of clines and graduations of meaning described within the more social semiotic frameworks developed by Halliday and his associates. (2004, p. 58)

This paragraph introduces several important points about written and spoken language that are related to linguistic creativity: 1) language users make functional choices based on an underlying system, which lays out the foundation for the appropriateness of the systemic functional approach; 2) meanings can be created, reinforced or altered by these choices, which directly points to the notion of semogenesis; 3) new creation can be created from existing resources, which is associated with intertextuality; 4) these

choices are context-dependent, and therefore are affected by Field, Tenor and Mode, which will be discussed in section 3.1.4; and 5) the clines and graduations of meaning from social semiotic frameworks are useful tools in analysising creative language use. Points 2, 3, 4 and 5 will be discussed further in the following paragraphs.
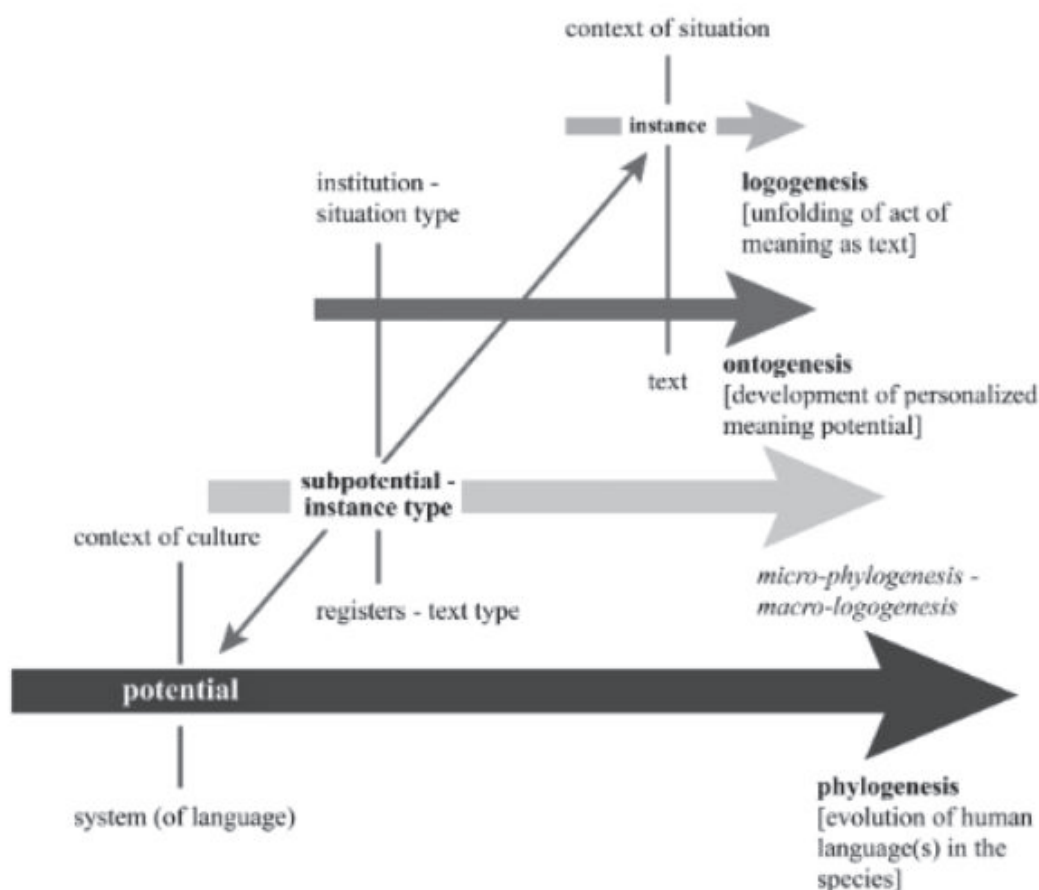
Figure 3 Three time frames of semogenesis and their relations with the cline of instantiation, reproduced from (Matthiessen, Teruya, & Lam, 2010)

Points 2 and 5 correspond to the notion of semogenesis. Semogenesis, as illustrated in Figure 3, is the process of meaning creation. It is one of the 'guiding principles' of the systemic functional theory (Halliday & Matthiessen, 1999 [2006], p. 17). Halliday and Matthiessen (1999 [2006]) identify three time frames of semogenesis — phylogenesis, ontogenesis, and logogenesis. According to Halliday and Matthiessen (1999 [2006]) and Matthiessen, Teruya and Lam (2010), phylogenesis is the evolution of the system in the

species, and it takes place at the potential end of the cline of instantiation. Ontogenesis is the development of the system in the individual from the instance end towards the potential end. It moves along the cline of instantiation. Logogenesis is the unfolding of the act of meaning as text, the instantiation of the system in the text and therefore it takes place at the instance end of the cline of instantiation. As far as this study is concerned, linguistic creativity has undergone changes brought about by the phylogenesis, ontogenesis and logogenesis to reach a logogenetic stage where meanings, in Carter's (2004) words, can be created, reinforced or altered by a creator's choices to reach a target (audience).

Points 3, 4 and 5 are associated with the notion of intertextuality. Lemke (1985; 1988) identifies intertextuality as "the dependence of one text upon others" (Halliday & Webster, 2009, p. 247). Because time almost always has an effect on intertextuality – in the sense that 'other texts' are produced before 'one text' – it is essential to understand "the semiotic "history" – the (often hidden) dialogue it is engaging in with another text or texts, or even with a whole discursive tradition." (Halliday & Webster, 2009, p. 247) The former involves the relationship between texts in the context of situation (Matthiessen, Teruya, & Lam, 2010), while the latter involves the representation of the context of culture through recurrent texts (Lemke, 1988). Using Figure 3 to illustrate this point, intertextuality operates "between the instance pole of the cline of instantiation and the mid region of the cline that is associated with text types and registers." (Matthiessen, Teruya, & Lam, 2010, p. 129)

Intertextuality that are located logogenetically at the context of situation – at the instance pole of the cline of instantiation – can be found in texts of "different classes, professions, age groups, philosophical and religious views, political opinions, and so on." (Lemke, 1988, p. 30) One such type of social voices that Lemke (1988) has made reference to is Halliday's (1976) analysis of 'anti-language'. An anti-language has the following characteristics: it may contain a list of partially relexicalised words (new words for an old word) or overlexicalised words (having many synonyms for a word); it has a

"**relatively greater** orientation" towards the construal of textual and interpersonal meanings (Halliday, 1976, p. 267); it serves to create and maintain an alternative reality that is constantly under the pressure from and in opposition to some established norm; it acts as a vehicle of resocialisation – that it creates an alternative reality; it is nobody's mother tongue; it is "a metaphor for an everyday language; and this metaphorical quality appears all the way up and down the system" (Halliday, 1976, p. 278), "it is itself a metaphorical entity, and hence metaphorical modes of expression are the norm; we should expect metaphorical compounding, metatheses, rhyming alternations and the like to be among the regular patterns of realization." (Halliday, 1976, p. 280)

The linguistic creativity identified by Carter (2004) agrees with Halliday's (1976) description of anti-language that it is relatively more likely to involve interpersonal contact. Carter's (2004) pattern-reforming creativity involves the breaking and the departure from established norms, while pattern-forming creativity involves the forming and establishing of new patterns, regardless of whether the compounding is metaphorical or literal. His notion of linguistic creativity, admittedly following modern 'Western' conceptions, "is often to offer an alternative point of view and to create an alternative world or reality" (Carter, 2004, p. 47). Carter (2004, p. 71) also draws on Gibbs (1994) and argues that "language is metaphorical anyway and creative invention in language often builds from this metaphoric base." While the list of similarities can be extended much further along the line of social semiotics, what perhaps differs slightly between Carter's linguistic creativity and Halliday's anti-language is that the former's pattern-reforming and pattern-forming creativity can be extended beyond language, whereas the possibility for an extension beyond the linguistic paradigm for the latter has not been discussed. The extension of linguistic creativity, semogensis and intertexuality will be discussed in Chapter 4 – Analytical Framework for Creativity in Multimodal Texts (AFCMT).

2.5. Creative language studies of television drama dialogue

The invention of television in the 1920s and fast popularisation of television drama in the 1930s in the UK (Marcus, 2005) and 1950s in the US (Douglas, 2007b; Academy of Television Arts & Sciences Foundation, n.d.) paved the road for the branching of creativity from its pure literature forms to the analogue form on the small screen. From the transmission of full-length Shakespeare play (Norman, 1984) to live dramas and eventually to the original production of multi-episodic drama series (Academy of Television Arts & Sciences Foundation, n.d.; Marcus, 2005), television drama has continuously evolved around much enthusiastic creativity which brought about the "golden age" of television (Everett, 1997; Douglas, 2007b). Amidst all great success however, creativity was widely deemed too much of a "spiritual or transcendent" process that have exceeded the capability of any forms of scientific investigations or analyses, causing serious shortfalls in research in creativity at the time (Carter, 2004, p. 25).

The situation had improved since the invention of electronic corpora in the latter half of the twentieth century. Interest in creative language studies soared as research coverage expanded to non-literary texts (Vo & Carter, 2010) such as creativity in spoken discourse (Carter & McCarthy, 1999; Carter, 2004), advertising copy (Carter, 1999; Carter & McCarthy, 2004; Sasser & Koslow, 2008; West, Kover, & Caruana, 2008), newspaper headlines (Moeran, 1984; Myers, 1994; Cook, 2002; Carter & McCarthy, 2004) and jokes (Chiaro, 1992; Carter & McCarthy, 2004). Yet, few have attempted to put forth a detailed study on linguistic creativity within television drama as a form of literary arts, or within its dialogue as a form of non-literary written text.

Technical issues may have hindered the development of creative language studies (Wynne, 2005). The enormous amount of time required for tedious transcription work of tens or even hundreds of episodes may have been one of the negative impulses, for

that DVDs with subtitles, the internet, and transcript sharing through the web had not been popularised until the 1990s. However, a much bigger issue would be the significant disproportion of developmental driving forces between the classic literary texts and the 'young' television drama dialogue (Piazza, Bednarek, & Rossi, 2011). Bignell and Lacey (2005, p. 3) argue that the latter is "a genre that began as a popular and devalued literary form…equally as popular and devalued in contrast to literature or cinema". Richardson (2010) explains such phenomenon by saying that "because the literary language of plays, poems, and prose fiction is intended to be special, artful and valuable, no special pleading is necessary to justify studying that" (p. 194). Whereas television drama dialogue "would not be judged good or bad, creative or familiar, because it would never be thought interesting enough, socially or aesthetically, to be worth examining" (p. 194).

This linguistic neglect, or repulsion, is further exposed by the thriving contributions of research on television drama dialogue from various other fields (Bednarek, 2010) such as philosophy (Jacoby & Irwin, 2008), psychology (Clyman, 2009; Cascio & Martin, 2011; Jamieson, 2011; Whitbourne, 2012), cultural studies (Cover, 2004; Chua, 2008; Song, 2010), media studies (Munt, 2006; Challen, 2007; Chua, 2008; Barnett, 2010) and medical humanities (Goodier & Arrington, 2007), to name a few. With over 3000 non-linguistic journal articles on television studies between 1995 and 2004 (Allen, 2004; Bednarek, 2010), the push for studies using television drama dialogue from the linguistic department, in summary, has been less than adequate. As a result, many of the worthy linguistic features embedded in the television drama dialogue such as linguistic creativity are left severely underexplored.

Although early attempts to analyse television drama dialogues can be traced back to the work of Baron (1974) in the research of linguistic structure of television drama, most linguistic studies of television drama dialogues searchable on the internet are the products of the post-2000 and of very limited numbers. One earlier attempt was by Maynard (2001), who analysed the emotive meanings of strategies in a mode of

Japanese discourse from a Japanese television drama series *Majo no Jooken (Conditions of a Witch)* through Conversation Analysis (CA) and Discourse Analysis (DA) methods.

Realising "the urgent need … for a treatment of fictional cinema and television from various linguistic perspectives" (Piazza, Bednarek, & Rossi, 2011, p. 2), several scholars have contributed to the investigation of dialogues of some well-known television dramas. Chamber (2003) looks at the political discourse through close analysis of the dialogues in one particular episode of *The West Wing*. Brock (2004) analyses scripts in humorous communications and suggests the viability of dual-script analysis. Bubel (2006) performs a purely qualitative analysis in terms of Conversation Analysis (CA) of the dialogues of the American television drama *Sex and the City* to understand the characters' relationship perceived by the audience. Quaglio (2008), using Biber's multidimensional methodology (Biber, 1988) and his functional analysis tools (Biber et al., 1999), compares corpus of the American situation comedy *Friends* with the American English Conversation subcorpus of the Longman Grammar Corpus to determine their resemblance and thus the sitcom's suitability as an ESL face-to-face conversation teaching resource. Stokoe (2008) adopts CA to explore the dispreferred turns and breaches in relation to the interactional production of humour. Bednarek (2010) provides a comprehensive analysis of the fictional television series *Gilmore Girls* and offers an insightful identity characterisation through corpus linguistics and multimodal discourse analysis in parallel. Finally, Richardson (2010) devotes a chapter of her book discussing the impoliteness of Dr. Gregory House of *House M.D.* in qualitative terms. By adopting a range of approaches from critical discourse analysis, corpus linguistics, to corpus stylistics, these researchers have successfully produced significant linguistic insights. Their attempts have demonstrated that television drama is not only a rich resource waiting to be explored and exploited, but also a unique form of "mediated" text rich in language and in culture (Richardson, 2010, p. 177) – "the true heir to great literature" in literary agent Steven Axelrod's words (Lavery, 2012) – which deserves the same level of attention as its cinematic counterpart.

I hope that this current study will mark the beginning of trend in creative language research in television drama dialogue, but until then it is necessary to borrow relevant studies of creative language in literary texts and spoken discourse in order to analyse creativity in television drama dialogue.

Carter's (2004) research into *everyday* linguistic creativity has inspired many others to explore along the same lines (Richardson, 2010). His theory of language creativity, though it focuses on spoken interaction, is applicable to both spoken (dialogues performed by actors as represented talk) and written discourse (dialogues as written texts) (Vo & Carter, 2010). As such, his theory can form the ideal theoretical basis of the analysis of creative language.

It is worth nothing that in the case of research into television drama dialogue, creativity is not only construed textually, in other words, certain creative language uses are also realised in terms of the actors' performances, including facial expression, gesture, posture, etc. Therefore, a multimodal approach from a systemic functional perspective will be fundamental to this study in order to explore the potential of creativity in television drama dialogue more fully.

Nonetheless, as popularity of television programmes continues to climb, the influence of television on societies takes root in all aspects of human interaction, insofar as it attracts significant academic attention from non-linguistic disciplines to exploit such phenomenon (Bednarek, 2010).

2.6. Chapter summary

This chapter has briefly discussed the relevant bodies of literature relevant to the study of linguistic creativity in *House M.D.*, including the history of television drama (2.1), the 'dramedy' *House M.D.* (2.2), the background of creativity and creative language studies (2.3) and the creative language studies of television drama dialogue (2.5).

The next chapter will specify and define the types of linguistic creativity included in the scope of this study. Statistical operations used in this study will be listed and their formulas will be discussed. The design of the project and the methods will also be laid out.

3. Chapter 3 – General Method

"I am going to make you a magical bath. It will have bubbles and eastern spices and blue diamonds and green clovers... transformative powers. But...I must have solitude to focus my creative energies."— House (Season 7 Episode 1 Now What?)

3.1. Introduction

3.1.1. Linguistic Creativity

Before describing the methods used in this study, it is important to define the types of linguistic creativity which are within the research scope.

Firstly, this study adopts Carter's (2004) classification of linguistic creativity based on his creativity hypothesis in all common talk. Conventional views of creative language use often involve "a marked breaking or bending of rules and norms of language, including a deliberate play with its forms and its potential for meaning." (Carter, 2004, p. 9), however, according to Carter (2004), there are several other distinctive properties of linguistic creativity. It is generally related to the destabalising and disestablishment of regular forms of language patterns, creating genuinely new forms which are perceived as catchy and remarkable, or it is not related to change of linguistic forms but the repetition of lexical items in co-constructed conversations (Carter, 2004). From this he proposes a creativity hypothesis in all common talk by emphasising two types of creativity – pattern-reforming and pattern-forming creativity. The former refers to the "creativity by displacement of fixedness, reforming and reshaping patterns of language" while the latter refers to "creativity via conformity to language rules rather than

breaking them, creating convergence, symmetry and greater mutuality between interlocutors" (Vo & Carter, 2010, p. 303). These two types of creativity will form the core of this study.

Secondly, this study focuses on certain linguistic forms, consisting of neologism, portmanteau and slang from pattern-reforming creativity and verbal repetition from pattern-forming creativity. Linguistic creativity can be found in a range of linguistic forms drawing on figures of speech (Carter, 2004, p. 81), such as puns, wordplay, neologism, metaphors, hyperbole, idioms (Carter, 2004, p. 115), proverbs and slang (Carter, 2004, p. 134); literary techniques such humour (Carter, 2004, p. 21), irony, sarcasm, satire and understatement (Carter, 2004, p. 23); as well as repetition in co-constructed common talk (Tannen, [1989] 2007; Carter, 2004, p. 156). These linguistic forms are, adapting a combination of terms and ideas from Halliday (1985) and Carter (2004, p. 139), 'creativity potentials'. Carter (2004, p. 139) explains,

> *"Such figures are not in themselves creative. They can be used for routine, transactional purposes. But such forms can be and often are made to function for a range of different purposes with a range of different creative effects."*

Due to time constraint, the linguistic forms with relatively high creativity potential are selected for this study. Therefore, it focuses on only several creativity-prone linguistic forms, namely neologism, portmanteaus and slang from pattern-reforming creativity, and verbal repetition in conversations from pattern-forming creativity. These forms are also relatively more lexicogrammatically distinguishable and translatable into computer-recognisable criteria for extraction. It is noteworthy that computer-extractable creative linguistic forms are not limited to the ones covered in this study and are opened to possibilities of future research.

Thirdly, the creativity-prone linguistic forms involved in this study are governed by their definitions and the yield of linguistic creativity from the extraction is controlled by the extraction criteria. Neologism, "(from Greek νέος, new, and λόγος, a word)", is conventionally defined as "a new word or phrase, or new use of a word; in fact, every

innovation in a language, after it has been a classical epoch." (Bradford & Wigglesworth, 1851, p. 198) Owing to the creative nature of neologism, it belongs to pattern-reforming creativity. While the same definition is adopted in this study, new phrase or new use of a word is unlikely to be extractable using the computational criteria proposed for this project. New words will be the key extracts of the neologism category. Examples are 'Uddy', 'Houseland' and 'us'es'.

Portmanteau was originally defined by English writer Lewis Carroll in his book *Through the Looking-Glass* (1871) as a word which has "two meanings packed up into one word." It involves a blending of words from the existing lexicon through various lexical and morphological methods to generate new lexeme (Gries, 2004), therefore, the creativity is pattern-reforming. In this study, portmanteau takes on Carroll's definition as a form of meaning-making strategy rather than the highly technical classifications from morphological analysis by Algeo (1977), Crystal (2008) and Gries (2004). Therefore, 'morphological creativity', a term coined by Carter and McCarthy (1995) which refers to the derivation of new word from existing words and morphemes such as adding '-y' suffix to 'crawl' to form 'crawly' (Carter, 2004, p. 98), will be included in the definition of portmanteau in this study. By adopting Carroll's definition of portmanteau, semantics has an absolute advantage while the (lexical) blend structure becomes less of a concern. Examples are 'Cathlympics', 'defibrillist' and 'decrappinated'.

Slang is commonly defined as a variety of a language which consists of words or phrases that are considered non-standard when used in a formal setting (Wentworth & Flexner, 1960; Dumas & Lighter, 1978), with a general purpose of promoting in-group solidarity (Adams, 2009; Allan & Burridge, 2016). According to Dumas and Lighter (1978, p. 12), slang is "used deliberately, in jest or in earnest, to flout a conventional social or semantic norm", which places slang in the category of pattern-reforming creativity. Examples are 'bikkies', 'darnit' and 'coited'. While this study agrees with such definition in general, "today's slang, tomorrow's standard English" is not a cliché without grounds (Dumas & Lighter, 1978, p. 12). It must be noted that the notions such as

'(non-)standard' and '(in)formal' are culturally and socially dependent (Carter, 2004). Drawing on Ooi (2016), who synthesises theories by Hoey (2014) and Halliday (2005), much of this dependency is contributed by the lexical priming of an inherently probabilistic lexicon by a particular group of language users from a certain socio-cultural background. In other words, slang is "a variety of English may be construed as one that has collective lexical primings understood and agreed upon by the speech community it typifies." (Ooi, 2016, p. 2) Such collective lexical primings may be reflected by the reference corpus. By comparing the reference corpus with the *House M.D.* corpus using corpus linguistics methods, it is possible to identify slang words in the extraction of pattern-reforming creativity. The slang words extracted through this process are outside the collective lexical priming boundary of COCA, therefore, drawing on the notion of H(igh) and L(ow) variety from Ooi's (2001a) Concentric Circle Model (representing the English used in formal situations and the English used in informal situations respectively), slang subsumes into the category of L-variety of the American cultural context.

Verbal repetition in conversation is, according to Tannen ([1989] 2007, p. 101), "a resource by which conversationalists together create a discourse, a relationship, and a world. It is the central linguistic meaning-making strategy, a limitless resource for individual creativity and interpersonal involvement". In film or in a TV drama such as *House M.D.*, the consistent use of verbal repetition by a character is a character trait – also known as a motif, which is central to the viewers' familiarisation and identification of characters (Bordwell & Thompson, [1990] 2008). Following these definitions, repetition clearly falls into the category of pattern-forming creativity. The forms of pattern-forming creativity within the scope of this study include both verbatim phrasal and clausal repetition, and repetition with variation (Carter, 2004, pp. 7-8). Owing to the repetitive but positional and constituency varying nature of pattern-forming creativity (Cheng, Greaves, & Warren, 2006), this form of linguistic creativity is likely to be recognisable as concgrams.

Pattern-forming creativity occurs in co-constructed as well as non-co-constructed, self-repeated forms. The former "is more likely to grow out of dialogic interaction" and the latter "can occur in monologues and in the context of a transmission of information" (Carter, 2004, p. 139). Concurrently, pattern-forming creativity can also be in the form of synchronic repetition: "repeating one's own or another's words within a discourse", or diachronic repetition: "repeating words from a discourse distant in time." (Tannen, [1989] 2007, p. 102). Therefore, a total of four combinations of pattern-reforming creativity is studied through corpus linguistics approach: non-co-constructed, self-repetition (synchronic), non-co-constructed, self-repetition (diachronic), co-constructed repetition (synchronic) and co-constructed repetition (diachronic). Further classification will be detailed in section 6.1.1.

Having defined the creativity-prone linguistic forms within the scope of this study, it must be mentioned that these linguistic forms are not by any means discrete or mutually exclusive from one another. Olesen and Whittaker (1968, p. 222) describe slang in a way that resembles the definition of neologism by Bradford and Wigglesworth (1851) as cited earlier:

> A central attribute of slang, most writers agree, is the rapidly changing
> character of those new words, old words with new meanings, and half words
> that come to be thought of as belonging to this category of language.

The example of morphological creativity 'crawly' also shows that a portmanteau can simultaneously be a neologism and slang (Carter, 2004). Owing to this, the qualitative analysis in section 5.2.1.1 will consider placing a pattern-reforming creativity into the category of portmanteau before neologism or slang.

Lastly, it is not forgotten that creativity cannot solely be defined by linguistic forms or by the difference of time and culture (Carter, 2004, p. 39), but its functionalities can be demonstrated relatively to "values, beliefs and judgements formed within and according to the needs of different social groups, communities and cultural systems" (Carter, 2004, p. 82). Therefore, creativity is culture-dependent and requires cultural knowledge

for effective interpretation and understanding, in particular the wordplay and humour (Carter, 2004, p. 21), in its respective social and cultural contexts (Carter, 2004, p. 82). For the purpose of this study, an American social cultural perspective is considered in interpreting and analysing creativity owing to the settings of *House M.D.* and the use of mostly American English in the drama.

The definitions of the linguistic creativity discussed above will be translated into rules and formulas for computer extraction. The extraction process will be discussed in details in the next section, including statistical tools word frequency, n-grams, keyness values, p-value, log likelihood, Mutual Information (MI) value and t-score will play crucial roles in locating the creative instances.

3.1.2. Corpus linguistics and statistical measures

3.1.2.1. Introduction
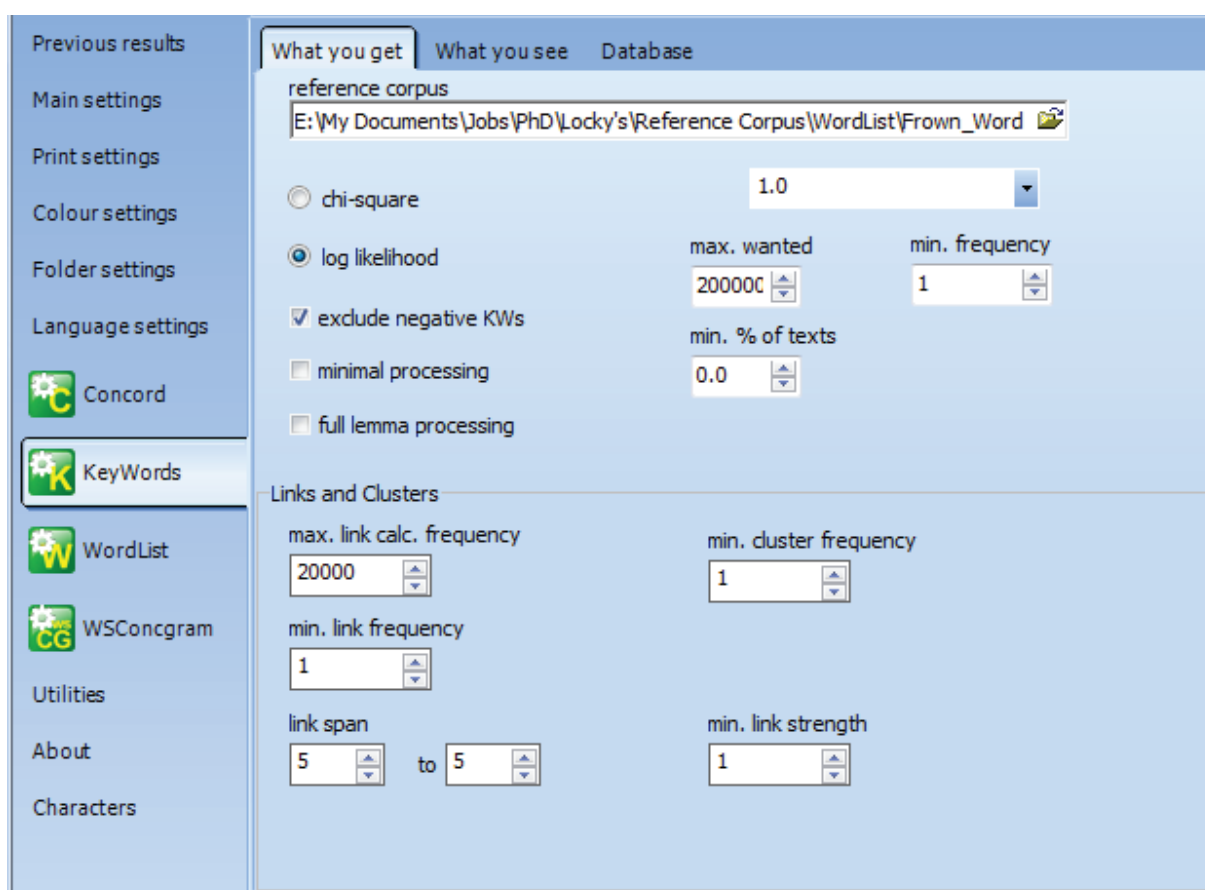
Figure 4 WordSmith Controller KeyWords Settings. From WordSmith controller: KeyWords settings.

Corpus linguistics is the "the study of language on the basis of textual or acoustic (speech) corpora" and which "almost always involves the computer in some phase of storage, processing and analysis of this data" (Ooi, 2001b, p. 176). With the assistance of computational power, the approaches from corpus linguistics enable data mining of linguistic creativity to be carried out with high efficiency and accuracy on corpora of

various sizes, making corpus linguistics highly suitable of this study. The two main features of corpus linguistics to be studied extensively are frequency counts, Mutual Information (MI) value and *t*-score, which can be calculated by corpus analysis software programmes WordSmith Tools 6.0 and ConcGram 1.0 respectively. Using these software programmes, it is possible to calculate the values of frequency count, MI and *t*-score from a corpus, such as one to be created using the dialogues of the TV drama *House M.D.*

Generally speaking, a very low word frequency count may signify possible sites of pattern-reforming creativity. Theorised by Carter (2004) as "creativity through departure from patterns" (Vo & Carter, 2010, p. 305), pattern-reforming creativity is firmly based on the concept of novelty or "newness" (Vo & Carter, 2010, p. 305). Such types of creativity include coinage of novel words and expressions, creative collocations and idiomatic expressions, hence the low frequency of occurrence for each instance. On the other hand, pattern-forming creativity is likely to appear as concgrams in ConcGram 1.0, a high MI value and *t*-score may signify possible appearances of pattern-forming creativity. However, it must be noted that there are other factors coming into play to produce such generalised claims. These factors must be addressed in detail.

Before further describing this study, it is important to understand the basics of the statistical devices provided in WordSmith Tools 6.0 (Figure 4) and ConcGram 1.0 in order to determine the best settings for the extraction of linguistic creativity. These statistical devices include p-value & null hypothesis, keyness and log likelihood, Mutual Information (MI) and Pointwise Mutual Information (PMI) and *t*-score.

3.1.2.2. p-value & null hypothesis
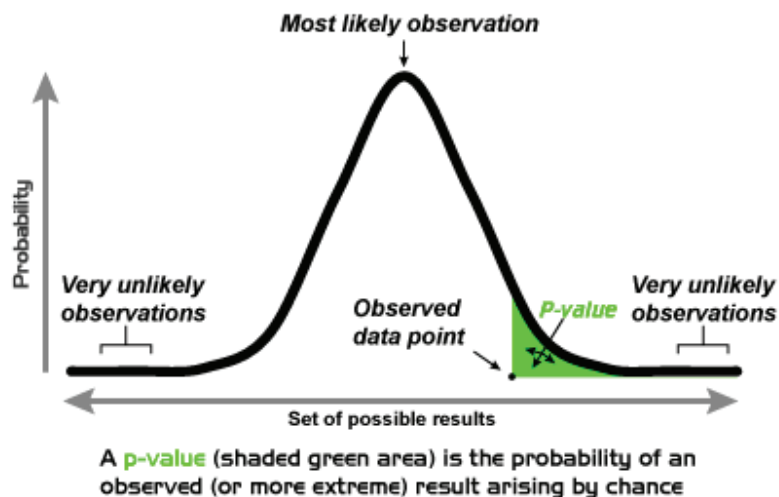
Figure 5 p-value represented by the green area. Retrieved from Wikipedia.

In statistical significance testing, a *p*-value is the probability of yielding a particular result equal to or more extreme than what was actually observed, based on the assumption that null hypothesis is true (Goodman, 1999). Since a null hypothesis implies a proposition that the two measured quantities are unrelated and the result obtained is random, the main role of the *p*-value is to compare with the significance level to determine whether the null hypothesis can be rejected or cannot be rejected at that particular significance level (MacMillan, Preston, Wolfe, & Yu, 2007). It is by convention that the null hypothesis is rejected if a *p*-value is less than a predetermined confidence / significance level, often at 5% or 0.05 (Stigler, 2008; Scott, 2014).

In the case of keyword analysis using WordSmith Tools, there are two tests available for selection both using *p*-value – the chi-square and log likelihood (default). By adjusting the Max. *p*-value denoted by a drop-down list of default decimal numbers starting from

0.1 in the WordSmith Controller KeyWords Settings, risk and keyword selectivity can be manipulated according to needs (Scott, 2014).

3.1.2.3. Keyness and log likelihood

WordSmith Tools 6 provides two test options in the calculation of keyness in KeyWord – chi-square (χ^2) and log likelihood.

Log likelihood was used in the extraction of pattern-reforming creativity for a number of reasons:

1) Log Likelihood test "gives a better estimate of keyness, especially when contrasting long texts or a whole genre against your reference corpus." (Scott, 2014)
2) it does not assume a normal distribution, and
3) it does not exaggerate values of low frequency occurrences.

WordSmith Tools 6 calculates log likelihood coefficient (LL) based on the Dunning's (1993) formula given by Oakes (1998, pp. 170-172), with slight modification of the original one as stated in the manual (Scott, 2014):

$$\text{LL} = 2\,[\text{a}\ln a + \text{b}\ln b + \text{c}\ln c + \text{d}\ln d - (\text{a}+\text{b})\ln(a+b) - (\text{a}+\text{c})\ln(a+c)$$
$$- (\text{b}+\text{d})\ln(b+d) - (\text{c}+\text{d})\ln(c+d)$$
$$+ (\text{a}+\text{b}+\text{c}+\text{d})\ln(a+b+c+d)\,]$$

where

a = joint frequency, for example, when two words appear in the same sentence

b = frequency of word 1 – a, that is, the word 1 appears but not word 2

c = frequency of word 2 – a, that is, the word 2 appears but not word 1

d = frequency of pairs involving neither word 1 nor word 2

and "ln" means natural logarithm

Although the manual of WordSmith Tools 6 (Scott, 2014) has provided a URL to Rayson's (2014) Log likelihood calculator webpage which offers a cleaner, simpler formula for the calculation of log likelihood coefficient, the above formula remains as the one adopted by the software.

3.1.2.4. Mutual Information (MI) and Pointwise Mutual Information (PMI)

Mutual information (MI) is one of the key statistical features available in ConcGram. It served as a major tool in the extraction of pattern-forming creativity. The success of such extraction relies heavily on the understanding of the MI formula used in ConcGram v1.0's 'MI-test' (Greaves, 2009), its limitations and its conventional filtering criteria.

MI is a measure of dependence shared by two discrete random variables. By definition, the mutual information of two discrete random variables X and Y can be calculated using the formula as follows:

$$I(X;Y) = \sum_{y \in Y} \sum_{z \in Z} p(x,y) \log \left(\frac{p(x,y)}{p(x)p(y)} \right)$$

where $p(x,y)$ is the joint probabilities, $p(x)$ and $p(y)$ are the marginal probabilities and $I(X;Y)$ is the MI value.

MI is often used as an indicator of the strength of collocation of two words, represented by X and Y. Depending on specific calculation needs, sometimes the natural logarithm is used, as illustrated in Bouma (2009):

$$I(X;Y) = \sum_{x,y} p(x,y) \ln \frac{p(x,y)}{p(x)p(y)}$$

MI can also be expressed in terms of pointwise mutual information (PMI) – a single event of which MI builds upon.

$$I(X;Y) = \sum_{x,y} p(x,y)\, i(x,y)$$

$$i(x,y) = \ln \frac{p(x,y)}{p(x)p(y)}$$

where $i(x,y)$ is the PMI value.

In the case of ConcGram 1.0 (Greaves, 2009), using log to the base 2, the formula of 'MI-test' follows what is given in Barnbrook (1996) and Stubb (1995):

$$I = \log_2 \frac{O}{E}$$

where O and E represent the observed and expected frequencies of co-occurrence respectively. The purpose of using logarithm in the equation is as much a convention as it is "to reduce, and therefore possibly to disguise, the differences between scores and different collocates." (Stubbs, 1995, p. 9)

It is important to note that PMI is often referred to as MI by the computational linguistics convention (Bouma, 2009), which is the case for ConcGram, and therefore, ConcGram v1.0's 'MI-test' is in fact a PMI-test:

$$I = \log_2 \frac{O}{E} = i(x,y)$$

This formula, which is based on observed and expected frequencies, can also be represented in terms of probabilities:

$$I = \log_2 \frac{O}{E} = i(x,y)$$

$$= \log_2 \frac{f(x,y)}{f_e(x,y)}$$

$$= \log_2 \frac{f(x,y)}{\frac{f(x)}{N} \frac{f(y)}{N} N}$$

$$= \log_2 \frac{p(x,y)}{p(x)p(y)}$$

where expected frequency $f_e(x,y) = f(x)/N \cdot f(y)/N \cdot N$ and N is the size of the corpus.

Considering three scenarios:

1) when the two words are independent / completely uncorrelated, $p(x,y) = p(x)p(y)$,

$$i(x,y) = \log_2 \frac{p(x)p(y)}{p(x)p(y)} = \log_2 1 = 0$$

2) when the two words are perfectly correlated, i.e. the two words only occur together, $p(x,y) = p(x) = p(y)$, where $p(x,y) > 0$, then,

$$i(x,y) = \log_2 \frac{p(x,y)}{p(x,y)p(x,y)} = -\log_2 p(x,y)$$

3) When the two words occur separately but not together, $p(x,y) = 0$,

$$i(x,y) = \log_2 \frac{0}{p(x)p(y)} = \log_2 0 = \infty$$

Using limits, the sign of ∞ can be determined,

$$\lim_{n \to 0+} i(x,y) = \log_2 \frac{0+}{p(x)p(y)} = -\infty$$

This shows that the '(P)MI-test' in ConcGram does not have a fixed upper bound and will suffer from an increasingly higher PMI score as $p(x,y)$ decreases (Bouma, 2009). This is due to the drastically increase in steepness of the negative log base 2 curve as $p(x,y)$

approaches zero. Confirming that MI tends to suffer from overestimation in extreme cases of collocations (Gries & Stefanowitsch, 2004).

In addition to the original PMI formula, ConcGram's calculation of PMI also involves the number of words between the node (exclusively) and the outer word (inclusively) known as *span*. When span is involved in the calculation, by letting n $(where\ n \in \mathbb{Z}, n \geq 2)$ be the number of words within this span, PMI becomes:

$$i(x, y) = \log_2 \frac{f(x, y)}{f_e(x, y)\ n} = \log_2 \frac{p(x, y)}{p(x)p(y)\ n}$$

Span n can also be expressed in terms of the number of words between the node (exclusively) and the outer word (exclusively) known as *internal span m* $(where\ m \in \mathbb{Z}, m \geq 0)$ when n is an even number,

$$m = \frac{n}{2} - 1$$

Therefore, by making n as the subject, we obtain:

$$n = 2(m + 1)$$

PMI becomes:

$$i(x, y) = \log_2 \frac{f(x, y)}{f_e(x, y)\ 2\ (m + 1)} = \log_2 \frac{p(x, y)}{2\ (m + 1)\ p(x)p(y)}$$

In terms of cut-off point, Church & Hanks (1990, p. 24) have observed that a PMI value greater than 3 tends to be linguistically "interesting" while Barnbrook (1996, p. 99) decides on a PMI value of 1.58 (the logarithm of 3 to the base 2) instead. ConcGram 1.0 has a default 'MI cut-off value' at 3.000000 as it follows the figure used by Barnbrook (Greaves, 2009, p. 53). Stubbs (1995, p. 9) states that the phrase "linguistically interesting" is "admittedly undefined, but it represents an empirical claim". He also

added that the cut-off value is based purely on "empirical analyses" and has "no strong theoretical reason" for making such selection (Stubbs, 1995, p. 9).

(P)MI values will be used in the extraction of pattern-forming creativity in Chapter 6 – Pattern-forming creativity.

3.1.2.5. t-score

t-score is another key statistical feature available in ConcGram 1.0 besides MI value. In this study, *t*-score is treated with equal importance as MI value in the extraction of pattern-forming creativity. When compared to *z*-score which is a test not used in this study, *t*-score is "said to provide more accuracy in dealing with co-occurring words with relatively low overall frequencies." (Barnbrook, 1996, p. 97)

Barnbrook (1996) describes the calculation of *t*-score with the approximated version of formula as follows:

$$t = \frac{O - E}{\sqrt{O}}$$

where O is the observed frequency of co-occurrence of a word within the span and E is the expected frequency of occurrence of the word.

Stubbs (1995) argues that this approximated version of formula is possible when the node word is a lexical word but unreliable when a grammatical word is concerned. As such, in order to produce reliable results from *t*-score, it is important to exclude grammatical words from the data before feeding into the *t*-score calculation. The exclusion of grammatical words will be discussed in section 6.1.1.3. *t*-score will be used in the extraction of pattern-forming creativity in Chapter 6 – Pattern-forming creativity.

3.1.2.6. Summary

This section has briefly looked into the statistical elements and tools which will be used in the extraction of linguistic creativity through a corpus linguistic approach. While these statistical elements and tools are powerful devices which will help in the reduction of time cost in the linguistic creativity extraction, one must acknowledge that none of the statistical devices are perfect in their design and suitable for all linguistic situations. Stubbs (1995) points out that, "[a] result may not reach "significance", as defined by such a test, due to a bias or to natural variability in the data: and it is obvious to corpus linguists that language is highly variable." The fact that *t*-score is a more suitable test for lexical items than it is for grammatical ones (Stubbs, 1995), or that MI tends to suffer from overestimation in extreme cases of collocations (Gries & Stefanowitsch, 2004), or even the presumption that association measures (AMs) such as Mutual Information (MI) and *t*-score are symmetric / bidirectional in nature (Gries, 2015), are some examples of the limitations of their statistical devices and a reflection of English as a highly variable language. Therefore, in short, the results are as good as the corpus itself. Any results obtained by these statistical devices are limited to the dataset of *House M.D.* They should not and cannot be compared to results obtained using another corpus of TV drama or a combination of several ones.

In the next section, SFMDA will be introduced in terms of three different periods of development: The 1980s and 1990s: the formation, The 2000s: the intersemiosis and , covering some of the seminal works from the 1980s which mark the beginning of a new paradigm, to some of the major contributions in the post 2010s which are linked to this current study.

3.1.3. Systemic Functional Multimodal Discourse Analysis (SFMDA)

3.1.3.1. The 1980s and 1990s: the formation

SFMDA was first introduced by O'Toole (O'Toole, 1994) and Kress & van Leeuwen ([1996] 2006) (O' Halloran, 2007; O'Halloran et al., 2010). It draws upon Halliday's (1978; 1985; Halliday & Matthiessen, [1985] 2014) socio-semiotic theory, also known as the systemic functional (SF) theory (Knox, 2009; O'Halloran, 2007; Martin & White, 2005), in which he posits that language is a social semiotic resource for "meaning making" (Halliday, 1978, p. 192) and that it is *functional*, *semantic*, *contextual* and *semiotic*.

Though the theory primarily focuses on language or text as object of analysis (Knox, 2009; Pang, 2004), it is applicable to non-linguistic resources, as 'text' is basically a metafunctional construct comprises of ideational, interpersonal, and textual meanings (Halliday, 1985, p. 48; Royce, 2007a, pp. 65-66), thus "they apply to all semiotic modes, and are not specific to speech or writing" (Kress & van Leeuwen, [1996] 2006, p. 42).

Perhaps the earliest and one of the most crucial publications is O'Toole's (1994) *Language of Displayed Art*, in which he applies Halliday's social semiotic framework for language to visual art. He analyses elements of paintings and sculptures through three new basic functions, namely representational, modal/interactive, compositional/formal while referring back to Halliday's experiential, interpersonal and textural metafunctions for architecture analysis (O'Toole, 1994, pp. 85-87; Keefer, 1996). This separation of the new functions from Halliday's original concept is not without challenges. Keefer (1996), in particular, questions the need for O'Toole's (1994, p. 85) differentiation of functions across genres when Halliday's metafunctions already provide sufficient theoretical coverage.

In another seminal work *Reading Images: The Grammar of Visual Design*, Kress & van Leeuwen ([1996] 2006) take a different approach from O'Toole's (1994). Rather than differentiating from Halliday's theoretical notion of metafunctions, they directly map the metafunctions realised in language to that in visual images and moving pictures, that is representational (ideational), interactive (interpersonal) and compositional (textual) (Kress & van Leeuwen, [1996] 2006, pp. 42-44). The success of this metafunctional mapping has revolutionised the field of discourse analysis by opening possibilities to analysing resources beyond language (O'Halloran, 2008). Henceforth, the 'premises' of SF theory coverage has expanded steadily on the influx of enthusiasm (Baldry & Thibault, 2006; O'Halloran, 2008), providing frameworks and terminologies for describing meanings generated by a wide range of semiotic resources (Kemlo, 2008; O'Halloran, 2007) including language (Halliday & Matthiessen, [1985] 2014; Martin & White, 2005), dynamic media such as film and video (Kress & van Leeuwen, [1996] 2006; O'Halloran, Tan, Smith, & Podlasov, 2010), film discourse (Baldry & Thibault, 2006; Bateman & Schmidt, 2012), visual images (O'Toole, 1994; Kress & van Leeuwen, [1996] 2006; Royce, 2007a), movement and gesture (Martinec, 1998; 2000; 2001), music and sound (van Leeuwen, 1999). Collectively, the study of semiotic resources of various modes is known as 'multimodality', and the analysis of the multimodality based on Halliday's SF theory is known as SFMDA (O'Halloran, 2007).

3.1.3.2. The 2000s: the intersemiosis

The Development of SF-MDA from then onwards has taken several paths with main focuses on "theoretical and methodological issues (mode hierarchies, modelling semiotic resources as multiple semiotic systems, multimodal corpus annotation)" (Ventola, Charles, & Kaltenbacher, 2004, p. back cover) involving static, dynamic and interactive resource types while covering broad spectrum of disciplines such as

entertainment, education, architecture, medicine, translation (Ventola et al., 2004, back cover), visual design, displayed art, mathematics, hypermedia (O'Halloran, Multimodal Discourse Analysis, 2011, p. 6), computational linguistics, ideology, and media discourse (Royce & Bowcher, 2007).

Perhaps one of the most influential theoretical and descriptive contributions within the last decade, one that has taken SF-MDA research to yet another dimension, is the Appraisal Framework by Martin and White (2005). Building upon SFL frameworks, it focuses on the interpersonal meaning (p. 7 & 29) construed in a form of "attitudinal evaluations" (p. 2) called Appraisal (Attitude, Engagement and Graduation), which is complemented by Negotiation and Involvement at the discourse semantics level (p. 33). And because "all texts are multimodal" (Kress & van Leeuwen, 1998, p. 186), the Appraisal description allows access to details of "the relationship between multimodal discourse, knowledge construction, identity, and affiliation" (Djonov & Zhao, 2014, p. 4).

The second half of the year 2000 marks the awareness of an overwhelming enthusiasm in research on realisation of meanings in modes and a lack of studies in intersemiotics between modes (Royce, 2007a, p. 63; Royce & Bowcher, 2007, p. ix). Also calling for more emphasis on applicative research was the theoretical-based multimodal corpus linguistics (Baldry & Thibault, 2008, p. 11), as Jewitt suggests (2009, p. 12), "multimodality, it could be argued, strictly speaking, refers to a field of application rather than a theory." Therefore, the scholars who observed these phenomena, including Kress and van Leeuwen ([1996] 2006), Baldry and Thibault (2006; 2008), Royce (2007a), Bateman (2007; 2008), O'Halloran (2008), Unsworth (2008) and Jewitt (2009), took initiatives and extended efforts in filling in the niches.

O'Halloran and Smith (2011), having expanded on Kress's (2009, p. 54) concept of multimodality as "a domain of enquiry", propose a 'two-senses-one-continuum' characterisation for the field of multimodal studies (Hyland & Paltridge, 2011),

> *"In the first sense, multimodal studies applies existing generalisations (of theory, description, methodology) to the exploration of specific multimodal*

phenomena, sets of texts or contexts in order to cast new light on those domains.

In the second sense multimodal studies … use texts or types of text to explore, illustrate, problematise, or apply general issues in multimodal studies, such as those arising from the development of theoretical frameworks specific to the study of multimodal phenomena, or methodological issues (including challenges in transcription, analysis and representation within publications)…

…as a continuum, two different orientations – focus on general theoretical and methodological issues, or on specific domains of study – representing poles along which individual works range in terms of their major concerns."

(O'Halloran & Smith, 2011, pp. 2-3)

3.1.3.3. Post 2010s: the application

Recent studies since 2010, as shown in Table 1, have been somewhat motivated by the effort made in pushing for applicative intersemiotics in previous years with the likes of multimodal concordances applications, digitalised multimodal texts (films, websites or printed materials), multimedia language tests, multimodal tests (Baldry & Thibault, 2008, p. 12). These research projects, however, are often time-consuming and labour-intensive. Therefore, software tools meeting specific research purposes have been developed by individual researchers (Connolly & Phillips, 2005; O'Halloran, 2007; Coccetta, 2008; O'Halloran, Tan, Smith, & Podlasov, 2010; Smith, Tan, Podlasov, & O'Halloran, 2011) using SFL as the basis of multimodal research (Bateman, 2007; McMurtrie, 2010) to accelerate the process. Examples of some non-commercial efforts are ANVIL (Kipp, 2001), The NITE XML Toolkit (Carletta, et al., 2003), EXMARaLDA (Schmidt, 2004) and ELAN (Wittenburg, Brugman, Russel, Klassmann, & Sloetjes, 2006). O'Halloran et al.'s (2010) multimodal analysis software tools are among a few which can be purchased commercially through the internet for academic studies. Their software

provides an interactive interface design which is based on the 'bottom up approach"
proposed by van Leeuwen (1999, p. 193) for the manipulation and annotation of
audiovisual media (O'Halloran et al., 2010, p. 23).

Research	Resource types			Theoretical Focus	Descriptive Focus	Methodological Focus	Field
	Static	Dynamic	Interactive				
O'Halloran, Tan, Smith, & Podlasov (2010)		Audiovisual media	Software as platform for resource integration			Produce an interactive digital software tool for studying multimodal communication	Academic
Zhao (2012)			Web-based multimodal interactive (MIs) in Primary school social science	Develop a logogenetic model to capture between verbiage and image as patterns formed during the unfolding of a text			Education
Bednarek & Caple (2012)		Analysing language, image in news stories		introduce a new Balance Framework for analysing language, image and thus their interaction			Media / Journalism
Caple (2013)	Texts, photographs	TV news, videos				Use a social semiotic approach to analyse news discourse and photographs and their intersemiotics.	Media / Journalism
Veloso & Bateman (2013)	Comics			Looks at how the 9/11 tragic event is multimodally construed in the comic world, suggest how a close multimodal discourse			Entertainment

			analysis is useful in revealing the embedded public opinion	
Coffin (2013)		Online discussion forums and virtual 3D worlds	Look at meaning-making processes in online discussion forums and virtual 3D worlds used for pedagogical purposes	Education
Hiippala (2013)	Tourist brochures		Investigate how tourist brochures use both language and image to fulfil their communicative function	Tourism
Francesconi (2014)	Travel novels, brochures, authentic tourist pictures	Blogs, videos, radio commercial, videos, postcards	Look at a variety of texts including novels, travel brochures, blogs, and videos.	Tourism
Cheng & Suen (2014)		Hotel websites	Study language, visual images and hyperlinks using visual grammar and critical genre analysis	Tourism

Table 1 Recent studies in table format

Education, as mentioned in the introduction section, has been a strong driving force behind SFL and MDA development and the importance of multimodal resources in teaching and learning has been well-recognised in research in educational context (Royce, 2007b; Christie, 2005; Christie & Martin, 2007; Heberle & Abreu, 2012; Unsworth, 2013; Guo & Feng, 2015). Electronic multimodalities therefore, naturally fall into the most popular research subject category. Coffin (2013) looks at interactive meaning-making processes in online discussion forums and virtual 3D worlds used for pedagogical purposes while Zhao (2012), in her doctoral thesis, develops a logogenetic model for SF-MDA to yield five types of intersemiotic patterns between words and images on web-based multimodal learning materials, or Multimodal Interactive (MIs) in primary school social science.

In the area of news/journalism- related intersemiotics in multimedia, Bednarek and Caple (2012) introduce a new *Balance Framework* for analysing language, image and their interaction in news stories in English worldwide. Caple (2013) alone goes one step further to analyse images and the interactivity between news discourse and photographs using a social semiotic approach.

Veloso and Bateman (2013) look at how the 9/11 tragic event is multimodally construed in the Marvel's *Civil War* comic world and suggest how a close multimodal discourse analysis is useful in revealing the embedded public opinion.

Finally, multimodality in the tourism industry has drawn attention from Hiippala (2013) and Francesconi (2014) to the semiotic interactions between language and image in tourist brochures, and to a variety of static (travel novels, brochures, postcards and authentic tourist pictures) and dynamic (blogs, websites, videos and radio commercials) tourism texts respectively. Cheng & Suen (2014) study the language, visual images and hyperlinks on the homepages of twelve five-star hotels in Hong Kong using a combination of visual grammar and critical genre analysis.

3.1.4. SFMDA for this study

The SFMDA of linguistically creative moments in *House M.D.* adapted in this study is based on the SF theory of Halliday and Matthiessen ([1985] 2014) and multimodal analysis of Bednarek (2010). It is the main analytical approach for qualitative analysis of pattern-reforming and pattern-forming creativity. The SFMDA approach adapted for this study focuses on interpersonal meaning and can be divided into three focal aspects: SPEECH FUNCTION, MOOD and multimodal discourse.

Firstly, the reason to focus on SPEECH FUNCTION from the interpersonal semantic stratum is motivated by Halliday and Matthiessen ([1985] 2014, p. 34),

> *"For example, when we consider the correlations between tenor values and terms in interpersonal systems, we should really focus on interpersonal semantic systems such as SPEECH FUNCTION in the first instance rather than on lexicogrammatical ones such as MOOD … Thus combinations of tenor values relating to (a) status and (b) contact correlate with different semantic strategies open to speakers for demanding goods-&-services of their listeners – for commanding their listeners."*

Secondly, the reason to focus on MOOD from the interpersonal lexicogrammatical stratum is motivated by Tannen ([1989] 2007, p. 101), who argues that repetition in conversation, the main form of pattern-forming creativity for this study, contributes to interpersonal meaning-making,

> *"repetition in conversation can be relatively automatic, and that its automaticity contributes to its functions in production, comprehension, connection, and interaction. These dimensions operate simultaneously to create coherence in discourse and interpersonal involvement in interaction. Repetition is a resource by which conversationalists together create a discourse, a relationship, and a world. It is the central linguistic meaning-*

making strategy, a limitless resource for individual creativity and

interpersonal involvement".

Finally, the adoption of Bednarek's (2010) approach to multimodal analysis is motivated by the ease of the approach's application and comprehensibility of results, and most importantly, its compatibility with non-annotated corpora. The ease of application of this multimodal analysis approach lies in its structure, that each element of the mise-en-scène, such as settings, props, costumes, codes of dress, movement, spatial relations, placement of objects and sound, can be analysed independently from one another. The obtained results can therefore either be interpreted independently or analysed as a whole if necessary, allowing high comprehensibility of results. Also, Bednarek's (2010) approach to multimodal analysis does not require an annotated multimodal corpus to produce results, as it takes the original video footage as the point of departure. This makes the approach suitable for this study as it accepts the original videos of *House M.D.* as input data.

context of
situation

institution –
situation type

instance

repertoire of
texts

context of
culture

**subpotential –
instance type**

potential

repertoire of
registers –
text types

system
(of language)
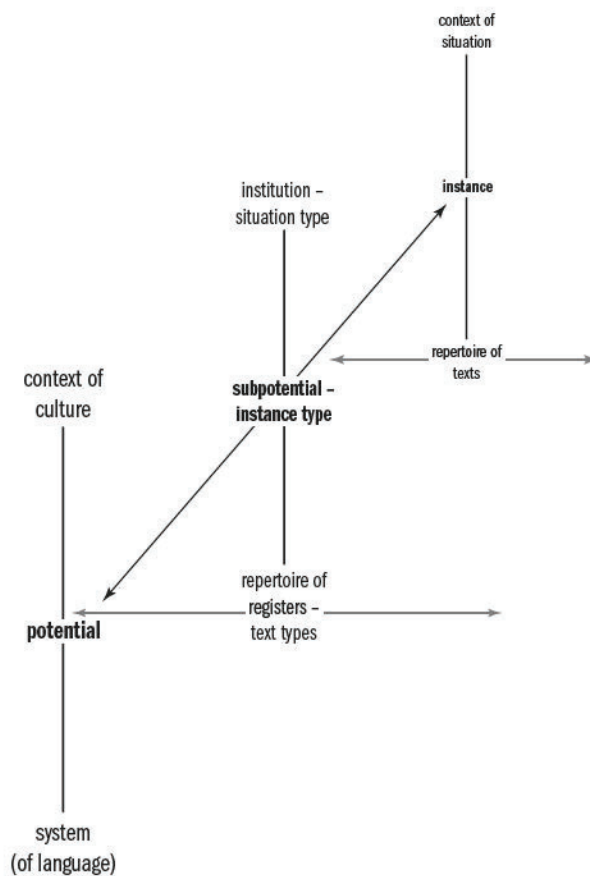
Figure 6 The cline of instantiation

In order to explain the SFMDA approach used in this study more clearly, the relevant
theoretical background will be described, beginning with the meaning of 'text'.

Halliday (1985, p. 3) defines 'text' as "any instance of language, in any medium, that
make sense to someone who knows the language". It can be characterised as "language
functioning in context." (Halliday & Matthiessen, [1985] 2014, p. 3) Given that language
is "a resource for making meaning, text is a process of making meaning in context."
(Halliday & Matthiessen, [1985] 2014, p. 3) In order words, "[t]he system of a language
is 'instantiated' in the form of text" and "[t]he system is the underlying potential of a
language: its potential as a meaning-making resource" (Halliday & Matthiessen, [1985]
2014, p. 27). Therefore, "language is embedded in the context of culture or social
system" and "any instantiation of language as text is embedded in its own context of

situation" (Matthiessen & Halliday, 1997). Like the relationship between climate and weather, the relationship between system (of language) is connected by the cline of instantiation (Halliday & Matthiessen, [1985] 2014, p. 28), as shown in Figure 6. A register is a functional variety of language – "the patterns of instantiation of the overall system associated with a given type of context (a situation type)." (Halliday, 1978; Halliday & Matthiessen, [1985] 2014, p. 29; Matthiessen & Halliday, 1997) (See Figure 6 and Figure 7) Any situation type can be characterised under three domains: field, tenor and mode (Halliday, 1978; Halliday & Matthiessen, [1985] 2014; Matthiessen & Halliday, 1997). Halliday and Matthiessen ([1985] 2014, pp. 33-34) define these three registerial domains as follows:

- ***field*** *– what's going on in the situation: (i) the nature of the social and semiotic activity; and (ii) the domain of experience this activity relates to (the 'subject matter' or 'topic')*

- ***tenor*** *– who are taking part in the situation: (i) the roles played by those taking part in the socio-semiotic activity – (1) institutional roles, (2) status roles (power, either equal or unequal), (3) contact roles (familiarity, ranging from strangers to intimates) and (4) sociometric roles (affect, either neutral or charged, positively or negatively); and (ii) the values that the interactants imbue the domain with (either neutral or loaded, positively or negatively)*

- ***mode*** *– what role is being played by language and other semiotic systems in the situation: (i) the division of labour between semiotic activities and social ones (ranging from semiotic activities as constitutive of the situation to semiotic activities as facilitating); (ii) the division of labour between linguistic activities and other semiotic activities; (iii) rhetorical mode: the orientation of the text towards field (e.g. informative, didactic, explanatory, explicatory) or tenor (e.g. persuasive,*

exhortatory, hortatory, polemic); (iv) turn: dialogic or monologic; (v)

medium: written or spoken; (vi) channel: phonic or graphic.

Language is organised into four strata – semantics, lexicogrammar, phonology, and
phonetics (Halliday & Matthiessen, [1985] 2014, p. 26). This system is further classified
into two stratal planes, with semantics and lexicogrammar in the content plane,
phonology and phonetics in the expression plane (Halliday & Matthiessen, [1985] 2014,
p. 26).
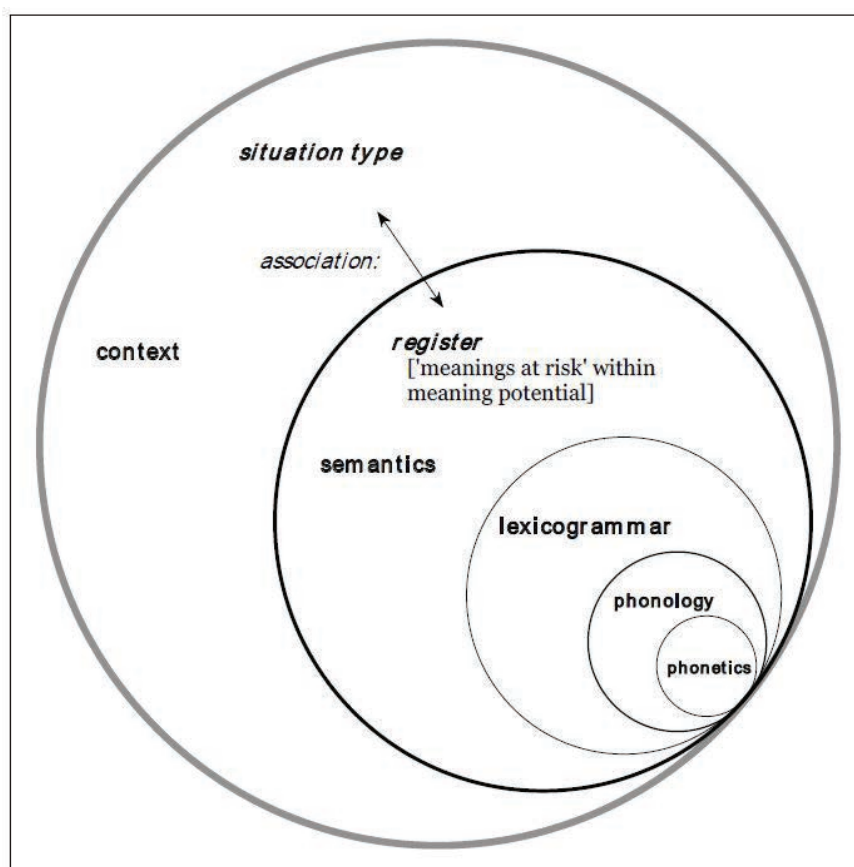
Figure 7 Register in Systemic Functional Linguistics, reproduced from Matthiessen (2015a)

Another important dimension is the dimension of metafunction. Metafunction refers to
the different modes of meaning construed by the grammar (Matthiessen & Halliday,
1997). There are three *metafunctions* – ideational, interpersonal and textual, which are

"three kinds of meaning that are embodied in human language as a whole, forming the basis of the semantic organization of all natural languages" (Halliday, 1985, p. 53) operating "simultaneously in the semantics of every language" (Joret & Remael, 1998, p. 159):

- *the Ideational metafunction – the resource for "the representation of experience: our experience of the world that lies about us, and also inside us, the world of our imagination. It is meaning in the sense of 'content.' "*

- *the Interpersonal metafunction – the resource for "meaning as a form of action: the speaker or writer doing something to the listener or reader by means of language."*

- *the Textual metafunction – the resource for maintaining "relevance to the context: both the preceding (and following) text, and context of situation." (Halliday, 1985, p. 53)*
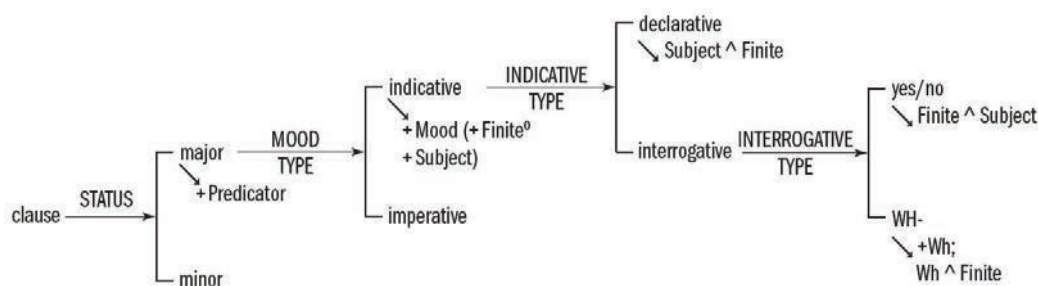
Figure 8 The MOOD system network (Halliday & Matthiessen, [1985] 2014, p. 24)

As this study is interested in the correlations between linguistic creativity and interpersonal systems, the qualitative analysis of dialogues in selected scenes of *House M.D.* will focus on tenor and the interpersonal metafunction. The two major interpersonal systems are MOOD and SPEECH FUNCTION (Halliday & Matthiessen, [1985] 2014; Lam & Webster, 2009). The former is an interpersonal lexicogrammatical system and the latter is an interpersonal semantic one (Halliday & Matthiessen, [1985] 2014). The MOOD system network is presented in Figure 8. If a clause is a major clause

and that it displays Mood elements Subject and Finite, it is an indicative clause, otherwise, it is imperative. An indicative clause is declarative if it displays a Mood structure of Subject ^ Finite, otherwise it is an interrogative one. An interrogative clause is a yes/no-interrogative if it displays a Mood structure of Finite ^ Subject, otherwise it is an WH-interrogative if it displays a Wh ^ Finite structure.

	Commodity exchanged	
role in exchange	(a) Goods-&-services	(b) Information
(i) giving	'offer'	'statement'
(ii) demanding	'command'	'question'

Table 2 Giving or demanding, goods-&-services or information (Halliday & Matthiessen, [1985] 2014, p. 136)

Within the semantic system of SPEECH FUNCTION, there are two roles in exchange and two types of commodity exchanged. The two roles in exchange are *giving* and *demanding*. The two types of commodity exchanged are *goods-&-services* and *information*. These two roles in exchange and two types of commodity exchanged produce four combinations of initiations: giving goods-&-services functions as an offer, giving information functions as a statement; demanding goods-&-services functions as a command, demanding information functions as a question, as shown in Table 2.*House M.D.*

While the analysis of the dialogues is focused on MOOD and SPEECH FUNCTION, this study adapts Bednarek's (2010) multimodal discourse analysis approach to look at the construal of meanings through mise-en-scène as well as nonverbal behaviour and acting. Bednarek (2010, p. 141) demonstrates the multimodal analysis to show expressive character identities using the unannotated video source from TV drama *Gilmore Girls*, and argues that "a manual study of one scene … enables in-depth analysis of a large number of selected expressive resources in a small amount of data." The multimodal analysis of mise-en-scène is conducted on each telecinematic element independently and directly from the video source without the need for annotation. These telecinematic elements includes settings, props, costumes, codes of dress,

movement, spatial relations, placement of objects, sound, nonverbal behaviour and acting. In addition, the transcript of the TV drama *Gilmore Girls* is analysed using evaluative parameters (Bednarek, 2010, pp. 49-51, 152). Although the tenor-related evaluative parameters are not described using SFL, this approach is highly compatible with other theories, which makes it suitable for applying analysis of interpersonal meaning in this study.

3.2. Project design
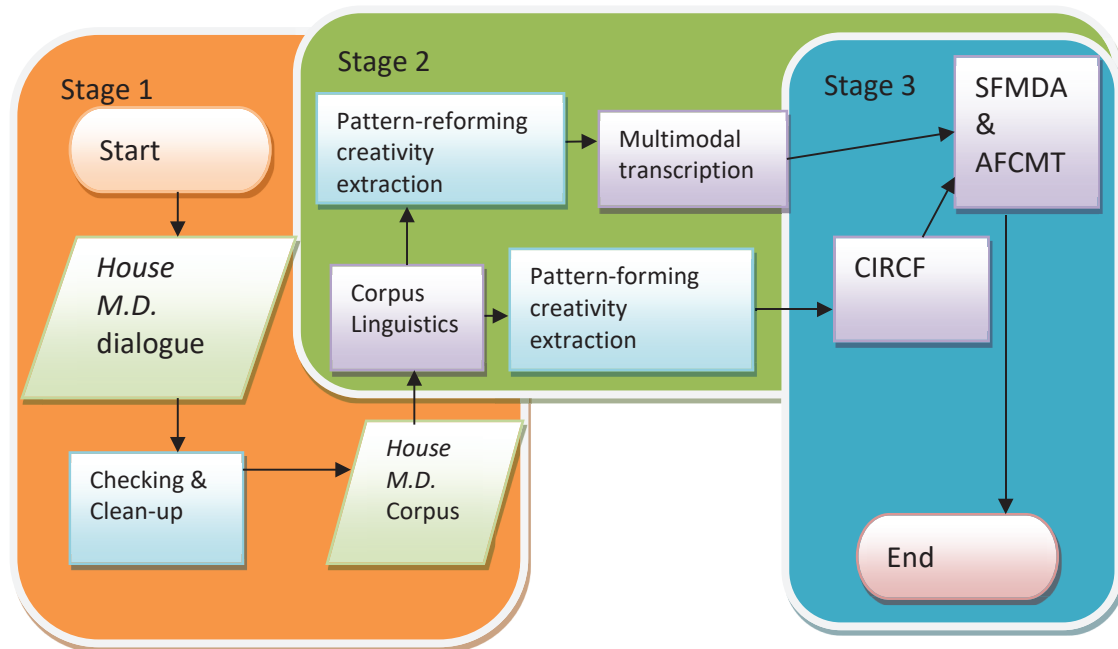
Figure 9 Flowchart of this study

The research design consists of three main stages:

1. Stage 1 – Preparation: Data collection and construction of the *House M.D.* Dialogue
    Corpus (HMDC)

2. Stage 2 – Extraction: Linguistic creativity extraction through Corpus Linguistic
    approach

3. Stage 3 – Analysis: Quantitative and qualitative analysis using CIRCF, AFCMT and
    SFMDA

In Stage 1, the construction of the HMDC involved the data collection of dialogue of
every *House M.D.* episode from the internet, followed by several iterations of manual
dialogue accuracy check against the actual dialogues of the television series. All non-
dialogue elements are then manually removed to ensure the 'purity' of the dialogue
corpus. A raw, unscripted and unannotated version of HMDC was then produced. This
pure dialogue corpus is essential material for the creative language extraction in Stage 2.

Stage 2 is the creative language extraction involving a comparison of the HMDC with a large reference corpus, namely the Corpus of Contemporary American English (COCA) using a corpus linguistic approach. This comparison of the two corpora was performed using corpus analysis software consisting of WordSmith Tools 6 (Scott, 1999) and ConcGram 1.0 (Greaves, 2009) which are equipped with useful functions and tools capable of generating concordances, keywords, wordlists, concgrams, n-grams as well as statistical outputs such as log likelihood, Mutual Information (MI), chi-square and keyness (Greaves, 2009; Evison, 2010; Scott, 2010). Specific creativity extraction criteria were considered in order to yield different creative language types.

After the extraction was completed, video segments corresponding to each instance of creativity extract were then transcribed multimodally in preparation for SFMDA. The multimodal transcription framework is modelled from examples shown in Figure 4.1 and Figure 4.2 in Baldry (2004, p. 85 & 88), as well as O'Halloran et al.'s (2010) SFMDA software as shown in Illustration 3: System-Creator in O'Halloran et al. (2010, p. 18 & 20) and Table 2 Multimodal Analysis of 'Leaked Cabinet Documents' in O'Halloran (2011, p. 17).

Data of the multimodal transcriptions were entered into Microsoft Excel spreadsheets to facilitate the analysis. The main reasons behind the choice of Microsoft Excel agree with the view of O'Halloran et al. (2010),

> *"while offering researchers the opportunity to apply and explore particular theoretical and analytical perspectives to the interactive digital study of multimodal phenomena the software interface must be made accessible and easy-to-use for users with a range of tasks and levels of computer literacy" (O'Halloran et al., 2010, p.11)*

Furthermore, the software distribution/penetration of Microsoft Excel is undeniably higher than any of the existing multimodal analysis software tools, the file generated by Microsoft Excel is also cross-platform and cross-software compatible, therefore any one

possesses an Excel file-editing software will be able to access the information of the research.

Stage 3 consists of both the quantitative and qualitative analysis of pattern-forming and pattern-reforming creativity. Quantitative analysis of both types of linguistic creativity is corpus-based, using Pivot Table and Pivot Charts for data-mining. Qualitative analysis through the SFMDA approach involves the application of CIRCF (for pattern-forming creativity only) and AFCMT on the multimodal transcriptions of linguistically creative video segments from Stage 2. The SFMDA in this study is based on Halliday's (1978; 1985) systemic functional theory and Bednarek's (2010) multimodal analysis of mise-en-scène, nonverbal behaviour and acting. More details on the steps involved in each stage will be provided in the coming chapters.

3.3. Choice of COCA as reference corpus

In the extraction of linguistic creativity, the choice of reference corpus has been a determining factor. Among all the available corpora, only COCA fits the purpose of this study best. COCA is selected as the reference corpus for this for a number of key reasons:

1. Since *House M.D.* is set in New Jersey, USA, and creativity is "culture-bound" (Carter, 2004, p. 47), therefore only a corpus of American English is deemed appropriate.

2. The extraction of creative language from a near 1-million-word HMDC required the use of large, registerially balanced and up-to-date corpus of American English such that it can cover a wide range of vocabulary of various genres, including ones from the medical category.

3. *House M.D.* was broadcasted from November 16, 2004 to May 21, 2012. Since creativity is "time-bound" (Carter, 2004, p. 47), a corpus which covers this period will be best for creative language searching.

4. Since TV drama dialogues belong to a (scripted) written form of spoken language, the reference corpus should include both written and spoken data.

5. Spoken corpus larger than 1 million is rare. The Santa Barbara Corpus of Spoken American English (SBCSAE), for example, is of 249,000 words. For the case of *House M.D.*, the total number of words in all dialogues adds up to almost 1 million, thus corpus such as SBCSAE is relatively small to be used a filter for creative language.

COCAs meet all the criteria above. As "the largest freely-available corpus of English, and the only large and balanced corpus of American English" (Davies, 2008), COCA contains more than 450 million words in 189,431 texts equally divided in 5 genres: spoken, fiction, popular magazines, newspapers and academic journals, including 20 million

words each year from 1990-2012 with the most recent addition of texts (Apr 2011 - Jun 2012) completed in June 2012 (Davies, 2008). The spoken part of COCA (hereafter referred to as COCA Spoken) contains 95 million words [95,385,672] of transcripts of unscripted conversation from more than 150 different TV and radio programs such as *All Things Considered* (NPR), *Newshour* (PBS), *Good Morning America* (ABC), *Today Show* (NBC), *60 Minutes* (CBS), *Hannity and Colmes* (Fox), *Jerry Springer*, etc (Davies, 2008). COCA Spoken is arguably an authentic representation of actual spoken conversation given its data is about 95% unscripted with "overwhelming" amount of discourse markers (Davies, 2008; 2014). In addition, a close examination of COCA shows that it includes interviews with medical experts. The inclusion of medical English makes COCA a suitable reference corpus for the extraction of pattern-reforming creativity from HMDC.

3.4. Building the *House M.D.* Corpus (HMDC) -- Stage 1
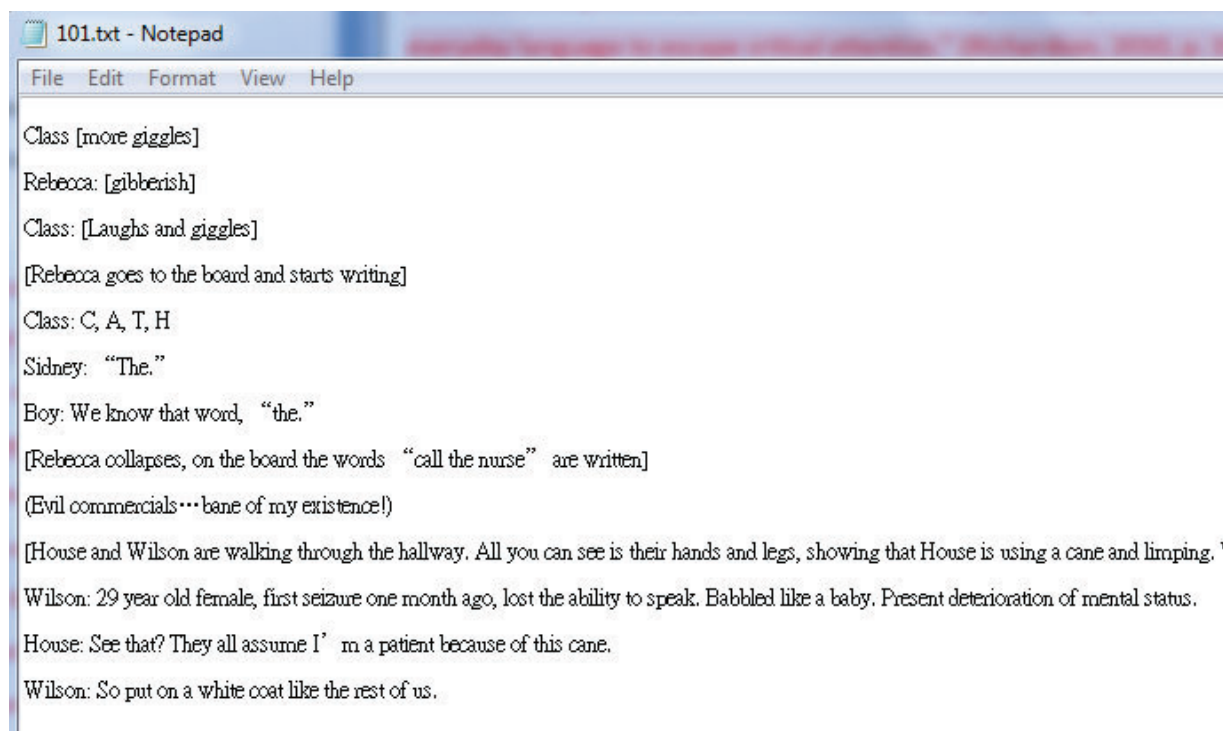
Figure 10 Raw fan script of a *House M.D.* episode from the Internet

HMDC uses fan scripts – the actual transcripts from television produced by multiple 'fans' (Bednarek, 2010) – as the input data. In Stage 1, the construction of the dialogue corpus *House M.D.* Corpus (HMDC) involves three major steps. Step one is the data collection of *House M.D.* fan scripts of every episode from the internet (therefore not the original screenwriters' scripts) as shown in Figure 10. While fan scripts are not 100% accurate, they are selected for a number of reasons. Firstly, the finalised original scripts are inaccessible to the public. Secondly, as Bednarek (2010, p. 70) points out, fan scripts are "much more accurate than subtitles (which could be automatically extracted as alternative data source), with a much greater number of and more significant mistakes in the subtitles than in the transcripts." Lastly, "[m]anual transcription by the researcher may in fact result in similar inaccuracies as are present in the fan transcripts (e.g. typos), and simply was not feasible for a large-scale corpus analysis" (Bednarek, 2010, p. 70).

Since the *House M.D.* fan scripts used in this study are available online and have been 'peer reviewed' by other their readers – in which corrections are continuously suggested and made by the fan script readers (clinic_duty, 2007) – I have decided to adapt the fan scripts and improve their accuracies. Step two is the removal of all non-dialogue elements such as fade-ins, scene headings, action sequences, scene transitions, mood brackets, parentheticals, commercial tags and character name tags. Once the non-dialogue elements are removed, the 'pure' dialogues are stored as txt-format in 177 individual files (one file per episode) to form a raw, unscripted and unannotated version of HMDC, as shown in Figure 11.
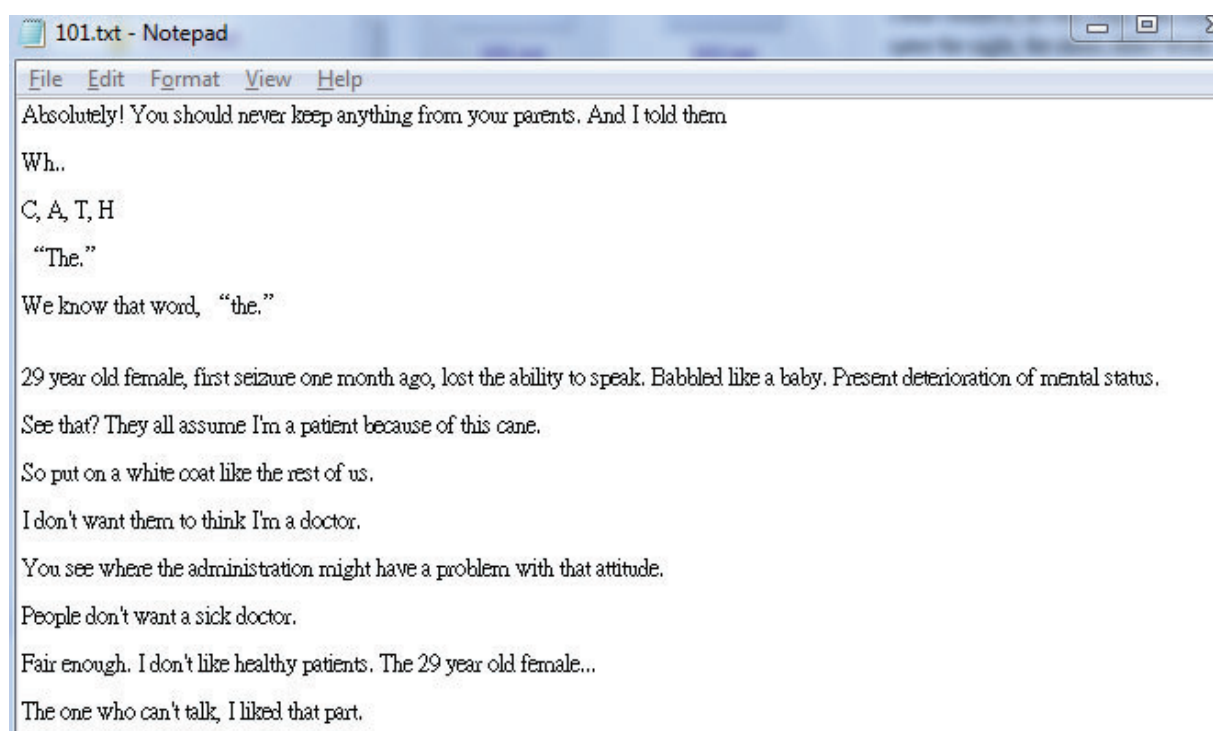
Figure 11 Cleaned dialogues of a *House M.D.* episode

Step three is to improve accuracy of the transcribed dialogues in the HMDC. Every line has been manually checked against the actual lines performed by the actors in the television series after watching all episodes at least eight times (till Oct 2014). Further checks are performed repeatedly throughout the entire duration of the research project whenever possible and necessary. Spell checks, in particular, were greatly assisted by

Google and internet resources to reduce the corpus impurities and improve accuracy of future calculations. Although the achievement of a 100% accurate corpus remains highly unlikely, this longitudinal effort has helped to minimise negative effect to analytical outcomes caused by the corpus impurities. The result is a 927,922-word cleaned, un-annotated and monomodal linguistic corpus.

3.5. Chapter summary

This chapter has provided an overview of the types of linguistic creativity covered in this study, the statistical measures adopted and the basic concepts to linguistic creativity extraction through corpus linguistic approach. Two types of linguistic creativity have been included in this research, namely pattern-reforming creativity and pattern-forming creativity. Definitions of linguistic forms are then provided, consisting of neologism, portmanteau and slang from pattern-reforming creativity and verbal repetition from pattern-forming creativity (3.1.1). Relevant statistical operations adopted in this study are described from their origin of formula (3.1.2), including *p*-value and null hypothesis (3.1.2.2), keyness and log likelihood (3.1.2.3), mutual information (MI) and pointwise mutual information (PMI) (3.1.2.4) and *t*-score (3.1.2.5). A brief history of the development of SFMDA leading to this current study is outlined in terms of three periods, the formation period in 1980s and 1990s (3.1.3.1), the intersemiosis in 2000s (3.1.3.2) and the period of application in the post 2010s (0).

This chapter has described the stages in the overall project design (3.2), briefly discussed the choice of COCA as reference corpus (3.3) and then commenced the preparation stage in constructing the HDMC (3.4).

In the next chapter, a new analytical framework will be proposed to facilitate the analysis of creativity in multimodal texts in *House M.D.*

4. Chapter 4 – Analytical Framework for Creativity in Multimodal Texts (AFCMT)

"Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity." – Charles Mingus (1977)

4.1. Introduction

Creativity studies in multimodality have been spearheaded by cognitive science for nearly two decades (Cohen, 1999; Gardner, 2008) and particularly so by the field of computational creativity in recent years (ICCC, 2010; 2016). This trend can be explained by how computational creativity is positioned. According to the Conference Steering Committee of the Association for Computational Creativity (ACC, 2016), computational creativity is defined as "a multidisciplinary endeavour that is located at the intersection of the fields of artificial intelligence, cognitive psychology, philosophy, and the arts." Given that artificial intelligence requires computer processing of human-brain-like information and creativity being a cognitive, psychological and philosophical force which powers various multimodal forms of the arts such as visual arts, performing arts, media arts and literary arts, it is all natural that creativity studies in multimodality thrives under the said disciplines. What is perhaps less natural then, given that language is also of huge importance in the arts, is the reason why linguistics have yet to play a more important role in creativity studies in multimodality. Is it due to the gulf between cognition and language? Halliday (1993), Carter (1999) and Halliday and Matthiessen (1999 [2006]) have shown that cognition can be explained by reference to linguistic processes. Is it because of the gap between creativity and linguistics? Carter (2004) has theorised linguistic creativity in everyday common talk into two main categories:

pattern-reforming and pattern-forming. Halliday (Carter, 2004, p. iii) writes that Carter's work "affords major insight not only into "common talk" but through and beyond this into the nature of language in general." Is it because of the niche between linguistics and multimodality? Although still "very much in its infancy" (Baldry & Thibault, 2006, p. 181), linguistic research in multimodality had begun as early as 1990s (O'Toole, 1994; Kress & van Leeuwen, [1996] 2006). Since the links are readily available, perhaps what is missing is an attempt to connect them into a chain – an attempt which this thesis intends to make.

One of the key approaches in cognitive science that has been widely adapted in computational creativity is by Boden (1994; 1998; 2004), who classifies creativity into P-creative idea (psychological novelty) and H-creative idea (historical novelty), as well as three main ways of novel idea production: combination, exploration and transformation. Boden (2009, pp. 24-25) defines the three types of creativity as follows:

> *Combinational creativity produces unfamiliar combinations of familiar ideas, and it works by making associations between ideas that were previously only indirectly linked…*
>
> *Exploratory creativity rests on some culturally accepted style of thinking, or "conceptual space"... The space is defined (and constrained) by a set of generative rules. Usually, these rules are largely, or even wholly, implicit…the person moves through the space, exploring it to find out what's there…*
>
> *In transformational creativity, the space or style itself is transformed by altering (or dropping) one or more of its defining dimensions. As a result, ideas can now be generated that simply could not have been generated before the change.*

This classification of creativity is not dissimilar to Carter (2004)'s linguistic classification of creativity. Pattern-forming creativity is the "creativity via conformity to language rules rather than breaking them, creating convergence, symmetry and greater mutuality between interlocutors", which is practically the linguistic counterpart of combinational creativity. Pattern-reforming creativity is the "creativity by displacement of fixedness, reforming and reshaping patterns of language" (Vo & Carter, 2010, p. 303), which is essentially the linguistic version of "exploratory-transformational modes" combined (Carter, 2004, p. 36). This combination of two modes is reasonable because "there is no clear-cut distinction between exploratory and transformational creativity" (Boden, 2009, p. 25).

A recent example which unintentionally exhibits a merger of Boden's (1994; 1998; 2004), and Carter's (2004) concepts of creativity is the computer algorithm by Elgammal and Saleh (2015) that is used in ranking 1,710 images of art work from 1412-1996 according to their quantifiable creativity score. The computational creativity researchers' intention is to investigate how a computer algorithm evaluates Boden's (1994; 1998; 2004) H-creativity in paintings along the historical timeline, but interestingly, at least for the purpose of this thesis, the algorithm is established based on the position that "to be creative it is not enough to be novel, it has to be influential as well (some others have to imitate it)" (Elgammal & Saleh, 2015, p. 41), which is in line with Carter's (2004) hypothesis of creativity in common talk. It has indirectly shed light on the applicability of both cognitive and linguistic models of creativity to paintings and hence the possibility of applying a merger of creativity concepts to other forms of multimodality. Inspired by the concepts of 'given' and 'new' from Halliday's (1967) information status, a new framework for creativity analysis is proposed and detailed in the next section.

4.2. Implicit (Assumed) & Explicit (Known), Endo-referenced & Exo-referenced (IEEE) and the Cline of Creativity Complexity (CCC)

Recalling the connections between Carter's (2004) linguistic creativity, logogenesis at the instance pole on the cline of instantiation and intertextuality from the discussion in section 2.4 Linguistic creativity and Systemic Functional Linguistics, we can now simplify several complicated concepts into one that resembles Halliday's (1967) information status.

Halliday (1967) explains information status in terms of 'given' and 'new':

> What is focal is 'new' information; not in the sense that it cannot have been previously mentioned, although it is often the case that it has not been, but in the sense that the speaker presents it as not being recoverable from the pre-ceding discourse. *(p. 204)*

> In any information unit that is non-initial in a discourse, recoverable information tends to be represented anaphorically, by reference, substitution or ellipsis……Anaphoric items are inherently 'given' in the sense that their interpretation depends on identification within the preceding text. *(pp. 206-207)*

This concept resembling Halliday's (1967) information status can be applied. From a "linear" creativity occurrence perspective (Halliday, 1967, p. 211), the first occurrence of an instance of creativity is always 'new' as it is not recoverable from the preceding discourse, regardless of pattern-reforming or pattern-forming type, subsequent anaphoric instances of the same creativity will therefore be 'given' as it is recoverable within the preceding text. From a creativity construction perspective, following the

same principles of 'given' and 'new' in Halliday's information status (Halliday, 1967) and Halliday and Matthiessen's (1999 [2006]) notion of reference, the creation of creativity can be classified into 'endo-referenced' and 'exo-referenced'. Endo-referenced creativity makes reference to a source which is recoverable within the preceding or same 'text', or in other words, the reference is made to an internal source. In contrast, exo-referenced creativity makes reference to a source which is unrecoverable within the preceding or same 'text', which means that such reference is made to an external source. The terms endo-referenced and exo-referenced are restricted to the creativity instantiation level to avoid confusion with 'given' and 'new', and are used in order to encompass such construction of creativity in various types of 'text', such as speech, written text, videos, print advertisement, songs and music.

Types of creativity	Formula of construction	Reference style	
		Exo-referenced	Endo-referenced
Pattern-forming	Implicit	Direct use / quoting of external resources such as famous lines, quotes, speeches, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues without explicit citation of the source and explicitly showing the formula of repetition (Assumed).	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it without explicitly showing the formula of repetition (Assumed).
	Explicit	Direct use / quoting of external resources such as famous lines, quotes, speeches, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues by explicit citation of the source by explicitly showing the formula for repetition (Known).	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it by explicitly showing the formula of repetition (Known)

Pattern-reforming	Implicit	Direct creation of 'New' / neologism without explicit citation / indication of the source and explicitly showing the formula for creation (Assumed).	Direct creation of 'New' / neologism using existing resources without explicitly showing the formula for creation (Assumed)
	Explicit	Creation of 'New' / neologism by explicit citation / indication of the source and by explicitly showing the formula for creation (Known).	Creation of 'New' / neologism using existing resources and by explicitly showing the formula for creation (Known).

Table 3 Analytical Framework for Creativity in Multimodal Texts (AFCMT)

Concurrently, the concept of 'explicit' (known) and 'implicit' (assumed) also come into play affecting every instance of creativity. When creativity is created by explicitly showing the formula for creation, then the instruction of creativity construction is 'known'; otherwise, when creativity is created without explicitly showing the formula of creation, then the instruction of creativity construction is 'assumed' – it is 'assumed' because it is assumed by the creator that the target of an instance of creativity has the level of competence to comprehend or decipher the formula of creativity creation without explicitly showing the steps involved in the creation process. Thus, the concept of Implicit (Assumed) & Explicit (Known), Endo-referenced & Exo-referenced (IEEE) represents the core of the Analytical Framework for Creativity in Multimodal Texts (AFCMT). The IEEE type of pattern-forming and pattern-reforming creativity in AFCMT is summarised in Table 3.
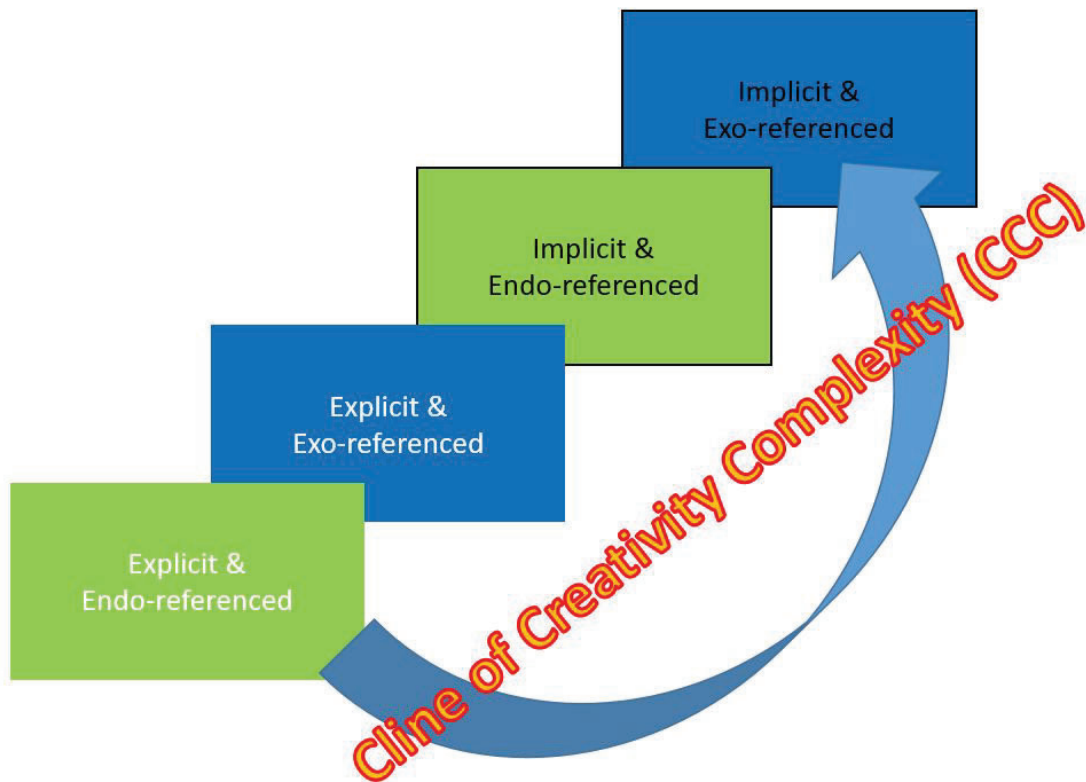
Figure 12 Cline of Creativity Complexity (CCC)

The categorisation of IEEE type of creativity in AFCMT helps to explain the complexity in understanding creativity in terms of explicitness and reference type. Such complexity in understanding creativity is clinal, as illustrated by the Cline of Creativity Complexity (CCC) in Figure 12. 'Explicit' creativity is at a lower position along CCC than 'implicit' creativity as it requires less mental effort in decrypting the formula of creativity construction. 'Endo-referenced' creativity is at a lower position along the CCC than 'Exo-referenced' creativity as the reference is recoverable from preceding discourse and thus requires less prior knowledge of the reference involved. From the above understanding of the effect of explicitness and reference type on the complexity of creativity, four combinations of IEEE type of creativity can be represented on the CCC. 'Explicit & Endo-referenced' creativity is the easiest to comprehend and so it occupies the lowest end on the CCC, followed by 'Explicit & Exo-referenced' creativity which is higher up the cline.

'Implicit & Endo-referenced' creativity is the second highest along the CCC, while 'Implicit & Exo-referenced' creativity takes the highest spot.

In the next few sections, examples from various multimodal resources will be used to demonstrate how AFCMT can be used to describe and analyse pattern-reforming and pattern-forming creativity.

4.3. TV drama and movie scenes

The first example is a dialogue between House and his patient's daughter Ali from *House M.D.* Season 3 Episode 4 *Lines in the Sand* (see: (Fox, 2016), https://youtu.be/4d-bC5Fbhs0?t=8m8s):

> *House: Listen to me. Do you have any idea what you'd have to look forward to if you stayed with me? Nine chances out of ten, we'd both wind up in a jail.*
>
> *Ali: You're only saying that to make me go.*
>
> *House: I'm saying it because it's true. Inside of us, we both know you belong with Victor – Is there a Victor in your class? If you're not with someone your age, you'll regret it. Maybe not today, maybe not tomorrow, but soon and for the rest of your life.*
>
> *Ali: What about us?*
>
> *House: We'll always have Fresno. I'm no good at being noble, but it doesn't take much to see that the problems of two little people don't amount to a hill of beans in this crazy world. Someday you'll understand that. Now, now – Here's looking at you– damn.*

Viewers of this TV drama scene may appreciate the beauty of the dialogue if they recognise the use of creativity, or may find it strange at certain point if they cannot recognise the use of creativity, such as when House talks about a person called Victor who has never appeared in the entire episode. This will likely lead to searching and questioning for clarification or skipping and ignoring of the oddity. In this case, viewers who do not recognise the creativity and find the oddity 'Victor' intriguing enough may decide to search for their answers. If they are fortunate enough, they may find a very similar scene in the movie *Casablanca* (Curtiz, 1942) starring Humphrey Bogart as Rick Blaine, Ingrid Bergman as Ilsa Lund, Claude Rains as Captain Louis Renault and Paul

Henreid as Victor Laszlo. Movie dialogue of that scene is as follows [See: (YouTube, 2006), https://youtu.be/pa-dGYjSq5k?t=47s]:

> *Rick: Now, you've got to listen to me! You have any idea what you'd have to look forward to if you stayed here? Nine chances out of ten, we'd both wind up in a concentration camp. Isn't that true, Louie?*
>
> *Renault: I'm afraid Major Strasser would insist.*
>
> *Ilsa: You're saying this only to make me go.*
>
> *Rick: I'm saying it because it's true. Inside of us, we both know you belong with Victor. You're part of his work, the thing that keeps him going. If that plane leaves the ground and you're not with him, you'll regret it. Maybe not today, maybe not tomorrow, but soon and for the rest of your life.*
>
> *Ilsa: But what about us?*
>
> *Rick: We'll always have Paris. We didn't have…we'd…we'd lost it until you came to Casablanca. We got it back last night.*
>
> *Ilsa: When I said I would never leave you…*
>
> *Rick: And you never will. But I've got a job to do, too. Where I'm going, you can't follow. What I've got to do, you can't be any part of. Girl, I'm no good at being noble, but it doesn't take much to see that the problems of three little people don't amount to a hill of beans in this crazy world. Someday you'll understand that. Here's looking at you, kid.*

Without the oddity "Victor" in the *House M.D.* scene, viewers would most likely miss the presence of creativity – this homage scene of *Casablanca*. It is therefore the oddity that has act as a trigger to expose the implicitness of this instance of creativity. This instance of creativity in the *House M.D.* scene is a pattern-forming one. It is exo-referenced as a large proportion of text was directly quoted from an external resource, *Casablanca*. It is

also implicit/assumed as how this creativity is constructed and where the source of this creativity is from have not been stated, meaning that the formula of construction is not made known to viewers and the creators (i.e. scriptwriters in this case) have assumed a level of knowledge and familiarity of the *Casablanca* scene in the targets (i.e. the viewers). The creators almost certainly have not expected every one of the viewers to be able to comprehend or notice the creative challenge put forth, because almost no one has the full spectrum of cultural potential, or even just the movies potential in the spectrum of cultural potential. Cross-genre referencing of creativity from TV drama to movie is demanding for viewers, so the creators need to also understand the level of challenge they have set for their targets who are viewers of one genre to be able to make external reference to resources of a different genre.

Intriguingly, there is another level of creativity involved, but instead of observing this scene in *House M.D.* as a viewer, it is from the perspective of the characters involved, meaning House and Ali. Ali is a 17 and a half-year-old school girl who has shown a sexual interest in the middle-aged main character House, so when House is ordered by Cuddy to "put an end to this" (Season 3 Episode 4 *Lines in the Sand*) potentially May-December relationship, House and Ali have the conversation in the aforementioned dialogue. Earlier on, it has been concluded that the scriptwriters are the creators of the homage and the creativity involved, but within the parallel universe of *House M.D.*, is House also the creator of this homage and this instance of pattern-forming creativity? Initially, when House said,

> House: Listen to me. Do you have any idea what you'd have to look forward to
> if you stayed with me? Nine chances out of ten, we'd both wind up in a jail.

Ali has not noticed House's use of the lines of Rick from the movie *Casablanca*, and so her reply being similar to that of Ilsa in *Casablanca* is purely coincidental,

> Ali: You're only saying that to make me go.

but when House continues to adopt lines from the movie, up until his mentioning of a man name "Victor" giving a clue to his use of exo-referenced creativity, Ali feels puzzled and frowns,

> House: I'm saying it because it's true. Inside of us, we both know you belong with Victor

and so when House asks,

> – Is there a Victor in your class?

it is partly to serve as a request for information to see if Ali really does have a classmate named Victor, and partly to check if Ali knows he is implicitly making an exo-reference to the movie *Casablanca*. After Ali shakes her head signalling that she does not have a classmate named Victor, House knows she has not watched the movie *Casablanca* from 1942 – probably given that her age is only 17 and a half, so he can safely continue to adopt lines from the movie,

> House: …If you're not with someone your age, you'll regret it. Maybe not today, maybe not tomorrow, but soon and for the rest of your life.

Ali may appear to be replying with movie lines but in fact she is unaware of the co-constructed pattern-forming creativity she is engaging in,

> Ali: What about us?

House then replies by replacing the word 'Paris' from the original movie line with 'Fresno', which is mentioned by Ali to House in an episode before (Season 3 Episode 3 *Informed Consent*), serving as a cross-episodic exo-reference,

> House: We'll always have Fresno. I'm no good at being noble, but it doesn't take much to see that the problems of two little people don't amount to a hill of beans in this crazy world. Someday you'll understand that. Now, now – Here's looking at you– damn.

This example demonstrates that pattern-forming creativity in a genre such as TV drama can be observed from two perspectives – that is from the scriptwriters/viewers' perspective and from the individual character's perspective. The viewer will need to be able to see inside the characters' perspectives to get the whole picture. The example also shows that exo-referenced pattern-forming creativity such as the homage in this *House M.D.* scene, despite having some highly private discussions with intimate content within the context, may not necessarily result in "affective convergence, in implicit signals of intimacy and symmetries of feeling" as Carter (2004, p. 164) has observed in real-life spoken English as far as the construction of pattern is concerned.

The second example is a dialogue from *House M.D.* Season 1 Episode 2 *Paternity* involving 3 characters, House, Wilson – House's best friend, and Cuddy – House's other best friend / boss / Dean of Medicine / hospital administrator. Wilson and House are talking about a patient House has just treated in the clinic and then they run into Cuddy, who intends to check on House's progress with his main patient, a 16-year-old school boy named Dan who has gone missing inside the hospital the night before and is eventually found up on the roof. House tries to cover up this incident by lying to Cuddy, who was then in her tennis outfit, that his return to hospital after work is because an imaginary hooker has gone to his office instead of his home.

[Cut to elevator. See House and Wilson exiting.]

Wilson: You actually treated him?

House: All I know is that he sued some doctors, who am I to assume that they didn't have it coming to them. [Stops when he sees Cuddy coming] The cutest little tennis outfit, my God I thought I was going to have a heart attack. [Acts like he just realized that Cuddy was there.] Oh my, I didn't see you there, that is so embarrassing.

Cuddy: How's your hooker doing?

House: Oh, sweet of you to ask, funny story, she was going to be a hospital administrator, but hated having to screw people like that.

Cuddy: I heard you found her on the roof.

House: You have very acute hearing.

Cuddy: You notify the parents?

House: In due course, of course.

Cuddy: And is there a paternity bet on the father of the patient?

House: Doesn't sound like me.

Wilson: Well, it does actually, but that doesn't mean you're guilty.

House: You think?

Cuddy: I saw the parents in the lobby, smart money is obviously on the father.

House: [Stage whisper] My guy knows a guy who can get you in for $50 bucks.

Cuddy: Fine. You tell your guy if I win, you attend the faculty symposium and you wear a tie.

House: And if I win, no clinic hours for a week.

Cuddy: My guy will call your guy.

[Cuddy walks off]

Wilson: She's very good at her job.

In this dialogue, Cuddy shows that she has complete knowledge of why House returns to the hospital after work and that it is not for the hooker. Therefore, when she asks House,

Cuddy: How's your hooker doing?

She is mainly trying to test how House will respond to her, whether he will be direct or hide it completely. When House decides to hide and deflect with his humour by saying,

> *House: Oh, sweet of you to ask, funny story, she was going to be a hospital administrator, but hated having to screw people like that.*

Cuddy directs the conversation about a non-existent 'hooker' or 'her' back to the actual subject, Dan the patient,

> *Cuddy: I heard you found her on the roof.*

By saying what Cuddy says is telling House that she knows of his lie and House can only admit it,

> *House: You have very acute hearing.*

After House has admitted his lie, Cuddy draws the focus back to her administrative concerns,

> *Cuddy: You notify the parents?*

> *House: In due course, of course.*

as well as informing House that she is aware of his bet with Foreman, which is inappropriate by the Dean of Medicine's standard.

> *Cuddy: And is there a paternity bet on the father of the patient?*

> *House: Doesn't sound like me.*

> *Wilson: Well, it does actually, but that doesn't mean you're guilty.*

> *House: You think?*

> *Cuddy: I saw the parents in the lobby, smart money is obviously on the father.*

All the above-mentioned elements, such as hooker, patient, patient's parents and the bet help set the scene for House's creativity in the next line. Having heard Cuddy talking about 'smart money', House understands that Cuddy is actually enabling him into betting against her, and he creates two imaginary 'guys' who will take bets from Cuddy on a paternity test of a patient's father.

> *House: [Stage whisper] My guy knows a guy who can get you in for $50 bucks.*

The first 'guy' is a metaphorical secret betting agent who has connection with another 'guy' who is a metaphorical dealer, whose identities are likely to be House himself, but given the fact that Wilson is also present, either one or both 'guy's could be Wilson too. Such repetition of 'guy' creates an emphasis on the word, making this an instance of pattern-forming creativity constructed by House alone. It is implicit as House assumes his target Cuddy to be able to understand who the two 'guys' are referring to in his metaphor, and it is exo-referenced as the 'guys' have not appeared in the preceding conversation and therefore are referring to external references, namely the metaphorical secret betting agent and dealer. Cuddy, who is capable of understanding House's metaphors and creativity, treats the word 'guy' as a unit and repeats,

> *Cuddy: Fine. You tell your guy if I win, you attend the faculty symposium and you wear a tie.*
>
> *House: And if I win, no clinic hours for a week.*

and Cuddy asks House to tell his secret betting agent (House) that she is participating in the bet,

> *Cuddy: My guy will call your guy.*

In the last sentence, Cuddy continues to build upon House's self-constructed pattern-forming creativity and adopts a co-constructed pattern-forming creativity which is implicit – as Cuddy too has not mentioned how she constructs her metaphor, that is to whom her 'guy' is referring, and it is endo-referenced -- as she builds upon a unit 'guy'

from House's creativity. This is an example of a co-constructed pattern-forming creativity constructed based on a self-constructed pattern-forming creativity. House being the creator of the first pattern-forming creativity makes Cuddy his target, but when Cuddy picks up on the unit from House's creativity, she becomes the creator of the second pattern-forming creativity in this scene and makes House her target. This switch of roles from <creator> to <target> and <target> to <creator> exemplifies one of the main characteristics of self-constructed to co-constructed pattern-forming creativity in speech, that is, not only must turn-taking be present, but also three dialogic steps: creativity creation, unit recognition and unit repetition with adaptation. That is, the creativity creation is produced by the creator, unit is recognised by the target, and then repeated by the target after certain amount of adaptation and in the process, the target becomes a creator.

The third and fourth examples are two separate dialogues from two separate but related scenes from *House M.D.* Season 1 Episode 1 *Pilot: Everybody Lies* involving 2 characters, House and Cuddy. Cuddy catches House going home sharp at 5pm while she is expecting House to be in her office 20 minutes ago. They take the lift down to the lobby together while on the way down, Cuddy lists all the duties that House is behind [See: (Fox, 2014), https://www.youtube.com/watch?v=ap5sNDLcI4c]:

> *[Cuddy and House walk out of the lift]*
>
> *Cuddy: Look, Dr. House, the only reason that I don't fire you is because your reputation still worth something to this hospital.*
>
> *House: Excellent, we have a point of agreement. You aren't going to fire me.*
>
> *Cuddy: Your reputation won't last up if you don't do your job. The clinic is part of your job. I want you to do your job.*

> *House: Well, like the philosopher Jagger once said, "You can't always get*
>
> *what you want"*
>
> *……*

In this dialogue, House's quoting of philosopher Jagger is an instance of pattern-forming creativity that is exo-referenced – because the quote is apparently from someone that is outside the context of the conversation, which means the source is an external one; and explicit – because quoting the speaker and citing the source is an act of exposing the formula of construction for the repetition, making it known to the target.

House manages to end the debate with Cuddy by quoting a philosopher Jagger, possibly due to the fact that Cuddy has not heard of this philosopher nor this quote, or perhaps the term 'philosopher' carries too much authority for Cuddy to rebut. This silence from Cuddy, however, has not lasted too long. Several scenes later, Cuddy issues an order to halt all treatments for House's patients, which has made House barging into Cuddy's office with anger.

> *[Many scenes later, cut to House, busting into Cuddy's office]*
>
> *……*
>
> *Cuddy: Oh, I looked into that philosopher you quoted, Jagger, and you 're*
>
> *right, "You can't always get what you want", but as it turns out "if you try*
>
> *sometimes you get what you need."*

After being overpowered by House's use of pattern-forming creativity, instead of skipping and ignoring it, Cuddy decides to question and search for clarification. Her reply to House proves that she has not only successfully retrieved the quote by philosopher Jagger that is used by House and but also discovered that 'Jagger' is in fact not a philosopher but one of the members of the English rock band the Rolling Stones – Sir Michael Philip "Mick" Jagger, and House's quote is in fact a line of lyrics from the Rolling Stone's song *You Can't Always Get What You Want* (1969). Cuddy recognises the unit of

creativity as 'philosopher Jagger' and 'You can't always get what you want', repeats the unit by adding an adaptation of another line of lyrics from the same song, "But if you try sometimes (well) you just might find you get what you need" and successfully created an instance of pattern-forming creativity from House's instance of pattern-forming creativity. Cuddy becomes the creator of the second pattern-forming creativity in the process.

While House's instance is exo-referenced and explicit, Cuddy's version is endo-referenced – as she quotes from the same song and same singer which House has quoted, maintaining its recoverability from the preceding discourse despite separated by multiple scenes; and explicit – because quoting the speaker and citing the source is an act of exposing the formula of construction for the repetition, making it known to the target.

The fifth example is a dialogue from *House M.D.* Season 6 Episode 20 *The Choice* between House and Chase – one of the doctors on House's diagnostic team– in the presence of Taub – one of House's teaching fellows. House is sitting alone in the hospital cafeteria. Chase and Taub enter the cafeteria and approach House with updates of the patient's conditions.

[Taub and Chase sit down at the table]

> *Chase: What about MELAS? Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes.*

> *House: NILLAS. No. Idiot. Lactate. Levels. Are. Stable. We're missing something.*

In this dialogue, Chase talks of a syndrome with an acronym MELAS, which is an abbreviation of Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes. Judging by House's reply, it is apparent that House is familiar with this

syndrome and it is reasonable to believe that House knows MELAS is an abbreviation even without Chase saying the full name. MELAS as an abbreviation of a syndrome itself is an instance of pattern-reforming creativity because it does give new meanings to the word, although not an instance created by Chase but is only mentioned by him in this example. What Chase has achieved is making the formula of construction of such pattern-reforming creativity explicit by first exo-referencing such a syndrome which has not been considered before in any preceding DDX, and then reading out what the abbreviation represents in full name. House, the target, recognises the creativity unit 'MELAS' and the concept of abbreviation as the formula of construction, and then creates a new instance of pattern-reforming creativity 'NILLAS' using the same formula of constructions, that is the abbreviation of "No. Idiot. Lactate. Levels. Are. Stable". Therefore, House's instance of pattern-reforming creativity is exo-referenced – like Chase's 'MELAS', 'NILLAS' is created using elements which are not information recoverable preceding discourse; and explicit – as it follows the same formula of construction used, elaborated and made known by Chase. It is worth noting that 'NILLAS' forms a minimal pair with 'MELAS', so House's pattern-reforming creativity does not only involve word play, but also phonology play.

The sixth example is a dialogue from *Blackadder the Third* (1987) Episode 2 titled *Ink and Incapability* between the Butler Edmund Blackadder and lexicographer Dr. Samuel Johnson regarding his dictionary in the presence of Prince George [See: (BBC, 2010), https://www.youtube.com/watch?v=hOSYiT2iG08]:

> *Dr. Samuel Johnson: [places two manuscripts on the table, but picks up the top one] Here it is, sir. The very cornerstone of English scholarship. This book, sir, contains every word in our beloved language.*
>
> *Blackadder: Every single one, sir?*
>
> *Dr. Samuel Johnson: Every single word, sir!*

Blackadder: Oh, well, in that case, sir, I hope you will not object if I also offer the Doctor my most enthusiastic contrafribularities.

Dr. Samuel Johnson: What?

Blackadder: "Contrafribularites", sir? It is a common word down our way.

Dr. Samuel Johnson: Damn!

[writes in the book]

Blackadder: Oh, I'm sorry, sir. I'm anaspeptic, frasmotic, even compunctuous to have caused you such pericombobulation.

In this dialogue, Blackadder produces several instances of pattern-reforming creativity, including "contrafribularities", "anaspeptic", "frasmotic", "compunctuous" and "pericombobulation" to contradict Dr. Samuel Johnson's claim of being able to include every single word in the English language in his new book, *A Dictionary of the English Language*. Blackadder uses the method of word blending, or portmanteau – the same method used by Humpty Dumpty, a character created by English writer Lewis Carroll in his book *Through the Looking-Glass* (1871). From Chapter 6 *Humpty Dumpty*,

'You seem very clever at explaining words, Sir,' said Alice. 'Would you kindly tell me the meaning of the poem called "Jabberwocky"?'

'Let's hear it,' said Humpty Dumpty. 'I can explain all the poems that were ever invented — and a good many that haven't been invented just yet.'

This sounded very hopeful, so Alice repeated the first verse:

' Twas brillig, and the slithy toves

Did gyre and gimble in the wabe;

All mimsy were the borogoves,

And the mome raths outgrabe.

'That's enough to begin with,' Humpty Dumpty interrupted: 'there are plenty of hard words there. "brillig" means four o'clock in the afternoon — the time when you begin broiling things for dinner.'

'That'll do very well,' said Alice: and "slithy"?'

'Well, "slithy" means "lithe and slimy." "Lithe" is the same as "active." You see it's like a portmanteau — there are two meanings packed up into one word.'

Given that a portmanteau packs two meanings into one word, Blackadder's neologism such as 'contrafribularities', 'anaspeptic', 'frasmotic', 'compunctuous' and 'pericombobulation' all carry two meanings in each word. According to Random (2003) and the Oxford Dictionaries, 'contrafibularities' is a portmanteau constructed from 'contra' meaning 'against' and 'fibula' meaning 'the smaller of the two bones in the lower leg', together the neologism means 'to pull one's leg' or 'to deceive someone playfully; tease someone'. 'Anaspeptic' is constructed from prefix 'ana-' meaning 'back' or 'up' and 'peptic' meaning 'stomach', together it means 'to turn one's stomach' or 'to make or become nauseated'. 'Frasmotic' is constructed from 'frazzled' meaning 'completely exhausted' and 'spasmodic' meaning 'caused by, subject to, or in the nature of a spasm or spasms', together it means 'so exhausted that one goes into a spasm'. 'Compunctuous' is constructed from 'compunctious' meaning 'having a feeling of guilt or moral scruple that prevents or follows the doing of something bad' and 'contemptuous' meaning 'showing contempt; scornful', together it means 'having a feeling of guilt after doing something to somebody one hates'. 'Pericombobulation' is constructed from 'peri-' meaning 'round; about' and 'discombobulation' meaning 'disconcert or confuse someone', together it means 'head-spinning confusion'.

All the above portmanteau neologisms are exo-referenced – all these words are directly created without explicit indication of the source; and implicit/assumed – the formulas

for creation are not explicitly shown and therefore an assumption is made about the target being able to comprehend, or not able to comprehend at all in this case, since that will serve the purpose of Edmund Blackadder offering Dr. Samuel Johnson his "most enthusiastic contrafribularities" (BBC, 2010).

4.4. Chapter summary

This chapter has briefly described how theories of creativity from cognitive science and linguistics can be complementary to each other in the creativity studies of paintings (4.1). A new Analytical Framework for Creativity in Multimodal Texts (AFCMT) based on the concept of Implicit (Assumed) & Explicit (Known), Endo-referenced & Exo-referenced (IEEE) has been proposed. It provides a new perspective on the analysis of multimodality and a new framework for the classification of creativity in various texts – a tool which helps the realisation of meanings through creativity in various modes and in intersemiotics between modes. Using IEEE from the AFCMT, the level of creativity complexity can be mapped onto the Cline of Creativity Complexity (CCC), providing a basic model of systemic description for the clinal nature of creativity complexity (4.2).

The AFCMT has been discussed in detail through examples of various forms of multimodality, covering – but not limited to – TV drama, movie and sitcom (4.3). The discussion on applying the AFCMT in the analysis of other forms of multimodality such as sign language (8.2), song and dance from MTV (8.3), digital arts (8.4), and the social media (8.5) can be found in the Appendices. The examples, albeit limited, are provided in an increasing level of complexity and are mainly meant to fill all the grids in the AFCMT. The example of gorilla Koko's acquisition of human sign language and subsequent creativity is particularly interesting, as it reminds us humans that the production of creativity is not unique to humans and that certain animals are capable of understanding human messages and construe meanings through means which humans can comprehend. Ironically, we humans have yet to be able to communicate with these animals using their languages, or semiotic systems, at the same level of knowledge as they have with ours (Wolchover, 2012).

Although limited by the scope and time of this study, the AFCMT can theoretically be applied to creativity from other forms of the arts, such as culinary arts, photography, cinematography, music, sculpting and classical paintings.

In the next chapter, pattern-reforming creativity will first be extracted from HMDC through a corpus linguistic approach using hapax legomenon as the point of departure, then multimodally transcribed before the transcribed data is analysed quantitatively using PivotTables and PivotCharts and qualitatively using the AFCMT.

5. Chapter 5 – Pattern-reforming creativity

"We need creativity in order to break free from the temporary structures that have been set up by a particular sequence of experience." — Edward de Bono (2003, p. 27)

5.1. Pattern-reforming creativity extraction using Corpus Linguistic approach – Stage 2

5.1.1. Introduction

Stage 2 of this study is the extraction of instances of creative uses of language. One of the most basic extraction methods of useful information in the field of corpus linguistics involves the observed absolute frequency (Gries, 2010). Conversely, what does a low frequency count imply? The extraction of pattern-reforming creativity makes use of hapax legomenon. Hapax legomena are words which occur only once in a given selection of words (Zipf, 1935; Scott & Tribble, 2006; Baker, Hardie, & McEnery, 2006). Despite being proposed as a measurement of expansion of morphological productivity in word formation (Verheij, 2000; Gaeta & Ricca, 2005), hapax legomena are generally investigated so that they can be excluded from statistical calculations, language teaching and language processing, mainly due to its low individual frequency count, high lexical variety (i.e. a measure of how many different words used in a text) (Nakamura, 1987; Scott & Tribble, 2006; Jurafsky & Martin, 2009; Oakes, 2009; Fan, 2010; Kondal, 2015) and high percentage of presence (44% in Lewis Carroll's *Alice's Adventures in Wonderland*, 49.8% in Mark Twain's Th*e Adventures of Tom Sawyer*, 56.6% in 43-million-word Merc Corpus) (Baayen, 2001; Manning and Schütze, 2001; Kornai, 2002; Fan, 2010). However, it is precisely in these hapax legomena that pattern-reforming

creativity such as neologisms, slang words and portmanteaus are primarily found (Baayen & Renouf, 1996; Plag, 2003). In other words, hapax legomenon is a 'creativity potential' and should therefore be welcomed, rather than excluded, in this particular analysis (See 3.1.1).

Achieving automatic extraction of neologistic pattern-reforming creativity has been far from easy (Davies, 2014). Most dictionary publishers, including Oxford University Press, "still use a manual system of trawling for neologisms in a range of sources, either using their own staff or subscribing to a new words collection service such as the Camlex New Words Service." (Walter, 2010, p. 437) There are several semi-automatic neologism taggers in various stages of development which adopt the exclusion list method. For example, NeoTrack uses the MorDeBe Portuguese database to extract orthographic neologisms (Janssen, 2005), NeoTag uses the OSLIN database[1] to train against the IULA Gold Standard corpus for Spanish and is able to detect grammatical neologism in Spanish with 70%-93% accuracy (Janssen, 2012), and NeoDet uses The British National Corpus (BNC) in conjunction with several exclusion sources to extract neologism in English (Grochocka, 2013). However, the first two are not developed specifically for English, and none of the above is published and made publicly available for download. Without access to these semi-automatic neologism tagging programmes, researchers have to resort to common language processing programs such as Wordsmith Tools (paid), ConcGram (paid), Antconc (free), CLAWS7 tagger (free) and ubiquitous data processing tools such as Microsoft Excel, unless they are computer programming language literates and are capable of developing their own software.

Davies (2014) argues that the extraction of neologistic pattern-reforming creativity requires a monitor corpus – a time-tagged corpus which monitors the changes in a language by constantly replacing old texts with new ones while comparing it to a stable reference set (Sinclair, 1982; Clear, 1987; Tognini-Bonelli, 2010). This is because by

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[1] Stands for *Open Source Lexical Information Network*, available in Portuguese, Catalan, Spanish and Russian

comparing a monitor corpus with the dataset gathered in the same period of time, it will be possible to extract the neologisms of this period (Davies, 2014). Without a monitor corpus, the searching for neologisms will require looking at "all words occurring a certain number of times per ten million within a particular alphabetical stretch and comparing them to an existing wordlist" (Walter, 2010, p. 436). However, even with a monitor corpus such as COCA, the extraction of neologisms will still take considerable time and manual work (Walter, 2010; Davies, 2014). Since manual work is inevitable, the key questions are what filtering criteria should be applied in the extraction process of pattern-reforming creativity in order to minimise time wastage and how to maximise hit rate in the extraction. The synergy between hapax legomenon and COCA will play a significant role in answering these two questions.

5.1.2. Creation of wordlists

According to the official WordSmith Tools version 6 manual (Scott, 2014), keywords are computed "by comparing the frequency of each word in the word-list of the text with the frequency of the same word in the reference word-list". As such, in order to proceed to keyword analysis, one wordlist (known as WordList on WordSmith Tools) must first be generated from each of the the source texts and reference corpus involved.
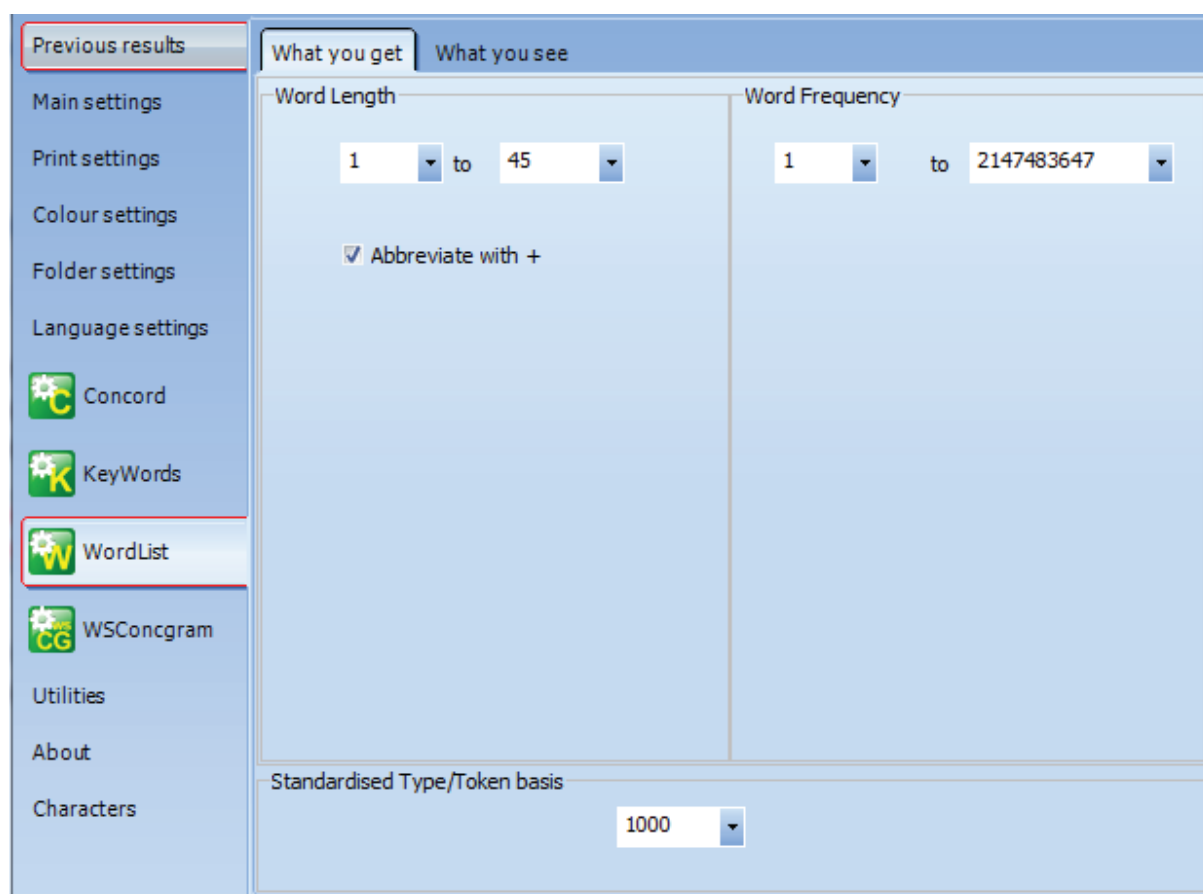
Figure 13 "What you get" tab of WordList
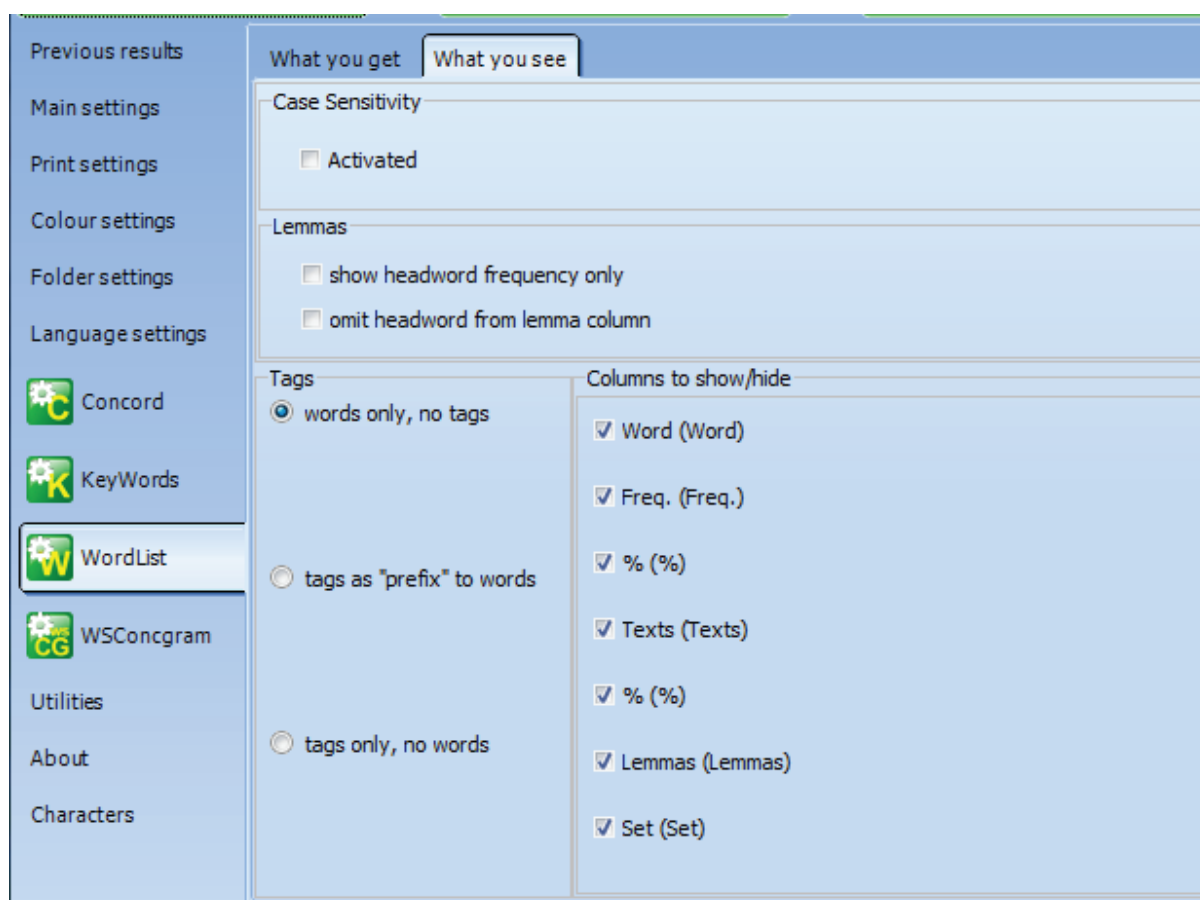
Figure 14 "What you see" tab of WordList

To do so, wordlists of the HMDC and Corpus of Contemporary American English (COCA) were created based on the following settings as shown in Figure 13 and Figure 14:

- Word length = default;
- Word frequency = default;
- Abbreviated with + = checked;
- Standardised Type/Token basis = default;
- Tags: words only, no tags = selected;

The results were a HMDC wordlist and a COCA wordlist consisting of 23,466 and 1,023,565 entries respectively.

5.1.3. Extraction of pattern-reforming creativity
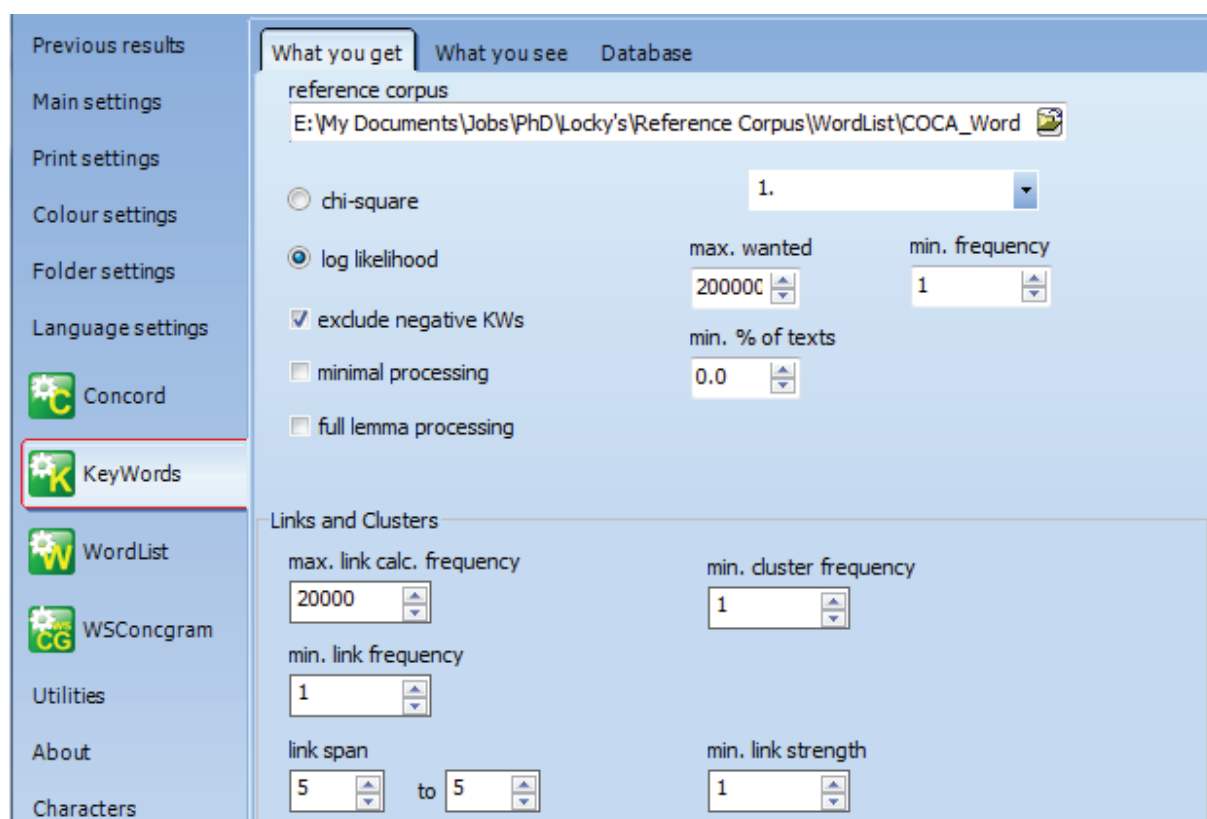
Figure 15 "What you get" tab of KeyWords

Once the reference corpora and the HMDC wordlists are prepared, the next step is to set up the KeyWords tool in preparation for the extraction of pattern-reforming creativity. Figure 15 "What you get" tab of KeyWords shows the WordSmith Controller KeyWords Settings. There are three tabs under the settings, namely "What you get", "What you see" and "Database". Tab "What you get" contains a number of statistical calculation options crucial to the selection of specific type of keywords. These keywords are considered "key", or "outstanding" according to the p-value preselected by the researcher as well as the Keyness value (Scott, 2014). In statistical significance testing, a p-value is the probability of yielding a particular result equal to or more extreme than

what is actually observed, while the null hypothesis is true (Goodman, 1999). For the case of pattern-reforming creativity extraction, the *p*-value must be set to its maximum possible value allowed by the software. By setting Max. *p*-value to "1.", it allows any result with a *p*-value of "1." or less. In layman's terms, because a small *p*-value in WordSmith Tools will exclude the hapax legomena (and thus the pattern-reforming creativity), a maximum *p*-value will ensure their inclusion. This is an unconventional move in corpus linguistics as the confidence / significance level is set at 0.05 or even 0.01, but given the largest possible p-value generated of the keywords in a particular corpus was unknown, setting the *p*-value to the maximum was a crucial step in the extraction of pattern-reforming creativity. It would be impractical to set a low predetermined confidence / significance level and risk the exclusion of any particular words. As for the Keyness of an item, WordSmith Tools calculates this using a cross-tabulation of the item's frequency and the number of running words in the source wordlist with those in the reference corpus (Scott, 2014). A word is said to be positively key if it "occurs more often than would be expected by chance in comparison with the reference corpus", and negatively key if "it occurs less often than would be expected by chance in comparison with the reference corpus" (Scott, 2014). By excluding the negative keywords, the list of creativity potential can be narrowed down even further.

A HMDC keyword list (known as KeyWords on WordSmith Tools) is then created based on the following settings (as shown in Figure 15 "What you get" tab of KeyWords and Figure 16):

- Max. ***p***-value = 1.;
- Log likelihood = selected;
- Exclude negative KWs = checked;
- Max.wanted = default;
- Min.frequency = 1;
- Min. % of texts = 0.0%
- Max. link calc. frequency = default;

- Min.cluster frequency = 1;

- Min.link frequency = 1;

- Link span = 5 to 5;

- Min. link strength = 1;
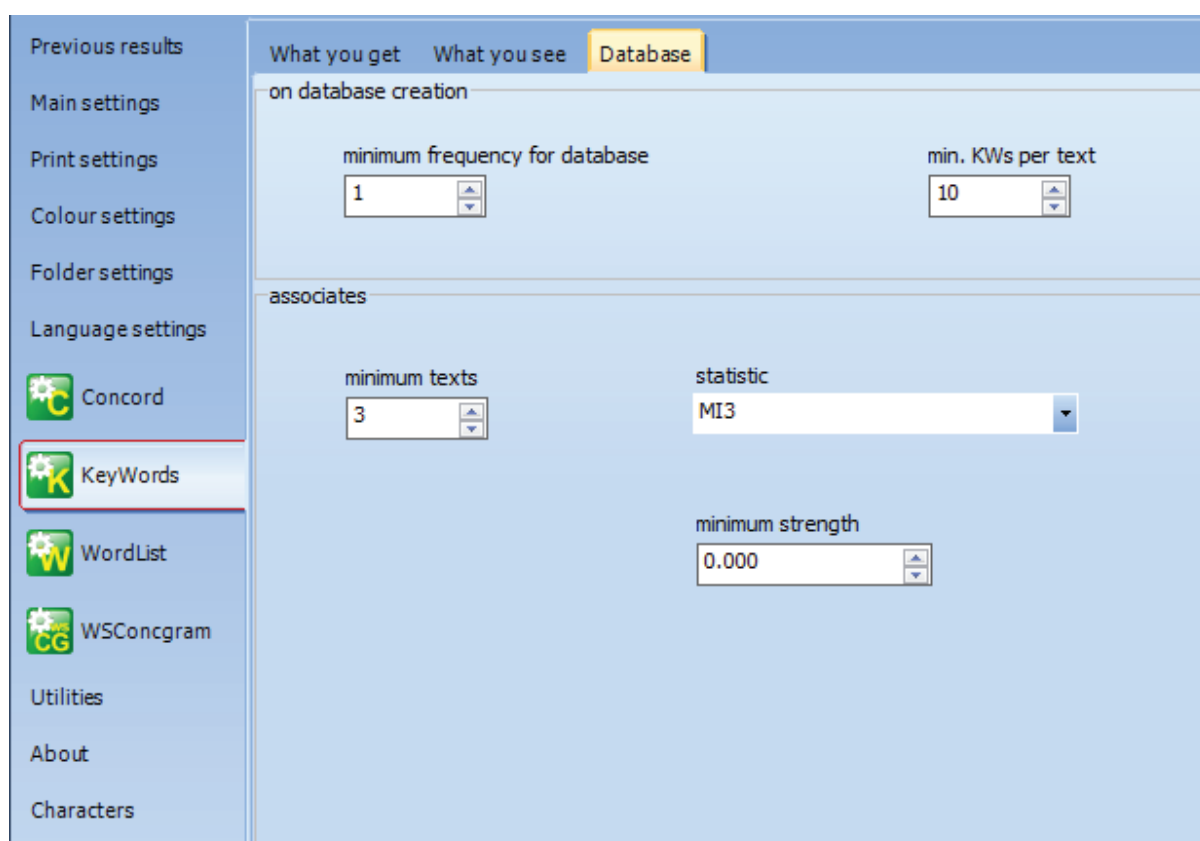
Figure 16 "Database" tab of KeyWords
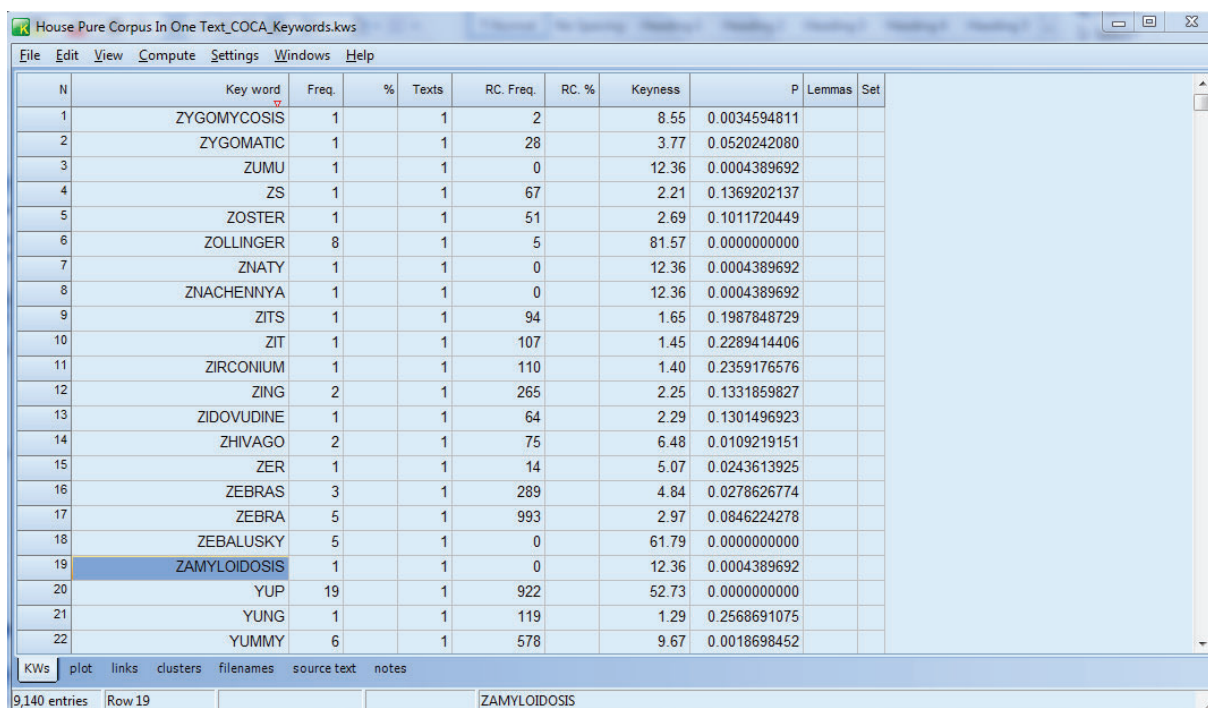
- minimum frequency for database = 1;

- min. KWs per text = default;

- minimum texts = 3;

- statistic = MI3;

- minimum strength = 0.000;

The results of the above settings yielded a keyword list of 9140 types as shown in Figure 17.

Figure 17 HMDC Keyword list using COCA as reference corpus, ranked by frequency

Once the HMDC keywords were computed, they could then be ranked according to a keyword's frequency in a source, its frequency in a reference corpus, keyness and *p*-value generated for each keyword, as shown in Figure 18. This keyword list was then exported as Excel spreadsheet for easy data manipulation.

N	Key word	Freq.	%	Texts	RC. Freq.	RC. %	Keyness	P	Lemmas	Set
1	ZYGOMYCOSIS	1		1	2		8.55	0.0034594811		
2	ZYGOMATIC	1		1	28		3.77	0.0520242080		
3	ZUMU	1		1	0		12.36	0.0004389692		
4	ZS	1		1	67		2.21	0.1369202137		
5	ZOSTER	1		1	51		2.69	0.1011720449		
6	ZOLLINGER	8		1	5		81.57	0.0000000000		
7	ZNATY	1		1	0		12.36	0.0004389692		
8	ZNACHENNYA	1		1	0		12.36	0.0004389692		
9	ZITS	1		1	94		1.65	0.1987848729		
10	ZIT	1		1	107		1.45	0.2289414406		
11	ZIRCONIUM	1		1	110		1.40	0.2359176576		
12	ZING	2		1	265		2.25	0.1331859827		
13	ZIDOVUDINE	1		1	64		2.29	0.1301496923		
14	ZHIVAGO	2		1	75		6.48	0.0109219151		
15	ZER	1		1	14		5.07	0.0243613925		
16	ZEBRAS	3		1	289		4.84	0.0278626774		
17	ZEBRA	5		1	993		2.97	0.0846224278		
18	ZEBALUSKY	5		1	0		61.79	0.0000000000		
19	ZAMYLOIDOSIS	1		1	0		12.36	0.0004389692		
20	YUP	19		1	922		52.73	0.0000000000		
21	YUNG	1		1	119		1.29	0.2568691075		
22	YUMMY	6		1	578		9.67	0.0018698452		

Figure 18 "Zamyloidosis", an instance of pattern-reforming creativity, is highlighted in the HMDC-COCA keyword list

Another key to the extraction of pattern-reforming creative language is the presence of a word in HMDC and the absence of the same word in COCA. Translating this into numbers, it means zero[2] occurrence in the reference corpus (i.e. RC. Freq. = 0). Using this criterion as filter on the list of 9140 types, the list is further narrowed down to 660 types of potential pattern-reforming creativity. These types are mostly hapax legomena (i.e. Freq. = 1), dis legomena (i.e. Freq. = 2) and tris legomena (i.e. Freq. = 3). The

---

[2] "Words which do not occur at all in the reference corpus are treated as if they occurred 5.0e-324 times (0.0000000 and loads more zeroes before a 5) in such a case." (See *How Key Words are Calculated* in Scott (2014))

keyword list is then exported as a Microsoft Excel spreadsheet and undergoes manual categorisation based on the types' nature in context, as shown in Figure 19.

Figure 19 Categorised list of potential pattern-reforming creative lexical items

While tokens of pattern-reforming creativity such as neologisms, portmanteaus and slang words are retained, otherwise tokens which belong to the following types are rejected:

- Medical terminologies (eg. disease names, medicine names)
- Proper nouns (eg. character's names, place names, thing names)
- Formal acronyms (eg. 'GFIS', 'MIDNIT')
- Gibberish (eg. 'teelingent' and 'valutate', by patients suffering from aphasia)

- Onomatopoeia (eg. 'CAWWWW', BUZZZZZZZ")
- Exclamations (eg. 'OOOOOOOOOOOOOOOOOO', 'YEEAH', 'YEEEEESSS')
- Unfinished words (eg. '[Don't] worr—')
- Non-English words (eg. 'Znachennya', 'Znaty', 'Zumu')

After any residual spelling errors are corrected and re-categorised, a list of 114 pattern-reforming creative types is produced. That is 17.27% of the 660 potential pattern-reforming creative types (=114 / 660) and 0.486% of the HMDC wordlist (= 114 / 23,466). These 114 creative types appear 128 times in the television drama as some of the items consist of multiple instances. At this point, these instances are ready for multimodal transcription.

5.1.4. Multimodal Transcription

One of the key challenges faced in multimodal analysis of video is the huge amount of semiotic resources required to be transcribed and annotated for a relatively short clip. Although advances in technology in the last few decades have helped the development of computer-assisted multimodal recognition and analysis (Adolphs & Carter, 2007), a fully automated system capable of high speed, high accuracy in-talk multimodal encoding is yet to be invented (Knight, Adolphs, Tennent, & Carter, 2008). The manual approach remains a crucial strategy for most multimodal corpus researchers despite the high time cost. However, with the help of Microsoft Excel and a transcription framework as suggested below, analysis can still be performed in a rather efficient and effective manner.
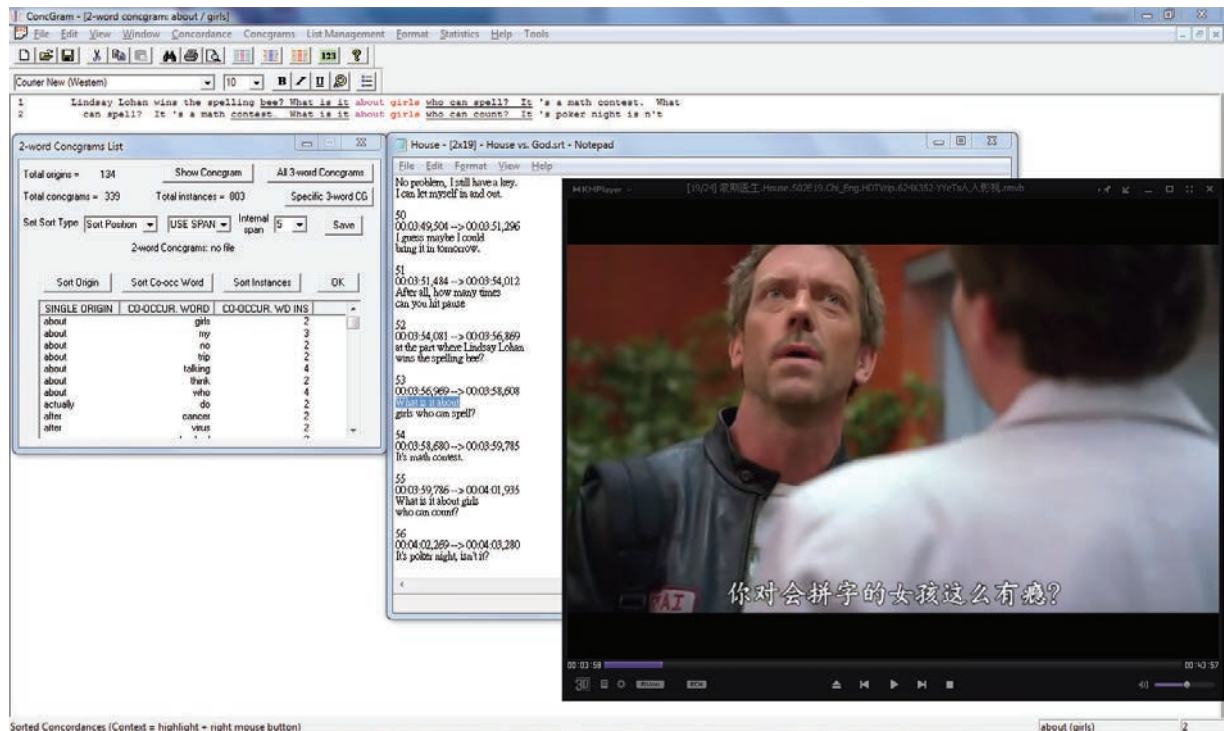
Figure 20 Retrieving information from video segment of creativity

In preparation for SFMDA, each instance of creative items obtained from the extraction process required the corresponding video segment to be retrieved and numbered according to the respective season (Season), episode (Episode) and time (Time Stamp) as shown in Figure 20. Screenshots of the video are made at the moment of creative language production (Salient Visual Frame) and are added to the Excel sheet as pictorial reference.

Season	Episode	Time Stamp	Salient Visual Frame	VISUAL MODE: Cinematography:				AUDITORY MODE:		
				Camera Angle	Camera Movement	Visual Framing			Soundtrack:	
									Music, Song	Speech / Narration

	SOMATIC MODE: Kinesics:					CREATIVITY:		
Kinesic Actions:		Kinesic Expression/Display:		Kinesic Orientation:				
Physical Movement in Space	Gesture	Facial Expression	Gaze	Proxemics	Stance, Posture	Instance	Pattern-forming / Pattern-reforming	Nature	Creator

Figure 21 Excel spreadsheet for multimodal transcription

The framework for multimodal transcription of video segments is modelled from the framework proposed by O'Halloran et al. (2010), which employs multimodal social semiotics as the underlying theoretical foundation (see Figure 21):

> A multimodal social semiotic approach to the study of communication offers the descriptive means to account, in both detailed and holistic views, for the multiple and innovative ways in which semiotic resources are both co- and/or cross-deployed within and across various modes of communication (i.e., visual, aural, and somatic) to fulfil certain social-semiotic functions or objectives…
>
> (O'Halloran, Tan, Smith, & Podlasov, 2010, p. 4)

Since linguistic creativity in TV dramas falls in the category of multimodal communication, it will be highly suitable to adopt a multimodal social semiotic approach, and thus adapting the framework by O'Halloran et al. (2010), to the study of linguistic creativity in *House M.D.*

The modelled framework includes the following semiotic variables:

VISUAL MODE: Cinematography:

- Camera Angle
- Camera Movement
- Visual Framing

AUDITORY MODE: Soundtrack:

- Music, Song
- Speech/Narration

SOMATIC MODE: Kinesics:

- Kinesic Actions:

- o Physical Movement in Space

- o Gesture

- Kinesic Expression/Display:

  - o Facial Expression

  - o Gaze

- Kinesic Orientation:

  - o Proxemics

  - o Stance, Posture

CREATIVITY:

- Instance

- Pattern-forming / Pattern-reforming

- Nature

- Creator

It is worth noting that attribute values of the above semiotic variables mostly follow the conventional terminology in film analysis. For instance, terms such as intimate space, personal space, social space, and public space of Proxemics are based on anthropologist Edward T. Hall (1966, pp. 71-72). He describes the four zones of interpersonal distances between participants:

- Intimate space – within 18 inches: a space for individual of very close relationships, often involving in intimate contacts such as embracing, whispering or touching
- Personal space – 1.5 to 4 feet: a space for individuals of close relationships, often involving interactions between family and close friends.
- Social space – 4 to 12 feet: a space for individuals who are acquaintances
- Public space – 12 to 25 feet: a space used in public speaking situations

In this paper, these spaces are used to describe the distance between the participants on-screen and the viewers.

Types of shots in Visual Framing such as close-up, medium close-up, medium shot, medium long shot and long shot are based on Thompson and Bowen (2009). More specifically, the close-up shows only the head, hands, feet or small object. The medium close-up frames the human body from the chest up. The medium shot frames the body from the waist up. The medium long shot frames the body from about the knees up. The long shot frames the entire body but the background dominates the frame (Thompson & Bowen, 2009). Attribute values of Camera Angle (high, eye-level, waist-level, low), Camera Movement (stationary, tracking shot, hand-held shot, walk-and-talk, tilt shot, zooming in) and Visual Framing (over-the-shoulder shot, two shot, POV shot, wide shot) are based on common terms used in film studies from academia (Thompson & Bowen, 2009; UW Bothell, 2013; Pennsylvania State University, 2017) and film industry (Dise, 2016). These measurements are made with respect to the view of the viewer. Sample shots are provided in Table 4 Visual Framing / Camera Distance as defined by Bordwell and Thompson ([1990] 2008)([1990] 2008).

Other attribute values under Facial Expression (such as frowns, raises eyebrows, head jerks) and Gaze (such as at top-right corner, at character_name, forward) are classifications based upon the actual performance of the creator of pattern-reforming creativity. Therefore, the facial expressions and gaze of the target of pattern-reforming creativity are not considered and will not be recorded onto the Excel sheet. Should the facial expressions or gaze of the creator be absent, the corresponding spreadsheet cells are left empty and subsequently appear as '(blank)' in Excel PivotTables.

Figure 22 House's 'Cathlympics' scene with Sister Mary Eucharist in *Damned If You Do*

The following example will demonstrate how the fields of semiotic variables are filled into the multimodal transcription Excel spreadsheet. Figure 22 shows a screen capture of House's 'Cathlympics' scene with Sister Mary Eucharist, an instance of creative language production extracted from HMDC. It appears in Season 1 Episode 5 *Damned If You Do* between the time 00:18:47 and 00:18:52 in the format of hh:mm:ss.

			Salient Visual Frame	VISUAL MODE: Cinematography:			AUDITORY MODE:	
							Soundtrack:	
Season	Episode	Time Stamp		Camera Angle	Camera Movement	Visual Framing	Music, Song	Speech / Narration
1	5	00:18:47--> 00:18:52		Eye-level	Stationary	Close-up shot, Over-The-Shoulder shot		House:Do you people keep records of these things? Is there a "Cathlympics"?

Figure 23 Visual and auditory transcription

SOMATIC MODE: Kinesics:						CREATIVITY:			
Kinesic Actions:		Kinesic Expression/Display:		Kinesic Orientation:					
Physical Movement in Space	Gesture	Facial Expression	Gaze	Proxemics	Stance, Posture	Instance	Pattern-forming / Pattern-reforming	Nature	Creator
Stationary		raises eyebrows, big-eye stare	at Sister Mary Eucharist	Personal Space	Sitting	CATHLYMPICS	Pattern-reforming	(n) portmanteau: from 'Catholic' and 'Olympics'	House

Figure 24 Somatic and creativity transcription

The Salient Visual Frame stores the most significant frame of the drama at the moment of creative language production. In this instance as shown in Figure 23 and Figure 24, under *VISUAL MODE: Cinematography*, *Camera Angle* is at the eye-level, *Camera Movement* is stationary, *Visual Framing* is a combination of close-up shot and over-the-shoulder shot, or more precisely, over the shoulders of Sister Mary Eucharist (see Table 4). Under *AUDITORY MODE: Soundtrack*, *Music, Song* are absent, *Speech / Narration* is House saying to Sister Mary Eucharist, "Do you people keep records of these things? Is there a 'Cathlympics'?"

Under *SOMATIC MODE: Kinesics*: *Kinesic Actions: Physical Movement in Space* for both House and Sister Mary Eucharist are stationary and *Gesture* is absent; *Kinesic Expression/Display: Facial Expression* is only visible for House, as he raises his eyebrows and offers a big-eye stare at Sister Mary Eucharist (see Table 5); the frame shows the two participants sitting down and the use of framing within personal space, therefore, *Kinesic Orientation: Proxemics* is personal space and *Stance, Posture* is sitting. In terms of *CREATIVITY*, *Instance* is 'cathlympics' belonging to the *pattern-reforming* category, *Nature* is portmanteau – a combination of 'Catholic' and 'Olympics', and the *Creator* in this instance of creativity production is House. Sister Mary Eucharist has not participated in the generating of the portmanteau and therefore is not considered as a creator in this creativity production.
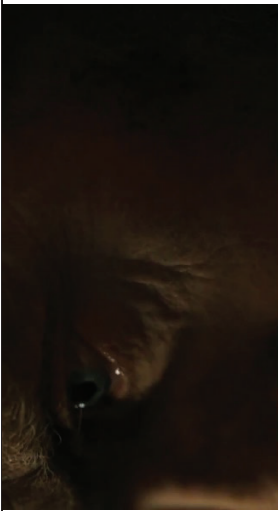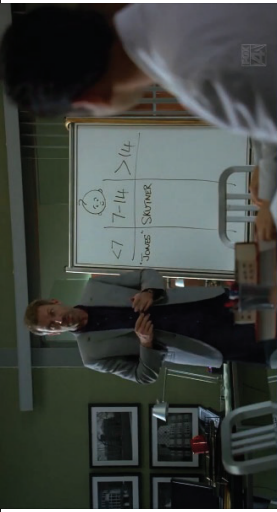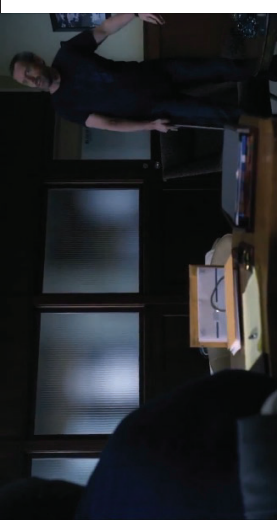
Extreme close-up

Close-up

Medium close-up

Medium shot, Over-The-Shoulder shot

Medium long shot, Over-The-Shoulder

Long shot, Over-The-Shoulder shot

Extreme long shot

POV shot

Two shot

Table 4 Visual Framing / Camera Distance as defined by Bordwell and Thompson ([1990] 2008)

Raises eyebrows, big-eye stare	Directed stare	Closes eyes
Lower jaw protrudes	Normal	Frowns
Concerned	Head jerks	Blank (no visible facial expressions)

Table 5 Samples of facial expressions

Finally, multimodal transcription is performed on every instance produced by the extraction process and is then analysed using both quantitative and qualitative approaches.

5.1.5. Summary

This section began by briefly discussing the significance of hapax legomenon as the source of neologistic pattern-reforming creativity, the unavailability of automatic tagging software to most researchers and the importance of a reference corpus to the extraction of the creativity. Then the section drew focus to the need for efficient pattern-reforming creativity extraction criteria before detailing the steps involved in the creation of wordlists for HMDC and COCA, and the extraction of pattern-reforming creativity, including the explanation for the choice of Max. *p*-value to "1." in WordSmith Tools and the comparison of hapax legomenon against the monitor corpus COCA. The section then described the multimodal transcription framework used in this study and demonstrates the mulitmodal transcription process using a typical example of pattern-reforming creativity.

In the next section, the extracted pattern-reforming creativity will undergo quantitative analysis and then qualitative analysis through SFMDA and AFCMT. There are two subsections in Analysis through SFMDA approach – Stage 3: Quantitative Analysis of Pattern-reforming Creativity and Qualitative Analysis of Pattern-reforming Creativity.

5.2. Analysis through SFMDA approach – Stage 3

5.2.1. Quantitative Analysis of Pattern-reforming Creativity

5.2.1.1. Analysing Multimodal Transcription

5.2.1.1.1. Parts of Speech and Pattern-reforming Creativity

Season	Episode	Time Stamp	Salient Visual Frame	VISUAL MODE: Cinematography:			AUDITORY MODE:	
							Soundtrack:	
				Camera Angle	Camera Movement	Visual Framing	Music, Song	Speech / Narration
1	5	00:18:47 --> 00:18:52		Eye-level	Stationary	Close-up shot, Over-The-Shoulder shot		House:Do you people keep records of these things? Is there a "Cathlympics"?
1	6	00:29:56 --> 00:30:08		Eye-level	Zooming in	Wide shot, Over-The-Shoulder shot		House: Well, normally, I'd put on a festive hat and celebrate the fact that the Earth has circled the sun one more time.
1	13	00:03:54 --> 00:03:40		Eye-level	Tracking shot	Medium shot, Two shot		House: Baffling. Though I vaguely recall a disease called "Meunomia", "Pneumania"?
1	13	00:03:54 --> 00:03:40		Eye-level	Tracking shot	Medium shot, Two shot		House: Baffling. Though I vaguely recall a disease called "Meunomia", "Pneumania"?
1	14	00:17:45 --> 00:17:49		Eye-level	Tracking shot	Medium shot, Two shot		House: Relax. Ricky's gonna be just "finkf". Strep throat.
1	16	00:03:36 --> 00:03:38		Eye-level	Walk-and-talk	Medium shot, Over-The-Shoulder shot		House: I'd recommend the apadravya. Cuddy: We're not talking.

Physical Movement in Space	Gesture	Facial Expression	Gaze	Proxemics	Stance, Posture	Instance	Pattern-forming / Pattern-reforming	Nature	Creator
Stationary		raises eyebrows, big-eye stare	at Sister Mary Eucharist	Personal Space	Sitting	CATHLYMPICS	Pattern-reforming	(n) portmanteau: from 'Catholic' and 'Olympics'	House
Stationary		raises eyebrows, big-eye stare	at Cameron	Social Space	Sitting	DARNIT	Pattern-reforming	(excl) slang	House
Walking		frowns	up	Social Space	Upright	MEUNOMIA	Pattern-reforming	(n) (med)	House
Walking	Opening a drawer	frowns	at the drawer	Social Space	Bending down	PNEUMANIA	Pattern-reforming	(n) (med)	House
Walking	Holding a patient's file with left hand	raises eyebrows, big-eye stare	at patient	Personal Space	Upright	FINKF	Pattern-reforming	(adj)	House
Stationary	Writing	normal	down	Social Space	Upright	APADRAVYA	Pattern-reforming	(n) (med)	House

Figure 25 Screenshot of pattern-reforming creativity multimodally transcribed and inputted into SFMDA Transcription Excel sheet

After all instances of pattern-reforming creativity have been transcribed and inputted into the SFMDA Transcription Excel sheet as shown in Figure 25, the data is analysed quantitatively using a combination of tables and charts that come with Excel by default.

POS: pattern-reforming creativity	Count of Nature
⊞ **nouns**	77
⊞ **adjectives**	26
⊞ **verbs**	19
⊞ **interjection**	4
⊞ **clause**	1
⊞ **adverbs**	1
Grand Total	128

Table 6 Parts of speech (POS) of pattern-reforming creativity

Types of words: pattern-reforming creativity
⊟ portmanteaus
    (adj) (med) portmanteau: from 'scrofula' and 'deliciou
    (adj) (n) portmanteau: from 'frappa', 'Cappucino' and
    (adj) portmanteau: from 'aggressive' and '-er'
    (adj) portmanteau: from 'chill' and 'relaxing'
    (adj) portmanteau: from 'clingy' and '-er'
    (adj) portmanteau: from 'decaffinated' and 'crap'
    (adj) portmanteau: from 'evil' and '-er'
    (adj) portmanteau: from 'silent' and '-er'
    (adj) portmanteau: from 'snappy' and 'delicious'

Table 7 Types of words of pattern-reforming creativity

In order to understand the nature of the extracted and multimodally transcribed pattern-reforming creativity, it is important to first map out the underlying properties of the instances through numerical means. Table 6 and Table 7 tabulate parts of speech (POS) of pattern-reforming creativity and types of words of pattern-reforming creativity respectively. In terms of POS, of 128 occurrences of pattern-reforming creativity, 77 are nouns (60.2%), 26 are adjectives (20.3%), 19 are verbs (14.8%), 4 are interjections (3.1%), 1 is an adverb (0.8%) and 1 is a clause (0.8%). In terms of types of words, 46 are portmanteau (35.9%), 29 are other nouns (22.7%), 21 are slang words (16.4%), 15 are other adjectives (11.7%), 11 are other verbs (8.6%), 2 are non-English words from other

languages (1.6%), 2 are acronyms (1.6%), 1 is other adverb (0.8%) and 1 is other interjection (0.8%).

These figures show that instances of pattern-reforming creativity in *House M.D.* are 4 times more likely to be a noun and 1.4 times more likely to be an adjective than a verb. In addition, using the extraction criteria for pattern-reforming creativity detailed in section 5.1, it is found that one-third of the instances belongs to portmanteaus, a quarter of the instances belongs to other neologistic nouns, and one-sixth of the instances belongs to slang.

Types of words: pattern-reforming creativity	Count of Nature
portmanteaus	
(n) portmanteau: from 'Taub' and '-ettes'	1
(n) portmanteau: from 'subhuman' and 'labs'	1
(n) portmanteau: from 'stomp' and '-ee'	1
(n) portmanteau: from 'skin' and 'lungs'	1
(n) portmanteau: from 'she' and 'DJ'	1
(n) portmanteau: from 'pharma' and 'genocide', fictional band name	2
(n) portmanteau: from 'penis' and 'genius'	1
(n) portmanteau: from 'Napoléon Bonaparte'	2
(n) portmanteau: from 'me too' and '-er'	1
(n) portmanteau: from 'Hasidic' and '-lings'	1
(n) portmanteau: from 'H-' and 'Ali-Baba'	1
(n) portmanteau: from 'gray' and 'pinkies'	1
(n) portmanteau: from 'fucking' and 'ugliness'	2
(n) portmanteau: from 'Forman' and 'hamspter'	1
(n) portmanteau: from 'companion' and '-ing'	1
(n) portmanteau: from 'Catholic' and 'Olympics'	1
(n) portmanteau: from 'Cameron' and 'hamspter'	1
(n) portmanteau: from 'bastard' and 'eulogy'	1
(n) (med) portmanteau: from 'z' and 'amyloidosis'	1
(n) (med) portmanteau: from 'World's sorest knees' and '-isil'	1
(n) (med) portmanteau: from 'toe' and 'amputation'	1
(n) (med) portmanteau: from 'subhuman' and 'MRSA'	1
(n) (med) portmanteau: from 'poison' and '-ee'	1
(n) (med) portmanteau: from 'nothing is wrong' and '-atosis'	2
(n) (med) portmanteau: from 'no' and 'arrhythmia'	1
(n) (med) portmanteau: from 'man' and 'vagina'	1
(n) (med) portmanteau: from 'hallucinate' and '-ee'	2
(n) (med) portmanteau: from hallucinate' and '-ee'	1
(n) (med) portmanteau: from 'differential' and '-ating'	1
(n) (med) portmanteau: from 'defribillator' and '-ist'	1
(n) (med) portmanteau: from 'chest' and 'testicles'	1
(n) (med) portmanteau: from 'booze' and 'cirrhosis'	1
(adj) portmanteau: from 'snappy' and 'delicious'	1
(adj) portmanteau: from 'silent' and '-er'	1
(adj) portmanteau: from 'evil' and '-er'	1
(adj) portmanteau: from 'decaffinated' and 'crap'	1
(adj) portmanteau: from 'clingy' and '-er'	1
(adj) portmanteau: from 'chill' and 'relaxing'	1
(adj) portmanteau: from 'aggressive' and '-er'	1
(adj) (n) portmanteau: from 'frappa', 'Cappucino' and 'delicious'	1
(adj) (med) portmanteau: from 'scrofula' and 'delicious'	1

Table 8 Breakdown of portmanteaus

Table 8 shows a breakdown of portmanteau, the type of pattern-reforming creativity

with the highest frequency count. In 46 counts of portmanteau, 38 counts are nouns

(82.6%) and 9 counts are adjectives (19.6%), including 1 count in both the noun and adjective category. The ratio of nouns to adjectives amongst portmanteau pattern-reforming creativity in *House M.D.* is approximately 4.2: 1. Medical terms account for 17 of 46 counts of portmanteaus (37.0%), including 16 of 38 counts of portmanteau nouns (50%) and 1 of 9 counts of portmanteau adjectives (11.1%). Non-medical terms-related portmanteaus account for 29 of 46 counts of portmanteaus (63.0%), including 22 of 38 counts of portmanteau nouns (57.9%) and 8 of 9 counts of portmanteau adjectives (88.9%).

Types of words: pattern-reforming creativity	Count of Nature
⊟ **neologistic nouns**	
(n) song name	1
(n) (med)	8
(n)	20

Table 9 Breakdown of neologistic nouns

Table 9 shows a breakdown of neologistic nouns, the type of pattern-reforming creativity with the second highest frequency count. Medical terms account for 8 of 29 counts of neologistic nouns (27.6%), while non-medical terms account for 21 of 29 counts of neologistic nouns (72.4%).

Types of words: pattern-reforming creativity	Count of Nature
⊟ **slangs**	
(vb) slang	7
(n) slang Australian	1
(n) slang	9
(excl) slang	2
(adj) slang	2

Table 10 Breakdown of slangs

Table 10 shows a breakdown of slang words, the type of pattern-reforming creativity with the third highest frequency count. In 21 counts of slang words, 10 of 21 counts are nouns (47.6%) including 1 count in Australian slang, 7 of 21 are verbs (33.3%), 2 of 21

are adjectives (9.5%) and 2 of 21 are exclamations (9.5%). Medical terms do not appear in the list of slang words in pattern-reforming creativity.

The above analysis has demonstrated that nouns, adjectives and verbs are the key parts of speech in the pattern-reforming creativity of *House M.D.*, with nouns and adjectives playing dominating in the production of the top three types of words, including portmanteaus, neologistic nouns and slang words.

5.2.1.1.2. Distribution of Pattern-reforming Creativity

Using stock chart as the charting type, a scatter graph (Figure 26) is created to illustrate the distribution of all instances of pattern-reforming creativity in hour, minute, second timecode format (h:mm:ss) across the entire series. As the duration of their appearances are miniscule relative to the entire episode, each instance appears as a dot in the graph. The graph is plotted using Episode as the x-axis with Season as the major gridlines and (h:m:s) timecode as y-axis. After a simple calculation of 5th, 25th, 50th, 75th, 95th percentile using Microsoft Excel's default formula =PERCENTILE.EXC(ARRAY, k)[3], their percentile lines are added to the graph. The addition of a trendline (in black colour) to Figure 26 shows an increasing trend of pattern-reforming creativity from season 1 to season 8. From the figure, it can be observed that, with the exception of one instance of pattern-reforming creativity from a double episode (Season 6 Episode 1 *Broken (Part 1)* and Episode 2 *Broken (Part 2)*), nearly all instances of pattern-reforming creativity cluster around the trendline and the 50th percentile.

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[3] As far as the data is concerned, the formula =PERCENTILE.INC(ARRAY, k) makes little difference in terms of calculation from the formula =PERCENTILE(ARRAY, k) from earlier versions of Microsoft Excel
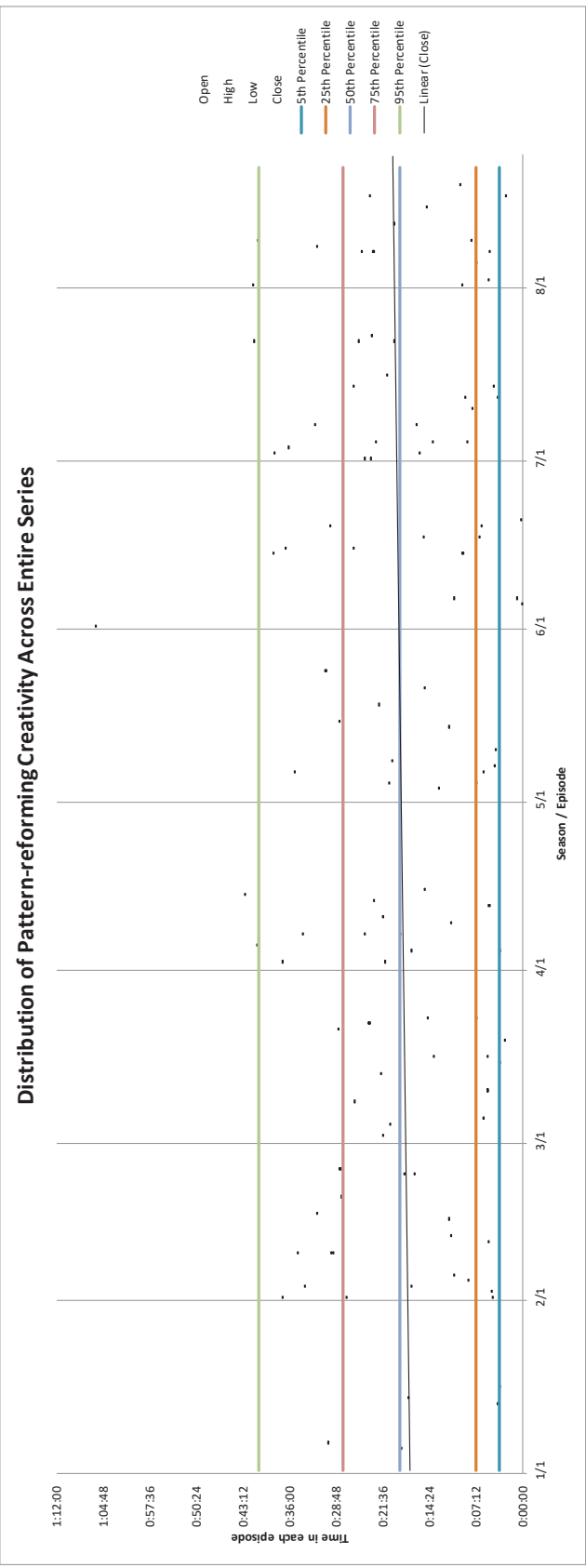
Figure 26 Distribution of pattern-reforming creativity across entire series of *House M.D.*.

Count of instances of pattern-reforming creativity

Percentile	Season		1	2	3	4	5	6	7	8	Total	Avg. count per min.
	No. of episodes		22	24	24	16	24	22	23	22	177	
	Timecode	Duration										
0th–5th percentile	0:00:00-0:03:38	0:03:38	1	0	1	1	0	3	0	1	7 (5.5%)	1.93
5th–25th percentile	0:03:39-0:07:14	0:03:35	2	3	7	2	5	2	2	2	25 (19.5%)	6.98
25th–50th percentile	0:07:15-0:18:33	0:11:18	0	7	2	3	3	4	6	5	30 (23.4%)	2.65
50th–75th percentile	0:18:34-0:26:15	0:07:41	1	0	7	6	3	1	9	6	33 (25.8%)	4.30
75th–95th percentile	0:26:16-0:40:52	0:14:36	1	11	1	2	4	3	3	1	26 (20.3%)	1.78
95th–100th percentile	0:40:53-end	0:03:07 (estimate)	0	0	0	2	0	1	1	3	7 (5.5%)	2.25
Total			6	21	18	16	15	14	21	17	128	
Avg. count per episode			0.27	0.88	0.75	1.00	0.63	0.64	0.91	0.77		

Table 11 Counts of instances of pattern-reforming creativity

The counts of pattern-reforming creativity instances are tabulated in Table 11. The table shows that the instances of pattern-reforming creativity follow a well-balanced normal distribution, despite the seemingly random scattering. The most densely distributed period of pattern-reforming creativity is 00:18:34-00:26:15 (50th – 75th percentile) with 33 instances, followed closely by the 30 instances 00:07:15-00:18:33 (25th – 50th percentile). Frequencies fall during 0:26:16-0:40:52 and 0:03:39-0:07:14 to 26 and 25 instances respectively before falling significantly to 7 instances during 0:00:00-0:03:38 and 0:40:53-end of episode (generally 44 minutes of runtime according to IMDb (n.d.)). The 5th-25th percentile has recorded the highest average count per minute across all episodes at 6.98 (= 25 / 3 mins 35 secs), making 0:03:39-0:07:14 the most pattern-reforming creativity-densed period in *House M.D.* .

Considering the counts per episode in a season, 7 seasons out of 8 have double digit total occurrence of pattern-reforming creativity per season, that is between 14 and 21, with the exception of Season one having single digit occurrences at 6. Average count per episode in a season is the lowest for Season 1 at 0.27 and highest for Season 4 at 1.00. The rest of the seasons are all above 0.63. Judging from this, it is possible that the screenwriters began to emphasise more on the use of pattern-reforming creativity from Season 2 onwards.

The total count of pattern-reforming creativity in all 177 episodes is 128, and therefore the mean is 0.72 counts per episode. This shows that Season 2, 3, 4, 7 and 8 have an average count per episode that is above the mean, while Season 1, 5 and 6 have an average count per episode that is below the mean.

The above normal distribution of pattern-reforming creativity instances is not a coincidence, but rather a motif with a motive. Bordwell and Thompson ([1990] 2008) argue that similarity and repetition contribute to the audience's understanding of the narrative, in a way that a familiar format must be presented to the audience and therefore allowing them to be able to recall elements such as characters and settings. Any significant repeated element in a film or a TV drama, including a character trait, can

be considered as a motif (Bordwell & Thompson, [1990] 2008). Since creativity production by the characters of *House M.D.* is a character trait, it is highly possible that there is a motive behind the time of appearances of creativity.

of Pattern-reforming Creativity Across Entire Series
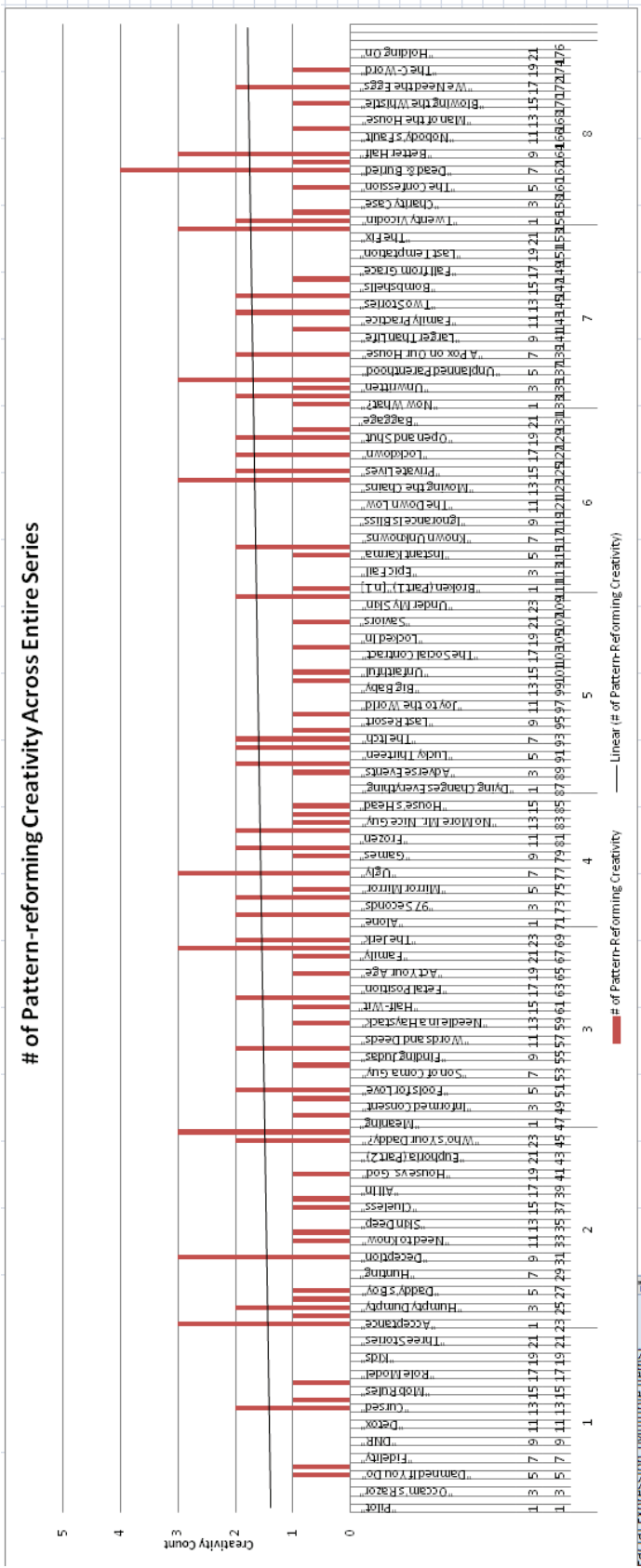
Figure 27 Number of pattern-reforming creativity per episode across entire series of *House M.D.*

Figure 27 is a clustered column chart illustrating the number of instances of pattern-reforming creativity of every episode across the entire series of *House M.D.* There are 97 of 177 episodes with zero count (54.8%), 43 episodes having one count (24.3%), 27 having two counts (15.3%), 9 having three counts (5.1%), and 1 having four count (0.6%). These figures show that pattern-reforming creativity is absent in more than half of the episodes in the series (97 of 177 episodes), while for the episodes with pattern-reforming creativity counts (80 of 177 episodes), more than half of the episodes have only one count (43 of 80 episodes). The relatively low pattern-reforming creativity counts may be explained by the following:

1) The filtering rule in the extraction of pattern-reforming creativity has limited the yield of neologisms, i.e. only words in HMDC which have zero occurrence in the reference corpus are considered (i.e. RC. Freq. = 0).

2) It is a piece of evidence reflecting the screenwriters' decision on the 'appropriate' amount of neologistic pattern-reforming creativity for the TV drama.

3) Another form of creativity, possibly pattern-forming creativity, may play a more important role than pattern-reforming creativity in this series.

While points 1) and 2) are highly probable even without in-depth analysis, point 3) will require quantitative analysis to prove or disprove. The quantitative analysis of pattern-forming creativity will be covered in Chapter 6 – Pattern-forming creativity.

5.2.1.1.3. Facial Expressions VS Visual Framing

Using PivotTables, multiple semiotic resources can be cross-tabulated quickly for easy visualisation and data-mining. Table 12 shows a PivotTable of Facial Expressions tabulated against Visual Framing, sorted by descending order of pattern-reforming creativity count. It contains all 32 combinations of facial expressions (including the absence of visible facial expressions, represented by '(blank)') performed by the actors,

and 11 combinations of visual framing techniques used in 128 instances of pattern-reforming creativity. The term 'combination' is used instead of 'type', as some instances of pattern-reforming creativity involve more than one type of facial expressions or visual framing techniques.

Judging from the combinations of facial expressions in Table 12, it is apparent that distinctive emotions such as 'annoyed', 'upset', 'happy' and 'concerned' are comparatively infrequent, whereas compound movements of facial organs accounts for most of the combinations. Such finding corroborates the research by Du, Tao and Martinez (2014), in which they suggest a 21-distinct emotion set should be used instead of the common six basic categories – happiness, surprise, anger, sadness, fear and disgust (although the categorisation of facial expressions in this research differs from theirs). Instead, it can be observed that 'raises eyebrow, big eye stare' (30 counts), '(blank)' (20 counts) and 'frowns' (13 counts) rank top three in the list of facial expressions, contributing a total of 63 of 128 counts (49.2%) of pattern-reforming creativity, almost half of the total occurrences.

Many facial expressions in Table 12 also hint at the possession of power, such as 'raises eyebrow, big eye stare' (30 counts), 'frown' (13 counts), 'raises eyebrows' (9 counts), 'raises eyebrows, big eye stare, head jerks' (6 counts) and others. Power is therefore a tenor value possibly related to the production of pattern-reforming creativity in *House M.D.* and is worthy of further qualitative investigation (see section 5.2.2 Qualitative Analysis of Pattern-reforming Creativity).

In terms of shots, 'medium close-up' (39 counts), 'close-up' (16 counts), 'medium shot' (16 counts), 'medium close-up, over-the-shoulder shot' (16 counts) and 'medium shot, over-the-shoulder shot' (15 counts) rank top five in the list of visual framing techniques used in the delivery of pattern-reforming creativity, contributing a total of 102 of 128 counts (79.7%). It is therefore evident that pattern-reforming creativity is likely to appear with close-up, medium close-up, medium shot, over-the-shoulder shots and combinations of these shots in this particular TV drama *House M.D.*

A reasonable explanation for the preference in these visual framing shots is that, by adopting these combinations of shots, the distance of the participants (i.e. the creators and/or targets) from the camera (and thus the viewers) can be kept within certain proximity. This is pointed out by Kress and van Leeuwen ([1996] 2006, p. 124) that "the choice of distance can suggest different relations between represented participants and viewers." In order to look deeper into how the choice of distance relates to the relations between actors and viewers, proxemics will be added to the mix in the next section.

Facial Expression ▾	Medium close-up	Close-up shot	Medium shot	Medium close-up, Over-The-Shoulder shot	Medium shot, Over-The-Shoulder shot	Medium shot, Two shot	Medium long shot	Medium long shot, Over-The-Shoulder shot	Medium close-up, Two shot	Medium close-up, Over-The-Shoulder, Two shot	Close-up, Over-The-Shoulder shot	Shoulder POV shot	Medium close-up, Two shot, Over-The-Shoulder shot	Close-up, Two shot	Long shot, Two shot	Long shot, Over-The-Shoulder shot	Grand Total
raises eyebrows, big-eye stare	6	5	5	5	5	2	1									1	30
(blank)	5	3	3	3	3		1	2									20
frowns	4	1	1	1	1	3	3										13
raises eyebrows	4	1	1	1	1		1										9
normal	3	2	1	1	1		1										9
raises eyebrows, big-eye stare, head jerks	2	1			3												6
big-eye stare	3			2													5
head jerks	2	2															4
directed stare		2								1							3
annoyed	3																3
directed stare, raises eyebrows	1					1											2
frowns, big-eye stare				1	1												2
happy		2															2
directed stare, head jerks				1							1						2
raises eyebrows, closes eyes, head jerks	1																1
concentrated													1				1
upset												1					1
frowns, raises eyebrows			1									1					1
frowns, flaps tongue and smiles													1				1
head shakes	1																1
serious, urgent	1																1
directed stare, blinks	1																1
upset, smiling				1													1
frowns, head jerks to right			1														1
frowns, big-eye stare, head shakes					1												1
lower jaw protrudes				1													1
closes eyes; angry				1													1
concerned											1						1
closes eyes, big-eye stare	1																1
raise eyebrows				1													1
closes eyes	1																1
head jerks, distracted	1																1
Grand Total	39	16	16	16	15	6	4	3	3	2	2	2	1	1	1	1	128

Table 12 PivotTable of facial expression VS visual framing

House M.D.

5.2.1.1.4. Facial Expressions and proxemics VS Visual Framing

Table 13 illustrates an extract of PivotTable of Facial Expressions and Proxemics tabulated against Visual Framing, covering only the top five shots, namely 'medium close-up', 'close-up', 'medium shot', 'medium close-up, over-the-shoulder shot' and 'medium shot, over-the-shoulder shot'. Personal space and social space contribute 72 (70.6%) and 26 (25.5%) respectively of the 102 counts of pattern-reforming creativity in every facial expression combination and all top five visual framing shots (i.e. 98 of 102 counts (96.1%)). Therefore, it is arguable that the realisation of pattern-reforming creativity appears to be related to personal space and social space together with the said five shots. These shots generally keep proximity within the social space (and obviously intimate and personal space too) which is close and recognisable enough for viewers to observe the actors' facial expressions.

An interesting observation is that facial expression '(blank)' ranks second in the PivotTable in Table 13 (and Table 12). This demonstrates that the delivery of pattern-reforming creativity does not necessarily require the visual images of the creators' facial expressions. In fact, in 7 of 17 instances (41.2%) of '(blank)', only the targets are present in the salient frames and so the kinesic expressions and orientation of the creators are absent. The other 10 of 17 instances (58.8%) show the presence of the creators but the absence of gesture, facial expression or gaze in the salient frames. It is therefore important to look into the presence or absence of gestures and gaze at the moments of pattern-reforming creativity production.

Facial Expression	Medium close-up	Close-up	Medium shot	Medium close-up, Over-The-Shoulder shot	Medium shot, Over-The-Shoulder shot	Grand Total
⊟raises eyebrows, big-eye stare	6	5	7	5	2	25
Personal Space	6	5	3	5	2	21
Social Space			4			4
⊟(blank)	5	3	3	3	3	17
Intimate Space				1		1
Personal Space	3	3	2	2		10
Public space					1	1
Social Space	2		1		2	5
⊟frowns	4	1	1	1	3	10
Personal Space	4	1		1	2	8
Social Space			1		1	2
⊟normal	3	2	1	1	1	8
Intimate Space		1				1
Personal Space	3	1		1		5
Social Space			1		1	2
⊟raises eyebrows, big-eye stare, head jerks	2	1			3	6
Intimate Space		1				1
Personal Space	2				1	3
Social Space					2	2
⊟raises eyebrows	4			1		5
Personal Space	4			1		5
⊟big-eye stare	3		2			5
Personal Space	2					2
Social Space	1		2			3
⊟annoyed	3					3
Personal Space	2					2
Social Space	1					1
⊟directed stare, raises eyebrows	1				1	2
Personal Space	1					1
Social Space					1	1
⊟directed stare		2				2
Personal Space		2				2

Table 13 A extract of PivotTable of facial expression and proxemics VS visual framing

5.2.1.1.5. Gestures VS Visual Framing

The absence of gesture in pattern-reforming creativity can be clearly observed when Gestures is tabulated against Visual Framing, as shown in Table 14. In a total of 128 counts of pattern-reforming creativity, 100 of 128 counts (78.1%) are '(blank)', implying that there is a high tendency for the absence of gesture in the visual images at the moment of creativity production. Judging from the 28 different gestures of the other 28

of 100 counts, it is apparent that there is little correlation between any particular gesture and the production of pattern-reforming creativity in this TV drama. This may be partly related to the choice of visual framing. Since the use of camera shots is an active decision of the cinematographers to construe the necessary meanings within the constraints of visual framing, cinematographers may select specific types of shots to avoid (or adopt) the use of gestures when delivering pattern-reforming creativity.

From Table 14, it can be seen that 'medium close-up' (36 counts), 'close-up' (14 counts), 'medium shot' (8 counts), 'medium close-up, over-the-shoulder shot' (15 counts) and 'medium shot, over-the-shoulder shot' (8 counts) account for a total of 81 of 100 counts (81%). These camera shots have framing that, by definitions, "restricts the freedom of gesture" to the extent that an actor's hands are often not captured when they are at the natural position (Thompson & Bowen, 2009, p. 16). More specifically, the close-up shows only the head, hands, feet or small object. The medium close-up frames the human body from the chest up. The medium shot frames the body from the waist up. The over-the-shoulder shot allows only a peek over the shoulder of an actor (Thompson & Bowen, 2009). These shots generally require the actors to make conscious upper-limb movements in order to have their gestures captured. Therefore, there are reasons to believe that the cinematographers have made conscious decisions in choosing these camera shots at the non-gestural (or gestural) moments of pattern-reforming creativity production, and the '(blank)' moments reveal that gesture may not be a key semiotic resource to the delivery of pattern-reforming creativity.

Gesture	Medium close-up	Close-up	Medium shot	Medium close-up, Over-The-Shoulder shot	Medium shot, Over-The-Shoulder shot	Medium shot, Two shot	Medium long shot	Medium long shot, Over-The-Shoulder shot	Long shot	Medium close-up, Two shot	Close-up, Over-The-Shoulder shot	POV shot	Medium close-up, Two shot, Over-The-Shoulder shot	Close-up, Two shot	Long shot, Two shot	Long shot, Over-The-Shoulder shot	Grand Total
(blank)	36	14	8	8	15	4	2	2	3	1	1	2	2	1	1	1	100
Arm movement, presumably pointing to patient	1																1
Closing umbrella		1															1
Crossed arms							1										1
Going to take pills	1																1
Grabbing file with left hand and cane with the right					1												1
Grabbing his gloves				1													1
head jerk	1																1
Holding a ball on left hand				1													1
Holding a patient's file with left hand						1											1
Holding a pen				1													1
Holding a yoyo, stopped playing before he spoke					1												1
Holding cane in his right hand					1												1
Holding marker on his left hand								1									1
Holding phone on his right hand				1													1
Holding phone with his left hand				1													1
Holding pieces of paper				1													1
Laying down patient		1															1
Making coffee					1												1
Making coffee (not shown)													1				1
Opening a drawer						1											1
Pointing Kutner left hand	1																1
Pressing the lift button with right hand while holding a cane			1														1
Putting pen inside his jacket with left hand					1												1
Right hand holding bottle of wine											1						1
Right hand resting on laptop		1															1
Showing right hand					1			1									1
Waving sword					1												1
Writing					1												1
Grand Total	39	16	16	8	15	6	4	3	3	2	2	2	1	1	1	1	128

Table 14 PivotTable of gesture vs visual framing

5.2.1.1.6. Gaze VS Visual Framing

Table 15 shows a PivotTable of Gaze tabulated against Visual Framing. I have differentiated the creator's gaze targets into two major types: physical and spatial. Physical targets are targets of living things such as humans, animals, plants and organisms, and non-living objects such as files, phones and magazines. Spatial targets are the directions such as up, down, top-right corner, North and South. These presence of creator's gaze targets is contrasted with the absence of creator's gaze targets, which is represented by '(blank)' in the PivotTable.

From the PivotTable, it can be seen that most instances of pattern-reforming creativity involve the creator's gaze at a physical target, leaving a small number of instances with spatial targets or with no creator's gaze. In terms of physical targets, the PivotTable includes of 28 human gaze targets in 44 gaze targets (63.6%), accounting for 71 of 128 counts of pattern-reforming creativity (55.5%) and 8 object gaze targets in 44 gaze targets (18.2%), accounting for 9 of 128 counts of pattern-reforming creativity (7.0%). Therefore, physical targets contribute a total of 36 of 44 gaze targets (81.8%) and 80 of 128 counts of pattern-reforming creativity (62.5%). In terms of spatial targets, the PivotTable includes 7 directional gazes in 44 gaze targets (15.9%), accounting for 33 of 128 counts of pattern-reforming creativity (25.8%).

From the above analysis, it becomes apparent that the presence of a physical target for creators' gaze at the moments of pattern-reforming creativity plays a crucial part in the construction of visual images in *House M.D.* This has provided significant statistical evidence that tenor, one of the three main contextual variables in SFL, may be a major factor affecting the production of pattern-reforming creativity in *House M.D.* This proposition will be closely examined in 5.2.2 Qualitative Analysis of Pattern-reforming Creativity. However, it is also noteworthy that '(blank)' is ranked second in the list of gaze with 15 of 128 counts of pattern-reforming creativity (11.7%), which is three count less than spatial directional gaze 'forward' with 18 of 128 counts (14.1%) and six counts

more than physical human gaze target 'at Foreman' with 9 of 128 counts (7.0%). 14 of 15 counts of '(blank)' adopts the top five visual framing shots. This implies that the absence of gaze from the creator during the production of pattern-reforming creativity is a conscious decision – possibly a strategic option adopted by the directors of photography of this TV series. A review of the '(blank)' pattern-reforming creativity salient frames shows a variety of cinematographic choices. These choices include

1) the use of over-the-(creator's)-shoulder shot while focusing a participant in the centre of the frame looking towards the creator. Using this shot, the creator's gaze is not visible to the viewers and so the viewers will have to assume its presence and its gaze target. The participant is often the target of pattern-reforming creativity but can also be an overhearer.

2) the focus of a participant in the centre of the frame. In a way, this is similar to 1) except the creator is completely absent from the frame and so the gaze of this participant may or may not be present. If the gaze of the participant is present, his gaze target is likely to be assumed by the viewers.

3) the presence of an object in the centre of the frame. The creator and the target of pattern-reforming creativity may be completely absent from the frame. The object in focus is almost always relevant to the story.

4) the presence of any participants or objects in the frame during a narration of past events by the creator of pattern-reforming creativity.

Creator's Gaze	Medium close-up	Close-up	Medium shot	Medium close-up, Over-The-Shoulder shot	Medium Over-The-Shoulder shot	Two shot	Medium shot, Two shot	Medium long shot	Medium long shot, Over-The-Shoulder shot	Long shot	Medium close-up, Two shot	Close-up, Two shot	Close-up, Over-The-Shoulder shot	POV shot	Medium close-up, Two shot, Over-The-Shoulder shot	Close-up, Two shot	Long shot, Two shot	Long shot, Over-The-Shoulder shot	Grand Total
forward	6	2	2	2	2		1	1	1									1	18
(blank)	5	3	2	3		1							1	1					15
at Foreman	2	1	2	1		1		1							1				9
at Wilson	3	1	2	1										1					8
at Chase	1		1	1			2	1											6
at Cuddy	1	1	1	2			1												6
up	1	1	1	1				2											6
at the team	2		2				2												6
at Cameron		2	2						1										5
at Kutner	2	1	1																4
at Thirteen	1		2																3
at Tritter							2												2
at Adams	2																		2
at Taub	2																		2
at House	1			1															2
at the flame	1	1																	2
at top-right corner	2																		2
at camera	1													1					2
to the left	1			1															2
down	1					1													2
forward, down							1												1

	39	16	16	16	15	6	4	3	3	2	2	2	1	1	1	Grand Total
at Nolan															1	1
at Sister Mary Eucharist			1													1
at Artie			1													1
at plastic surgeon, at camera	1															1
at Kelly		1														1
at Jerry				1												1
at patient						1										1
at patient then at Chase	1															1
at Alvie						1										1
at Moriaty, at camera	1															1
at Benedict, at camera	1			1												1
at tax accountant												1				1
at Luca												1				1
at Crandall		1							4							1
at Nicole																1
at Franni								3								1
at the lift display			1													2
at the drawer					1											2
at the file					1											2
at a cane, at camera									2							2
at letter		1														1
at the phone				1												1
at magazine																1
Grand Total	39	16	16	16	15	6	4	3	3	2	2	2	1	1	1	128

Table 15 PivotTable of gaze vs visual framing

5.2.1.2. Summary

Summarising the analysis from the previous section, there is a total number of 128 counts of pattern-reforming creativity in 177 episodes of *House M.D.*, equivalent to 0.72 counts per episode. The instances of pattern-reforming creativity are primarily nouns (60.2%), then followed by adjectives (20.3%) and verbs (14.8%) (Table 6), largely in the forms of portmanteaus (35.9%), neologistic nouns (22.7%) and slang words(16.4%) (Table 7). For portmanteaus, the ratio of nouns to adjectives is approximately 4.2:1 and medical terms account for roughly one third of the portmanteaus (37.0%) (Table 8).

Distribution-wise, pattern-reforming creativity of the entire series follows a well-balanced normal distribution with the highest concentration of instances between 0:07:15 to 0:26:15 (Figure 26 and Table 11). In 177 episodes of *House M.D.*, 97 episodes are without a single count of pattern-reforming creativity, while the other 80 episodes produce a total of 128 counts (Figure 27). The low appearance of pattern-reforming creativity may be a result of the extraction rules of pattern-reforming creativity, the screenwriters' decision, and/or a relatively greater emphasis on pattern-forming creativity.

Creator	Count of Pattern-reforming
House	72.66%
Chase	4.69%
Wilson	4.69%
Foreman	2.34%
Taub	2.34%
Emory	1.56%
Rachel	1.56%
Patient	1.56%
Madison	0.78%
Jordan	0.78%
Nate	0.78%
Cole	0.78%
Security guard	0.78%
Cuddy	0.78%
Sykes	0.78%
Clarence	0.78%
Cameron	0.78%
Artie	0.78%
Jack	0.78%
Grand Total	100.00%

Visual Framing	Count of Pattern-reforming
Medium close-up	30.47%
Close-up	12.50%
Medium shot	12.50%
Medium close-up, Over-The-Shoulder shot	12.50%
Medium shot, Over-The-Shoulder shot	11.72%
Medium shot, Two shot	4.69%
Medium long shot	3.13%
Medium long shot, Over-The-Shoulder shot	2.34%
Long shot	2.34%
Medium close-up, Two shot	1.56%
Close-up, Over-The-Shoulder shot	1.56%
POV shot	1.56%
Medium close-up, Two shot, Over-The-Shoulder shot	0.78%
Close-up, Two shot	0.78%
Long shot, Two shot	0.78%
Long shot, Over-The-Shoulder shot	0.78%
Grand Total	100.00%

Camera angle	Count of Pattern-reforming
Eye-level	89.06%
Low	6.25%
Waist-level	2.34%
High	2.34%
Grand Total	100.00%

Camera Movement	Count of Pattern-reforming
Stationary	69.53%
Tracking shot	14.84%
Hand-held shot	8.59%
Walk-and-talk	4.69%
Tilt shot	1.56%
Zooming in	0.78%
Grand Total	100.00%

Table 16 Individual PivotTables of 'creator', 'visual framing', 'camera angle' and 'camera movement'

Physical Movement in Space	Count of Pattern-reforming
Stationary	85.16%
Walking	9.38%
House: Walking with cane	2.34%
Walking and stopping at the lift	0.78%
Sitting	0.78%
Turning	0.78%
Getting up from a chair	0.78%
Grand Total	**100.00%**

Proxemics	Count of Pattern-reforming
Personal Space	63.28%
Social Space	28.13%
Public space	6.25%
Intimate Space	2.34%
Grand Total	**100.00%**

Stance, Posture	Count of Pattern-reforming
Upright	48.44%
Sitting	35.94%
(blank)	7.03%
Lying down	4.69%
Getting up	0.78%
Bending over	0.78%
Bending down	0.78%
House: bending down	0.78%
Leaned forward slightly	0.78%
Grand Total	**100.00%**

Music, Song	Count of Pattern-reforming
(blank)	88.28%
Background music	5.47%
Background music comes in	2.34%
Mouse-clicking sound	0.78%
Electric-guitar starts	0.78%
Beeping sounds	0.78%
Background chattering	0.78%
Background sounds of ER, machines beeping	0.78%
Grand Total	**100.00%**

Table 17 Individual PivotTables of 'physical movement in space', 'proxemics', 'stance, posture' and 'music, song'

Table 16 are individual PivotTables of semiotic resources namely 'creator', 'visual framing', 'camera angle' and 'camera movement' and Table 17 are individual PivotTables of semiotic resources namely 'physical movement in space', 'proxemics', 'stance, posture' and 'music, song'. From these tables, it can be seen that pattern-reforming creativity (128 instances in 177 episodes) is contributed mostly by the protagonist House (72.7%), followed by Chase and Wilson (4.69%) and then by Foreman and Taub (2.34%).

Five types of visual framing are commonly used to realise pattern-reforming creativity: 'medium close-up' (30.5%), 'close-up' (12.5%), 'medium shot' (12.5%), 'medium close-up, over-the-shoulder shot' (12.5%) and 'medium shot, over-the-shoulder shot' (11.7%), accounting for 79.7% of all shots. Top three in the list of facial expressions at the moments of pattern-reforming creativity production are 'raises eyebrow, big eye stare' (23.4%), '(blank)' (15.6%) and 'frown' (10.2%), contributing a total of 63 of 128 counts (49.2%) (Table 12). Arguably, the use of pattern-reforming creativity is closely related to these five shots as the shots can maintain a viewable distance between the facial expressions of the creators and the viewers. However, the analysis has numerically shown that the presence of the creators' facial expressions is not mandatory, as the facial expressions of the targets or other participants, or even objects, can fill the gaps (Table 13). Statistics show that gesture may not be a key semiotic resource to the delivery of pattern-reforming creativity (Table 14), whereas the presence and the occasional absence of a physical target for creators' gaze in *House M.D.* have shown to be important in construing pattern-reforming creativity (Table 15).

Moments of pattern-reforming creativity are captured predominately at eye-level (89.1%) with stationary camera movement (69.5%) or through tracking shot (14.8%) (Table 16). These cinematographic choices provide a simple yet direct view of the creators, targets, participants or objects. Creators tend to produce pattern-reforming creativity when body is stationary (85.2%), mostly in upright (48.4%) and sitting position (35.9%) within personal (63.3%) and social space (28.1%). A stationary body of a creator,

with relatively regular postures within a reachable social distance, can maintain a certain level of interpersonality with the viewers, and hence the interpersonality of the pattern-reforming creativity to the viewers. Music or song is almost always absent (88.3%) at the moment of pattern-reforming creativity production, which shows that auditory soundtrack is not a key semiotic resource in construing such creativity in *House M.D.* (Table 17), possibly to avoid distracting the viewers' attention from the main message (Park & Young, 1986), which is the pattern-reforming creativity itself.

In the next section, pattern-reforming creativity will be analysed qualitatively using the Analytical Framework for Creativity in Multimodal Texts (AFCMT) through the SFMDA approach. Specific questions will be asked and answered through the analysis of three distinctive examples from the TV series.

5.2.2. Qualitative Analysis of Pattern-reforming Creativity

5.2.2.1. Introduction

In the extraction process of pattern-reforming creativity in section 5.1 and consequently in the quantitative analysis of multimodal transcription in section 5.2, it can be observed that pattern-reforming creativity seldom appears near the beginning of conversations in any scene and even more scarcely in the first utterance of a conversation initiator. Quantitative analysis has also shown a significant percentage of power-related (tenor) facial expressions at the moments of pattern-reforming creativity in section 5.2.1.1. These observations raise 3 main questions:

1) What triggers pattern-reforming creativity in general?
2) What IEEE type of pattern-reforming creativity is it in AFCMT?
3) How are interpersonal meanings construed by pattern-reforming creativity in these situations?

Bordwell and Thompson ([1990] 2008, p. 57) argue that "[e]xpectation pervades our experience of art", and expectation also pervades viewers' experience of *House M.D.* One of the expectations is the use of linguistic creativity in the TV drama. In section 5.2.1 Quantitative Analysis of Pattern-reforming Creativity, it has been shown that viewers of *House M.D.* are constantly exposed to various forms of linguistic creativity at different time of each episode. Linguistic creativity has thus become an important motif which regular viewers of *House M.D.* are trained to recognise, expect and use to identify the characters.

For pattern-reforming creativity, because the duration of performance for every instance is measured in a matter of a second or two, viewers are unlikely to be able to predict or foresee its appearance based on the motif of the instances. A more likely recognisable sign would be the trigger of pattern-reforming creativity leading up to the moment of instantiation. Question 1 aims to identify and explore such trigger of pattern-reforming creativity through qualitative analysis. Question 2 attempts to identify the IEEE type of pattern-reforming creativity in AFCMT and explore any connections between the IEEE type and the trigger of pattern-reforming creativity attained in question 1. Question 3 looks at the overall connection of the results attained in question 1 and 2 and attempts to unveil the possible interpersonal meanings (such as power) construed by the instances of pattern-reforming creativity in their respective context.

In order to answer the above questions, the following qualitative analysis will focus on three aspects as mentioned in section 3.1.4: SPEECH FUNCTION – by adapting Halliday and Matthiessen's ([1985] 2014) approach to analyse the correlations between power (tenor value) and semantic strategies used by House's production of pattern-reforming creativity; MOOD – to analyse lexicogrammatical structures of the discourses in the interpersonal systems; and multimodality – by adopting Bednarek's (2010) multimodal analysis of mise-en-scène and related elements including settings, props, costumes, codes of dress, movement, spatial relations, placement of objects, and sound, nonverbal

behaviour and acting including hand / arm gestures, head movements / gaze and facial expressions.

Three examples have been selected and are based on the aforementioned observation from the quantitative data, with an attempt to demonstrate a correlation between power and pattern-reforming creativity. These examples involve conversations between House and supporting characters who are relatively new and fresh to House and the TV audience at the time the respective episodes were aired. This enables the non-power tenor values such as contact and affective involvement to be kept constant for a better evaluation of the effect of power on pattern-reforming creativity. Example 1 is taken from a 1-minute-25-second scene in Season 4 Episode 4 *Guardian Angels* between 15:54 and 17:19, hereafter referred as the 'Zamyloidosis' scene, in which House has huge power difference over his job interviewees. Example 2 is the 'Cathlympics' scene taken from a 2-minute-39-second scene in Season 1 Episode 5 *Damned If You Do* between 17:07 and 19:47, in which House has little to no difference over Sister Eucharist. Example 3 is the 'Therafy' scene taken from a 1-minute-24-second scene in Season 6 Episode 21 *Baggage* between 00:00 and 01:24, in which House has huge power deficit as compared to his psychotherapist Dr. Nolan.

5.2.2.2. Example 1 'Zamyloidosis' scene

Figure 28 Screenshots of 'Zamyloidosis' scene, Season 4 Episode 4 Guardian Angels, 15:54 – 17:19, 1 minute 25 seconds

Shot No.	Script
	[Hospital Auditorium. Day. The fellows are seated around the speakerphone, listening to House berating them.]
0a to 1	1. House: *[from phone]* You sampled every bodily fluid, peeked in her brain, violated a cadaver's privacy, dug up a body…
	[House enters through the back entrance of the auditorium, speaking to them on his cell phone. They turn on seeing him.]
	2. House:… but missed the fact she was still seeing things that weren't there.
	[He hangs up and limps towards them.]
2 to 4	3. House: Neurological symptoms are getting worse.
4 to 6	4. House: Be nice if one of you Angels-slash-morons had a clue why.
7 to 9	5. Taub: We did a full history. She never mentioned seeing or hearing anything unusual.
10a to 12	6. House: *[sarcastic]* Oh, well, as long as she never said anything. How were you to know? Same thing with the spinal fluid? She's tell you that was fine?
13	7. Brennan: *[checking a file]* The labs were all clear.
14a to 15	8. House: Then either we're about to meet the Alpha and Omega, or you missed something.
15	9. Dobson: *[after a beat]* We missed the new symptom.
16	10. Kutner: It's not a new symptom. We always knew she had hallucinations.
17 to 19	11. Dobson: Seeing her dead mother's a hallucination. Not knowing she's dead is a delusion.

20 to 21	12. House: [impressed] You keep this up, you're gonna have to start wearing sexier clothes.
21 to 22a	13. Taub: Uh, carbon monoxide could also cause delusions. A lot of haunted houses…
22a to 22c	14. Dobson: There's no headache. No tachycardia. [to Taub] I guess they didn't cover that at your medical school.
	[Taub gives him a petty smile.]
22c to 23	15. '13': What about a hereditary connection? She's twenty-four. Her mother died when she was twenty-five.
23 to 25	16. Kutner: In Ukraine, twenty years ago. Good luck trying to get those records.
25 to 26	17. House: We start new records. Test for every hereditary disease that fits the symptoms.
27 to 28c	18. Taub: There are at least forty different mitochondrial disorders, another couple hundred –
28c to 30b	19. House: Start with amyloidosis, keep going until you reach… zamyloidosis.
31	[Taub gave a sad smile]
32	[They get up and prepare to go.]

Table 18 Transcript of 'Zamyloidosis' scene, Season 4 Episode 4 *Guardian Angels*, 15:54 – 17:19, 1 minute 25 seconds

Table 18 shows a 1-minute-25-second transcript of the 'Zamyloidosis' scene in Season 4 Episode 4 *Guardian Angels* with a selection of salient frames (Figure 28) to be discussed. While the instance of pattern-reforming creativity is in the final line (line 19), the instantiation of creative language is mustering energy from the beginning of the conversation. Before the start of the analysis, here is a short description of the background of this episode prior to the 'Zamyloidosis' scene.

Season 4 begins with House no longer having a team after House fired Chase, Foreman quit and Cameron resigned in the finale of Season 3. Cuddy orders House to hire 3 new team members but instead House asks 40 interviewees for an "extended job interview / reality TV show" (Cuddy, Season 4 Episode 5 *Mirror, Mirror*) which eliminates less competent job interviewees case by case. By Season 4 Episode 4 *Guardian Angels*, 7 job interviewees remain. The episode begins with a 24-year-old Ukraine-born female funeral cosmetician at work having a vision of being raped by a cadaver before syncope. ER report states that the patient suffered a tonic–clonic seizures, ruling out psychiatric illness. The patient has no history of epilepsy, head trauma, or drug use. House suspected that the patient had contracted Creutzfeldt–Jakob disease (commonly known as mad cow disease) and ordered his job interviewees to perform a brain biopsy on the already-buried cadaver that the patient came into contact with, which involved digging up the corpse from its grave. The result of the brain biopsy test was negative and so House ordered a reinvestigation from the beginning. Three job interviewees visited the patient and discovered that she was seeing and talking to her dead mother, who died twenty years ago in Ukraine. The scene concerned begins with all job interviewees gathered at the hospital auditorium / lecture hall sitting around a speakerphone.

5.2.2.2.1. Tenor relationships and interpersonal metafunction

Shot No.	Script
	Phase 1
	[Hospital Auditorium. Day. The fellows are seated around the speakerphone, listening to House berating them.]
House:	1. You sampled every bodily fluid,
[from phone]	*[ø: 'You']* peeked in her brain,
	[ø: 'You'] violated a cadaver's privacy,
	[ø: 'You'] dug up a body…
	[House enters through the back entrance of the auditorium, speaking to them on his cell phone. They turn on seeing him.]
House:	2. … but
	[ø: 'You'] missed the fact she was still seeing things that weren't there.
	[He hangs up and limps towards them.]
House:	3. Neurological symptoms are getting worse.

Legends:
Red: Subject
Orange: Finite Modal
Yellow: Finite only
Turquoise: Predicator only
Bright Green: Finite and Predicator
Pink: Complement
Violet: Adjunct
Blue: Vocatives

| House: | 4. | [ø: 'It'](Would) Be nice if one of you Angels-slash-morons had a clue why. |

Phase 2

Taub:	5.	We did a full history.
		She never mentioned seeing or hearing anything unusual.
House:	6.	Oh, well, as long as
		she never said anything.
		How were you to know?
		Same thing with the spinal fluid?
		She's tell you that was fine?
Brennan:	7.	The labs were all clear.
House:	8.	Then either we're about to meet the Alpha and Omega, or
		you missed something.
Dobson:	9.	We missed the new symptom.
Kutner:	10.	It's not a new symptom.
Dobson:	11.	We always knew she had hallucinations.
		Seeing her dead mother's a hallucination.
		Not knowing she's dead is a delusion.
House:	12.	You keep this up,
		you're gonna have to start wearing sexier clothes.

Taub:	13.	Uh, carbon monoxide could also cause delusions. A lot of haunted houses…
Dobson:	14.	There's no headache, no tachycardia. [to Taub] I guess they didn't cover that at your medical school.
		[Taub gives him a petty smile.]
'13':	15.	What about a hereditary connection? She's twenty-four. Her mother died when she was twenty-five.
Kutner:	16.	In Ukraine, twenty years ago, good luck trying to get those records.
Phase 3		
House:	17.	We start new records. Test for every hereditary disease that fits the symptoms.
Taub:	18.	There are at least forty different mitochondrial disorders, another couple hundred –
House:	19.	Start with amyloidosis, keep going until you reach… zamyloidosis.
		[Taub gave a sad smile]
		[They get up and prepare to go.]

Table 19 'Zamyloidosis' scene highlighted with respect to functional elements of the MOOD structure

Table 19 shows a version of the dialogue of the 'Zamyloidosis' scene highlighted according to functional elements of the MOOD system. The table contains three rows, representing 3 phases of the conversation in this scene. Phase 1 is the introduction of the scene in which House introduces to the job interviewees the current medical issues surrounding their main patient. Phase 2 is the differential diagnosis (DDX) in which the job interviewees analyse the outcome from previous treatments and then formulate a list of possible causes of the symptoms (Sanders, 2009). Phase 3 is the conclusion of the DDX session in which House decides on the next procedure and give orders to the job interviewees to proceed.

Phase 1 contains clauses that are mostly indicative: declarative statements by House giving information, setting the scene by initiating the dialogue. Line 1 is House's recount of the procedures performed by the job interviewees. He used four different past positive Predicators to succeed the Subject 'You' (the job interviewees, 2nd to 4th one ellipted) and precede various [Adjunct] ^ Complement to create statements of four to five words in length, forming a grammatical pattern. In the four Finite-Predicators 'sampled', 'peeked', 'violated' and 'dug', the first two are semantically neutral whereas the third carries a negative connotation and the fourth also reflects semantic negativity when considered with its Complement. This may be seen as a gradual layering of a sequence of bad-to-worse incidences and consequently the increments in the severity of steps taken by the job interviewees. This is confirmed and further contrasted in line 2 with the use of a (textual) conjunctive adjunct 'but' to construe an adversative meaning of the four Predicators in line 1. Past positive Predicator 'missed' indicates a continuation of House's recount and construes the failure to recognise something. Overall, despite the serious effort, the job interviewees have failed to notice that the patient's original symptom has not yet disappeared after the four procedures taken.

In line 3, House gives information about the current condition of the patient by making 'Neurological symptoms' as Subject and 'are' as Finite of positive polarity. In line 4, both Subject 'it' and modal operator 'would' are ellipted, leaving only Predicator 'be' to show

positive polarity and Complement-cum-positive attitudinal element 'nice' in the main
primary clause. This positive marker of quality 'nice' together with the positive
attitudinal metaphor 'Angels' contrast with a negative marker of quality 'moron' in the
Subject 'one of you Angels-slash-morons' in the secondary clause. Predicator 'had' in the
secondary clause together with the ellipted modal 'would' in the primary clause and
positive conditional conjunction 'if' should indicate positive politeness of language
(Brown & Levinson, 1987; Carter, McCarthy, Mark, & O'Keeffe, 2011), but contradicts
with the high power (tenor variable) possesses by House and the use of Subject 'one of
you Angels-slash-morons'. This contradiction can be understood when it is considered as
a strategy of sarcasm, in this case, a mean to vent frustration because the job
interviewees' performance has failed to reach House's expected standard (Gibbs, 2000).
Considering all markers and MOOD elements, line 4 is considered as a statement of
impoliteness and demand for information.

Phase 2 contains clauses of indicative: declarative statements and as well as indicative:
interrogatives. Declarative statements of giving information are mostly direct with
Mood element Subject ^ Finite / Finite-Predicator such as "We did", "She…mentioned"
(line 5), "she…said" (line 6), "he labs were" (line 7), "we're", "you missed" (line 8), "we
missed" (line 9), "it's (not)", "we…knew" (line 10), "You keep…up", "you're" (line 12),
"carbon monoxide could", "A lot of haunted houses" (line 13), "There's", "I guess they
didn't" (line 14), "She's", "Her mother died" (line 15). There are two instances of clause
as Subject: "Seeing her dead mother's", "Not knowing she's dead is" (line 11).
Interrogatives of demanding information are less direct and appear in various structure,
such as the three consecutive interrogative in line 3: the first one is realised by Finite
"were" before Subject "you" (Taub); the second one has both the Mood elements Finite
and Subject plus the Residue element Predicator ellipted, leaving only the Complement
to construct a rather marked example of yes/no-interrogative; the third one is in fact
the main body of the direct preceding yes/no-interrogative, and its purpose is to fill the
gap created by its absence of Finite, Subject and Predicator in the second yes/no-
interrogative by reconstructing it once more using "that" in the Complement "that was

fine". The goal of line 6 can be seen as a form of negative politeness or a sarcastic challenge, realises by House's three consecutive interrogatives all directed at Taub and the absence of a chance to reply in between questions.

House's difference / superiority in tenor : power is demonstrated through his clever switching of Subjects. In line 8 first clause, House's declarative statement uses inclusive-"we" as Subject to describe a situation he and his job interviewees will face, which is either their patient is actually seeing the afterlife and 'we' will soon meet Jesus Christ, or "you" the job interviewees have missed a very important clue. By saying this, House has excluded himself from the rest who have missed the clue, meaning that he is in fact aware of what the job interviewees have failed to see. In this way, House has successfully promoted his out-groupness and has established his superiority in power brought about by his intelligence and sharpness in observation.

Phase 3 contains clauses of indicative: declarative statements and imperatives. In three lines of dialogue, House has issued four commands. House's first command (and at the same time a suggestion) is a realised by a declarative statement using Subject inclusive-"We" and Finite-Predicator "start" (line 17). House's second, third and fourth commands are realised by imperatives using Predicator "Test" (line 17), "Start" and "Keep going" (line 19), with "Start" and "Keep going" being the imperatives used as interruptive devices on Taub's speech (line 18). The creative instance "zamyloidosis" appears in the final word of the Rheme in the final line of this commanding clause, which is also the final word of the entire scene.

Overall, this example has demonstrated how tenor value such as power correlates with interpersonal system such as SPEECH FUNCTION (Halliday & Matthiessen, [1985] 2014). Phase 1 is essentially a blame sequence in which House lists a series of supposedly effective effort performed by the job interviewees and then states the negative outcome as a result of it. In this phase, power is construed in the form of blaming, and blaming is realised by 1) House's use of Subject 'You' with negative attitudinal markers such as 'missed' and 'morons', and 2) twists from positive to negative attitude. Phase 2

is a discussion / negotiation sequence in which House's power is construed through his use of consecutive interrogatives as well as declaratives of rejection and acceptance of ideas. Phase 3 has evidently reflected House's superiority in power over the job interviewees by means of issuing a series of commands, which is escalated further by means of 2 commands per turn. These commands are also used as interruptive devices, which corroborates Beattie's (1983) study on the positive correlation between status difference and frequency of interruption.

From the above analysis, a substandard comment made by an interlocutor is a likely trigger for House's pattern-reforming creativity.

5.2.2.2.2. IEEE type of pattern-reforming creativity in AFCMT

A number of instances of pattern-reforming and pattern-forming creativity can be identified in this scene. While both types of linguistic creativity will be described using AFCMT, the analysis of this chapter focuses on the pattern-reforming type.

In line 4, the term 'Angels' is a metaphorical reference to the private investigators from another American TV crime drama *Charlie's Angels* (1976-1981) which House has been using since the beginning of the episode. The term 'Angels' is an instance of pattern-forming creativity that is implicit – as the formula for the metaphorical mapping is not explicitly described and it is assumed that the interviewees are about to recognise House's meaning; and exo-referenced – as the term 'Angels' is used without explicit indication of the source of reference to *Charlie's Angels*.

Line 6 contains an instance of pattern-forming creativity involving lexico-grammatical repetition of a clause in line 5. Line 5 consists of two separate clauses by Taub responding and giving information to House. The first clause consists of Subject 'We' and past Finite 'did' which realise a statement of what the interviewees have performed. The second clause consists of Subject 'She' and past Finite 'mentioned' which realise a statement of what the patient 'She' has told the interviewees, or rather,

not told them in this case due to the presence of 'never' – a modality of usuality. In line 6, House repeats the same Subject ^ Adjunct ^ Finite-Predicator ^ Complement structure as Taub did in line 5 second clause, basically rephrasing Taub's statement while keeping Subject ^ Adjunct unchanged. Gibbs (1994) notes such repetition as a sarcastic statement in echoic context, or in this case, partially echoic due to the rephrasing of Finite-Predicator ^ Complement. House's clause "She never said anything." can therefore be considered as an instance of pattern-forming creativity. This instance of pattern-forming creativity is implicit – as House has not mentioned how his repetition is rephrased; and endo-referenced – as the source of his repetition is taken from the current dialogue between him and Taub.

In line 8, House uses the term 'the Alpha and Omega'. This term originates from the phrase "I am the alpha and the omega", an appellation of Jesus Christ in the Book of Revelation (Verse 1:8, 21:6, and 22:13) (CCEL, n.d.) It is an instance of pattern-forming creativity that is implicit – as House has not mentioned how this term is related to Jesus Christ and it is assumed that the interviewees possess the knowledge of such appellation; and exo-referenced – as the term is not recoverable from any preceding discourse.

In line 11, Dobson has produced an instance of self-constructed pattern-forming creativity through two clauses. The pattern repeats not only in the structure of Subject ^ Finite ^ Complement, but also shows similarity in the number of words in each Mood element. Subject "Seeing her dead mother" versus "Not knowing she's dead" both uses present participles but of opposite polarity, the repetition of the word "dead", "her … mother" and "she"; Finite of the two clauses are both "is"; Complement "a hallucination" and "a delusion" are also similar in terms of the patient's state as well as the suffix "-ion".

Finally, in line 19, House creates a neologistic portmanteau 'zamyloidosis' from a blend of letter 'Z' and medical term 'amyloidosis'. It is an instance of pattern-reforming creativity because a neologism is created and it is made to function for a creative effect

(Carter, 2004). This instance is implicit – as House has not been explicit about the formula of portmanteau construction; and endo-referenced – as the source of the creativity construction elements is either within the knowledge base of the targets (and most TV viewers), i.e. the existence of letter 'Z', or is recoverable from the preceding discourse, i.e. line 19 first clause 'Start with amyloidosis'.

For implicit pattern-reforming creativity such as 'zamyloidosis', both the audience of the TV drama and the targets in the story are required to decode the formula of construction and recognise the elements of creativity construction as letter 'Z' and 'amyloidosis'. To be able to break down 'zamyloidosis' into its original elements, the audience and the targets are first given the word 'amyloidosis' before the mentioning of 'zamyloidosis'. This creates a 'backtracking' effect in which the latter unfamiliar word draws attention back to the former familiar word (i.e. an endo-reference), allowing the challenged parties to recognise the similarity in pronunciation and spellings of the words 'amyloidosis' and 'zamyloidosis'. Once the similarity is recognised, the difference in letter 'Z' can also be recognised, and therefore both the formula and the elements of creativity construction are revealed. Finally, the challenged parties must realise that 'amyloidosis' begins with the letter 'A' and then pair up with letter 'Z' in 'zamyloidosis' in order to fully comprehend the hidden meaning in House's creativity, which is to command his interviewees to 'Test for every hereditary disease that fits the symptoms (line 19)' with disease names that start from the letter A to the letter Z.

5.2.2.2.3. Mise-en-scène

The scene begins with a dissolve 'dip to black' effect showing a hospital auditorium / lecture hall which is only lit by imitated natural sunlight shining through the half-opened blinds. All job interviewees are sitting around the lecturer's table listening to House's voice from a speakerphone. Far behind the speakerphone is a skeleton model, indicating that this is a hospital lecture hall for medical teaching. As seen in shot 0a, the job

interviewee showing only the right arm and leg is Dr. Lawrence Kutner. On the other side of the table is Dr. Jeffrey Cole, who wears a white shirt with blue and green lines and blue tie, on his left sat Dr. Amber Volakis in a V-neck blouse, brown skirt and shoes using her smartphone. Sitting slightly in front of Amber is Henry Dobson, a rather aged man wearing a red, patterned tie sitting on a high chair reading a record. Sitting behind him is Brennan, who wears a shirt with thin blue lines and a dark coloured tie and is pinching his eyes with his right-hand fingers. On his left is Dr. Chris Taub, who wears a light yellow shirt and a dark-coloured tie with patterns, and is holding a pen with his right hand and placing it on his lips. On his left is Dr. Remy Hadley (also known as 'Thirteen' / '13'), a female wearing light violet blouse and dark blue pants, supporting her head with her right-hand fingers. Every job interviewee is wearing a white coat and all except Kutner and Cole are crossing their legs. House enters the frame with a flip phone on his left ear and a cane on his right in shot 0b. He wears a casual buttoned plain shirt under dark coloured blazer and black pants. House does not wear a doctor's white coat and he is the only physician that does not need to wear a white coat at any time because he does not want patients to think he is a doctor (Season 1 Episode 1 *Pilot: Everybody lies*) and the white coat itches (Season 1 Episode 14 *Control*). House also has his boss Cuddy's backing for not wearing a white coat as "It's just a coat. [House]'s very good [at curing patients]." Such privilege of being special gives House a lot of power in the hospital. Calculating his age from his fictional birthday June 11, 1959 (Season 2 Episode 24 *No Reason*) and the original air date of the episode October 23, 2007 (IMDb, n.d.), House is 48 years old in this episode.

There are limited spatial movements in this scene, only House has performed visible walking with cane from the lecture hall entrance to the centre stage; however, it is the difference in spatial movement between House and the job interviewees that helps construe the interpersonal relationship of the interlocutors, particularly in terms of power. Before House's entrance, he uses the power to make all seven job interviewees wait and listen to him through the speakerphone; he also possesses the power to speak to the job interviewees through the phone (Shot 0a and 0b). When he enters through

the lecture hall entrance, walks down the aisle to the centre stage and stands in front of the lecturer's table to face the job interviewees (Shot 0b to 9). Hurt, Scott and McCroskey (1978, p. 125) argues that in such 'classroom setting', "a certain degree of teacher power is always present", while Tran (2015, p. 2) notes that,

> *"[o]n entering a lecture hall setting, the layout and structure of the room immediately forms a power dynamic between the lead speaker standing at the front of the room and those sat down in rows. When a lecturer chooses to stand at the podium and deliver a class in this way, s/he reinforces the hierarchical power dynamic between lecturer and student which was initially formed by the environment. By doing so, the lecturer increases the distance between student and lecturer".*

Throughout the spatial movement, House receives continuous direct gaze from the job interviewees (Shot 0b, 2, 4, 5, 7 and 9). Such 'relative privileges' in enjoying remote one-to-many communication mode, spatial mobility and reception of many-to-one gaze are representations of dominance in power, while power in turn is granted by rank. Disler (2008, p. 195) argues through the study of language and power in the military that "rank is taken as an indicator of a solid work ethic, expertise, experience and achievement". Even when the rank is equal for two individuals, one may still possess higher power due to more experience, such as in the case of "two physicians, both MDs, yet one is a pediatric resident still learning a specialty and one is an attending pediatrician and acknowledged expert." (Disler, 2008, p. 27) For the case of House, who possesses the power to keep or fire any of the seven job interviewees, his power is absolute. Combining the results of the analysis from 5.2.2.2.1 and 5.2.2.2.2, this ownership of high power over this job interviewees can thus be considered as a major force driving House's pattern-reforming creativity production.

5.2.2.2.4. Nonverbal behaviour and acting

Like spatial movement, hand and arm gestural movements are limited in this scene. This is not unrelated to the choice of shots being mostly close-up shots and thus limiting the view of the characters to the head and the upper torso. Shot 20 exemplifies the difficulty in including a gestural movement into the frame of a close-up shot. This shot shows House expressing satisfaction with Dobson's observation on the patient's symptoms and points his left-hand index finger supposedly at Dobson to offer his praise (line 12) following Dobson's use of pattern-forming creativity. This positive 'finger-pointing' gesture lasted 1 second within the camera frame before House let his hand down. In another example, Shot 31 shows the gestural (and facial) reactions of Taub following House's use of pattern-reforming creativity 'zamyloidosis'. In the shot, Taub originally holds the pen with the tip pointing upwards using his right hand, then he lowers it quickly and put on a sad face upon hearing House's reply in line 19. Both examples point towards the notion that gestural movement might succeed the appearance of pattern-reforming creativity rather than preceding or in amidst of it. This notion is further supported by the findings in the quantitative analysis that gesture is generally absent during the moment of pattern-reforming creativity production. On the other hand, facial expressions have been shown by the quantitative analysis to be significant at the moment of pattern-reforming creativity production.

Shot 30a and 30b show the 'pre-moment' and the moment of pattern-reforming creativity performance in the same shot respectively. In Shot 30a when House is saying "(rea)ch......"), his head is slightly tilted backwards, his eyebrows converge and raise causing two deep lines of wrinkles on his forehead, his eyes slightly popped and his gaze sweeps from upwards down to the left, and his lips remain in an exaggerated /tʃ/-pouting shape. In Shot 30b, House combines rapid, tight angle head shakes and an extended eye-shut blink during his production of pattern-reforming creativity "zamyloidosis". The combination of slight backward head tilt, converged and raised eyebrows, the deep wrinkles, slightly popped eyes and gradual sweeping gaze from up

to left in Shot 30a is a clear signal of deep thinking, which is confirmed by the verbal stretch of the word 'reach'. On the other hand, the combination of rapid head shakes and extended eye-shut blink in Shot 30b is a likely signal of "Why not!" or "Can't I make you do this?".

Since line 19 contains two clauses of commands and that given the tenor relationships between House and the job interviewees, this abundance of facial expression plus the head movements during the extended thinking time help to enforce House's dominance in terms of power status. In a dialogic discourse, such as this one in which House has to stand above all seven other qualified medical doctors, being able to fully control the time in his speech is a key advantage or privilege of a superior. House's taking time to perform several head movements, facial movements, changes in gaze directions and simultaneously to ponder over the creation of pattern-reforming creativity 'zamyloidosis' is a clear demonstration of his superiority. This argument is supported by the fact that line 19 begins with House interrupting Taub's speech (line 18) by injecting his two clauses of imperative, causing Taub to remain silent afterwards and all seven doctors getting up from their seats to perform the task assigned by House, which is a distinct feature of power ownership.

From the above analysis of the 'Zamyloidosis' scene, it can be seen that House constantly utilises his body movements (i.e. spatial movements, hand gestures, head movements and facial expressions) to exhibit his superiority and control over the job interviewees. Pattern-reforming creativity, for House at least, acts as an authority-asserting device which further enhances his power status through both verbal and non-verbal behaviour. Pattern-reforming creativity is closely related to the density of facial expression and head movement at the moment of production. The higher the density of facial expressions and head movements at the moment of pattern-reforming creativity production, the higher the power. This helps to promote out-groupness and separate House himself from everyone else. This notion of House preferring out-groupness is repeated throughout the series, as House thinks he will lose his uniqueness and

intelligence if he is no longer miserable. Examples of such notion includes the following comment from Wilson, "You're so afraid if you change, you'll lose what makes you special. Being miserable doesn't make you better than anybody else, House." (Season 2 Episode 11 *Need to Know*)

In the next example, a very different scenario is presented in which House faces a nun whom he has no absolute power over. As the negotiation unfolds, it will be possible to see if pattern-reforming creativity is used to serve similar purposes.

5.2.3. Example 2 'Cathlympics' scene

Shot_8a

Shot_8b

Shot_8c

Shot_9a

Shot_9b

Shot_10

Shot_11

Shot_12a

Shot_12b

Shot_12c

Shot_13a

Shot_13b

Shot_14

Shot_15

Shot_16

Shot_17

Shot_18a

Shot_18b

Shot_19a

Shot_19b

Shot_19c

Shot_19d

Shot_20

Shot_21

Shot_22a

Figure 29 Screenshots of 'Cathlympics' scene, Season 1 Episode 5 Damned If You Do, 17:07 – 19:47, 2 minutes 39 seconds

Shot No.	Script
0a to 0b	[Cut to the hospital chapel. House is sitting in the chapel watching General Hospital on his portable TV.]
1a	1. Soap Doc: So, who's your favorite reindeer, Nurse Arnold?
	2. Soap Nurse Arnold: Rudolph.
	3. Soap Doc: I would have thought it was Vixen.
1b	4. Soap Nurse Arnold: What are you implying?
1c to 2b	5. Soap Doc: Nothing, but I saw you at the Christmas party with Dr. Miles, and Dr. Jargons and Nurse Crandall.
2c	6. Soap Nurse Arnold: I was just doing some Christmas dancing.
	7. Soap Doc: Right, pole dancing --
	[fades out. Sr. Eucharist walks in, makes the sign of the cross, and turns to sit. She sees House in the pew.]
2d to 3a	8. Eucharist: -- This is a chapel. A house of prayer.
	9. Soap Nurse Arnold: How dare you!
3b to 4b	10. House: House of prayer, huh. That explains the good reception. Also why nobody's ever here.
4c to 6a	11. Eucharist: I need to talk with you, Dr. House. Sister Augustine believes in things that aren't real.
6b to 7a	12. House: I thought that was a job requirement for you people.
7a to 8a	13. Eucharist: She's been known to lie to get sympathy. She's a hypochondriac.
8a to 8b	14. House: [turns off TV] So, you 're warning me that I may be treating a non-existent ailment

8c to 12a	15. *Eucharist: Sore throats, joint pains... there's always something wrong, and there's never a reason for it. Mother Superior plays right into it. Let Augustine off work duties, treating her as fragile, special.*
12a to 13a	16. *House: That must make you angry. [eats a piece of chocolate]*
13a to 13b	17. *Eucharist: It bothers me. It's not really in Augustine's best interests. [She keeps looking at the chocolate bar.]*
14 to 15	18. *House: [offers the chocolate] Want some?*
16 to 19a	19. *Eucharist: I shouldn't. [takes the bar and sits down next to House]*
19a to 19c	20. *House: I guess you 've got to be good at reading people to be a good infirmarian, huh?*
19c to 20	21. *Eucharist: [around a mouthful of chocolate] Mm hmm.*
20 to 24	22. *House: So, we 've got pride, anger, envy, gluttony.... That's four out of seven deadly sins in two minutes. Do you people keep records of these things? Is there a 'Cathlympics'?*
23a to 23b	23. *Eucharist: They say you have a gift.*
24	24. *House: They like to talk.*
25	25. *Eucharist: You hide behind your intelligence.*
26	26. *House: Yeah, that's pretty stupid.*
26 to 28a	27. *Eucharist: And you make jokes because you 're afraid to take anything seriously. Because if you take things seriously, they matter, and if they matter—*
28a to 29	28. *House: And when things go wrong, I get hurt. I 'm not tough, I 'm vulnerable.*

29 to 30	29. *Eucharist: I barely know you, and I don't know if I'm right. I just hope I am. Because the alternative is, you really are as miserable as you seem to be.*
30 to 32	30. *House: You know, from the way you're looking at me right now, I'd say you just hit number five: lust.* *[Eucharist hands House his candy bar, put a few more pieces inside her mouth and leaves. House pulls out his pocket TV.]*
32 to 35d	31. *Soap Nurse Arnold: Dr. Brown, I love you, too.*

Table 20 Transcript of 'Cathlympics' scene, Season 1 Episode 5 *Damned If You Do*, 2min 39 seconds

Table 20 shows a 2-minute-39-second transcript of the 'Cathlympics' scene in Season 1 Episode 5 *Damned If You Do* with a selection of salient frames (Figure 29) to be discussed. The instance of pattern-reforming creativity occurs two-third into the dialogue (line 22), and like example 1 'Zamyloidosis' scene, the instantiation of creative language in this current scene is built up from the beginning of the conversation. Before the start of the analysis, here is a short description of the background of this episode prior to the 'Cathlympics' scene.

The first few episodes of *House M.D.* Season 1 mainly establish House's beliefs and philosophy as the main character. Episode 5 *Damned If You Do* is the first episode which challenges religious belief with medical science. On Christmas day, Cuddy orders House to see a patient in Exam room 1 who happens to be a 35-year-old nun named Sister Augustine suffering from contact dermatitis. House initially diagnosed it as an allergy from the prolonged exposure to dish soap from washing saucepans and pots in a monastery. House prescribed antihistamine but she went into respiratory distress. House then injected the patient with 0.1cc of epinephrine/adrenaline but she went into cardiac arrest. After a few rounds of DDXes, treatments, patient's subsequent severe reactions to treatments, House is suspected to have administered the wrong medicine. The scene concerned begins with Sister Eucharist, the patient's fellow nun, finding House in the hospital chapel watching TV soap on his mini-handheld TV.

5.2.3.1. Tenor relationships and interpersonal metafunction

Shot No.	Script
	Phase 1
0a to 0b	*[Cut to the hospital chapel. House is sitting in the chapel watching General Hospital on his portable TV.]*
1a	1. *Soap Doc: So, who's your favorite reindeer, Nurse Arnold?*
	2. *Soap Nurse Arnold: Rudolph.*
	3. *Soap Doc: I would have thought it was Vixen.*
1b	4. *Soap Nurse Arnold: What are you implying?*
1c to 2b	5. *Soap Doc: Nothing, but I saw you at the Christmas party with Dr. Miles, and Dr. Jargons and Nurse Crandall.*
2c	6. *Soap Nurse Arnold: I was just doing some Christmas dancing.*
	7. *Soap Doc: Right, pole dancing --*
	[fades out. Sr. Eucharist walks in, makes the sign of the cross, and turns to sit. She sees House in the pew.]
2d to 3a	8. *Eucharist: -- This is a chapel – A house of prayer.*
	9. *Soap Nurse Arnold: How dare you!*
3b to 4b	10. *House: [∅: It is a] House of prayer, huh. That explains the good reception. Also why nobody's ever here.*

Legends:
Red: Subject
Orange: Finite Modal
Yellow: Finite only
Turquoise: Predicator only
Bright Green: Finite and Predicator
Pink: Complement
Violet: Adjunct
Blue: Vocatives

Phase 2

11.	Eucharist: I need to talk with you, Dr. House. Sister Augustine believes in things that aren't real.	4c to 6a
12.	House: I thought that was a job requirement for you people.	6b to 7a
13.	Eucharist: She's been known to lie to get sympathy. She's a hypochondriac.	7a to 8a
14.	House: [turns off TV] So, you're warning me that I may be treating a non-existent ailment	8a to 8b
15.	Eucharist: Sore throats, joint pains... there's always something wrong, and there's never a reason for it. Mother Superior plays right into it. Let Augustine off work duties, treating her as fragile, special.	8c to 12a
16.	House: That must make you angry. [eats a piece of chocolate]	12a to 13a
17.	Eucharist: It bothers me. It's not really in Augustine's best interests. [She keeps looking at the chocolate bar.]	13a to 13b
18.	House: [offers the chocolate] [Ø: 'Do you'] Want some?	14 to 15
19.	Eucharist: I shouldn't. [takes the bar and sits down next to House]	16 to 19a
20.	House: I guess you've got to be good at reading people to be a good infirmarian, huh?	19a to 19c
21.	Eucharist: [around a mouthful of chocolate] Mm hmm.	19c to 20
22.	House: So, we've got pride, anger, envy, gluttony.... That's four out of seven deadly sins in two minutes. Do you people keep records of these things? Is there a 'Cathlympics'?	20 to 24

Phase 3

23.	Eucharist: They say you have a gift.	23a to 23b

24	24. House: They like to talk.
25	25. Eucharist: You hide behind your intelligence.
26	26. House: Yeah, that's pretty stupid.
26 to 28a	27. Eucharist: And you make jokes because you're afraid to take anything seriously. Because if you take things seriously, they matter, and if they matter –
28a to 29	28. House: And when things go wrong, I get hurt. I'm not tough, I'm vulnerable.
29 to 30	29. Eucharist: I barely know you, and I don't know if I'm right. I just hope I am. Because the alternative is, you really are as miserable as you seem to be.
30 to 32	30. House: You know, from the way you're looking at me right now, I'd say you just hit number five: Just. [Eucharist hands House his candy bar, put a few more pieces inside her mouth and leaves. House pulls out his pocket TV.]
32 to 35d	31. Soap Nurse Arnold: Dr. Brown, I love you, too.

Table 21 'Cathlympics' scene highlighted with respect to functional elements of the MOOD structure

Prior to the analysis, it is worth noting that House and Sister Eucharist have less power difference in this scene than House and his job interviewees in example 1 'Zamyloidosis' scene. House may or may not have a slight advantage in power over Sister Eucharist. That is because even though House is the attending physician of the patient Sister Augustine who is Sister Eucharist's fellow nun, there is a lack of friendship between Sister Eucharist and Sister Augustine. As far as the story goes, Sister Eucharist is in fact asking House not to treat Sister Augustine because she thinks Sister Augustine is faking her symptoms.

Table 21 shows a version of the dialogue of the 'Cathlympics' scene highlighted according to functional elements of the MOOD system. The table contains three rows, representing 3 phases of the conversation in this scene. Phase 1 is the introduction of the scene in which Sister Eucharist catches House watching soap on his mini-handheld TV inside a chapel. Phase 2 is House taking control of the conversation with Sister Augustine and switching the topic from discussing the patient Sister Augustine to analysing Sister Eucharist. Phase 3 is Sister Eucharist counter-analysising House's personality and House diverting it.

Phase 1 arguably contains dialogues from the TV soap which House is watching and it is of little relevance to the conversation between House and Sister Eucharist and hence the production of pattern-reforming creativity. I believe that the main purpose is to use certain lines in the TV soap to overlap with House's 'reality'. Such overlap occurs in Phase 1 when the idiomatic expression of warning "How dare you!" by Soap Nurse Arnold in line 9 acts as a supportive comment to Sister Eucharist's "This is a chapel – A house of prayer." in line 8, and Phase 3 when Soap Nurse Arnold's confession of love "Dr. Brown, I love you, too." in line 31 seems to link to House's claim of Sister Eucharist's lust for him in line 30. The actual conversation between House and Sister Eucharist officially begins in line 8, with only two lines of dialogue excluding the one by Soap Nurse Arnold which is audible from House's mini-handheld TV.

As an introduction phase, both Sister Eucharist and House adopt a rather 'marked' form of greeting, or rather, a complete absence of it. Both line 8 and 10 contains indicative: declarative statements of giving information. Sister Eucharist uses Subject ^ Finite "This is" to declare Complement "a chapel" as "A house of prayer" to establish authority and power in a venue for religious purpose. In turn, House first echoes Sister Eucharist's utterance of "House of prayer" in the form of an elliptical declarative and uses exclamative "huh" to suggest a relaxed attitude towards Sister Eucharist's statement, and then uses Subject ^ Finite-Predicator "That explains" to further suggest that "House of prayer" is the reason for the Complement "the good reception" of TV signals (See next section for an explanation of this Complement as an instance of creativity) and the Complement "why nobody's ever here." In a way, House is trying to negate the blame pinned by Sister Eucharist's by downplaying the seriousness of his wrongdoing.

Phase 2 contains clauses of indicative: declarative statements from both House and Sister Eucharist, but indicative: yes/no-interrogative only from House. From line 11 to line 15, Sister Eucharist's declarative statements of giving information are realised by Mood element Subject ^ Finite / Finite-Predicator such as "I need to talk", "Sister Augustine believes" (line 11), "She's been known to lie to get", "She's" (line 13), "there's", "there's", "Mother Superior plays", "Let" and "treating" (line 15). From the Mood element, it can be seen that much of the information given to House are surrounding Sister Augustine, and many of the lines contains multiple clauses. On the other hand, House's two responses are shorter, single-clauses and modalised, carrying a subjective loading (Halliday & Matthiessen, [1985] 2014, p. 181) such as "I thought that was" (line 12) and "That must" (line 16). These modalisations act as 'probes' which test and lead Sister Eucharist to provide the information House intended to receive, which interestingly corroborates Halliday and Matthiessen's ([1985] 2014, p. 183) data from medical consultation. The information probed by House rests on the manipulation of "you" (Sister Eucharist) within the Theme-Rheme thematic structure (Halliday & Matthiessen, [1985] 2014), including Adjunct "for you people" (line 12) as new in Rheme, Subject "you" (line 14) as given in Theme and Complement "you" (line 16) as

new in Rheme. After House's three probing attempts, the conversation begins to switched to talk about Sister Eucharist in line 17. This switch in topic signals a reversal in the control of topics, which in turn signals the switch in power, from Sister Eucharist leading the discussion about Sister Augustine to House leading the discussion about Sister Eucharist herself. In fact, House's response indicates that he has never been led by Sister Eucharist into talking about Sister Augustine. This goes to show that House has had the upper hand in terms of power from the beginning of Phase 2.

Sister Eucharist is further probed by House into her mind through the use of two more yes/no-interrogatives: first one as an offer giving goods-&-services with Finite ^ Subject "Do you" ellipted in line 18, and the other again in modalised tagged question form "I guess you've got to be…, huh?" demanding for information in line 20. Both questions she willingly accepted and answered. After House has gathered enough information about Sister Eucharist's Achilles heel, he makes two declarative statements listing all Sister Eucharist's weaknesses, followed by two yes/no-interrogatives questioning her perseverance in keeping the rules of her religion.

The pattern-reforming creativity 'Cathlympics' appears in the final yes/no-interrogative in Phase 2 and much like 'zamyloidosis' from example 1, such production of pattern-reforming creativity is often preceded by certain descriptive build-up in the Complements and Adjuncts, in this case, in four clauses in line 22: "pride, anger, envy, gluttony", "four out of seven deadly sins in two minutes", "records of these things?" and "a 'Cathlympics'?" At this point, House has gained significant power over Sister Eucharist in terms of tenor relationship.

Phase 3 contains clauses of indicative: declarative statement of giving information. It begins with Sister Eucharist referring to what some unknown participants outside this conversation have said about House, realised by Subject ^ Finite "They say". From line 23 to 27, House realises Sister Eucharist's strategy and begins defending by actively taking his turns, allowing Sister Eucharist only a single clause before hearing a response from House. Sister Eucharist ignores House's defence in line 24 and 26 and continues

her analysis of House with a series of Subject ^ Finite clauses, including "you make", "you're", "you take", "they matter" and "they matter" in line 27, and "I …know", "I don't know", "I'm", "I … hope", "I am", "the alternative is" and "you…are" in line 29. Using these successive clauses, Sister Eucharist has regained a considerable level of power over House. In order to regain power, House adapts a diversion strategy by reverting to talking about Sister Eucharist's violation of four of the seven deadly sins, which succeeded in making Sister Eucharist leave the scene.

Overall, House's production of pattern-reforming creativity in this example is mostly related to the conversation in Phase 2, and so Phase 2 will be the focus in the following analysis of tenor. House's difference / superiority in tenor : power is demonstrated through the control of thematic structure and thus the flow of the conversation. Throughout Phase 2, Sister Eucharist continuously focuses on the patient Sister Augustine, while House repeatedly manipulates Sister Eucharist, or pronoun "you", in the Theme and Rheme position to refocus the discussion about the patient back to about Sister Eucharist herself. The discussion reaches a climax in line 22 when House impolitely exposes Sister Eucharist's violation of four of the seven deadly sins, and introduces pattern-reforming creativity 'Cathlympics' as new in the Rheme position. The function of House's pattern-reforming creativity resembles a 'checkmate' in chess, almost like a song of victory, a kind of celebration after having overpowered his target.

Interruption does not appear to be frequent because most clauses are completed independent from the next. Only one relatively more obvious interruption is found in line 27. Therefore, given that House and Sister Eucharist appear to possess a relatively equal power status in this example, it follows Tannen's (2012) argument that "we cannot assume that being interrupted always indicates subordination." Example 1, on the other hand, because of the great difference in power status between House and the job interviewees, adding job interviewee Taub's interruption by House, his subsequent silence and 'getting-to-work' to the equation, can be considered as subordination.

The above analysis suggests that an exposure of an interlocutor's weakness is a likely trigger for House's pattern-reforming creativity.

5.2.2.3.2. IEEE type of pattern-reforming creativity in AFCMT

In line 10, the Complement "the good reception" is a word play with multiple meanings, which can refer to 1) the good reception of TV signals, 2) the ease of God hearing prayers and 3) the (un)popularity of the chapel among worshippers. This instance of creativity belongs to the category of pattern-reforming. This is because although no new words are created in the lexical perspective, 'New' rather than 'Given' meanings are created in the semantic perspective from the combine consideration of the term 'a house of prayer' and "the good reception". Also, because the multiple meanings are unexplained and it is assumed that the target Sister Eucharist is capable of comprehending all meanings, the creativity is implicit; this instance of pattern-reforming creativity is endo-referenced, given that all the elements involved in contributing to the creation of creative instance are gathered from within the context of the conversation, such as chapel, prayer, house of prayer, TV, TV signal and reception.

In line 22, House creates a neologistic portmanteau 'Cathlympics' from a blend of word 'Catholic' and 'Olympics'. It is an instance of pattern-reforming creativity because a neologism is created. This instance is implicit – as House has not been explicit about the formula of portmanteau construction; and exo-referenced – as neither the source of the creativity construction elements 'Catholic' nor 'Olympics' has been mentioned in the preceding text or in any preceding scenes of this episode. Both the target Sister Eucharist and the TV audience are challenged to decipher 'Catholic' and 'Olympics' from their existing knowledge outside the context of this episode, placing this instance on the highest position on the Cline of Creativity Complexity (CCC).

5.2.2.3.3. Mise-en-scène

The scene begins with a panning shot from a sign board "Chapel: Holiday Service 7pm" to the entrance of the chapel within the hospital (Shot 0a to 0b). The next shot (Shot 1a to 1c) shows a pair of hands holding onto a mini-handheld TV playing a doctor TV soap. Shot 2a to 2d show two characters inside the chapel which is lit by imitated natural sunlight shining through windows: a stubble-bearded House in a blue shirt and an ocher-coloured blazer sitting on one of the benches looking down on the mini-handheld TV he is holding onto, and Sister Eucharist in her religious habit walking forward along the aisle. Calculating his age from his fictional birthday June 11, 1959 (Season 2 Episode 24 *No Reason*) and the original air date of the episode December 14, 2004 (IMDb, n.d.), House is 45 years old in this episode.

There are limited spatial movements in this scene, only Sister Eucharist has performed walking in and out of the chapel. While House's spatial movement in example 1 construes power over the job interviewees, Sister Eucharist's spatial movement in the current example does not construe power over House. That is because House is not expecting anyone in the chapel and he is free to leave or stay at his will regardless of Sister Eucharist's presence or absence. Therefore, there is no evidence showing that set design, lighting, space or costume is used to construe any advantage in power in the tenor relationship between House and Sister Eucharist in this scene. There is however some evidence in nonverbal behaviour and telecinematography suggesting the competition for power by the two characters. This is analysed in the next section.

5.2.2.3.4. Nonverbal behaviour and acting

Unlike example 1 'Zamyloidosis' scene, example 2 'Cathlympics' scene contains more spatial movement as well as hand and arm gestural movements. The frequent use of medium shots (Shot 5, 8a to 9b), medium-wide shots (Shot 2a to 2d, 4a to 4c, 15, 18a to

18b, 34a to 34d) and occasional the close-up shots showing the actors' arms and hands (Shot 1a to 1c, 33a to 33b) have helped in this aspect.

From Shot 2a to 2d, Sister Eucharist walks into the chapel beside where House is sitting, crosses herself using her right hand, then turns left to look towards House. Her leaning to her right side with her right arm extended and hand touching the bench is a reinforcement of her declaration to House that "a chapel" is "A house of prayer" and thus not the appropriate venue for TV watching (line 8). Her body language continues to show disapproval and authoritative power from Shot 4a to Shot 8b through crossing her arms and from Shot 8c to Shot 15 through her left-hand-on-waist-right-hand-on-bench posture.

House, on the other hand, remains calm throughout as construed by his hand gestures. He is seen pushing back the antenna into his mini-handheld TV and then putting it on the bench to his left from Shot 8a to 8c. This shows that House is willing to end his routine hobby of watching his favourite TV soap, presumably *General Hospital* which starts at 1pm (Season 1 Episode 1 *Pilot: Everybody lies*). He puts a chocolate into his mouth in Shot 12a to 12b and then offers a bar of chocolate to Sister Eucharist with his right hand in Shot 15. This shows that House is offering a friendly gesture to share. House's right hand remained in the air after the chocolate bar has been accepted in Shot 18a to 18b, which shows that he is somehow surprised by Sister Eucharist's reaction (e.g. taking the chocolate after she has said she should not, snatching it from House's hand quickly, failing to thank House and / or falling into House's trap so easily).

After snatching the chocolate bar from House's hand, Sister Augustine sits down on House's right side on the same bench. From this moment on, the conversation switches from Sister Eucharist gazing down at House and House gazing up at Sister Eucharist to a levelled gaze. While framing from a low or a high angle does not automatically represent the construal of low or high power (Bordwell & Thompson, [1990] 2008), sitting side by side sharing a bar of chocolate does construe a relatively equal power in their interpersonal relationship.

Shot 20 and 22a show the 'pre-moment' and Shot 22b shows the moment of pattern-reforming creativity performance. In Shot 20 when House is saying "gluttony" (line 22), his head is slightly pushed forward to perform a nod, his eyebrows raise causing two deep lines of wrinkles on his forehead, his gaze focused on the direction of the chocolate bar. All these movements combine to form a direction-pointing nod at the chocolate. In Shot 22a, House directs his stare and a frown from the chocolate to Sister Eucharist when he says "That's four out of seven deadly sins in two minutes" (line 22). That is followed by rapid, tight angle head shakes when he asks "Do you people" (line 22), implying a negation in kinesic form (Kendon, 2002), which could actually mean negative Finite ^ Subject "Don't you people" in House's mind. During his production of pattern-reforming creativity "Cathlympics', his eyebrows are raised, deep wrinkles on forehead appear and eyes are popped for a very short moment before returning to the directed stare and frown once more.

In line 22 alone, House has used a much wider variety of facial expression than any of his previous lines in Phase 2. This abundance of facial expression plus the head movements in line 22 is, like example 1, a demonstration of House's power status. This provides a sharp contrast to the lack of facial expressions but the use of friendly hand gestures when he is still probing Sister Eucharist for information. This argument is supported by the fact that line 22 begins with House's listing of Sister Eucharist's violation of "four out of seven deadly sins in two minutes" and then issuing two yes/no-interrogatives which she is unable to answer in Phase 3.

Once again, House's use of pattern-reforming creativity acts as an authority-asserting device which further enhances his power status through both verbal and non-verbal behaviour. Example 2 also adds more support to the argument that House's pattern-reforming creativity is closely related to the density of facial expression and head movement at the moment of production. The higher the density of facial expressions and head movements at the moment of pattern-reforming creativity production, the higher the power, allowing him to outsmart the target of his creativity.

In the next example, yet another very different scenario is presented in which House is a psychiatric patient himself and meets his psychotherapist Dr. Nolan whom House has a low power in tenor.

5.2.2.4. Example 3 'Therapy' scene

Shot_0

Shot_1

Shot_2a

Shot_2b

Shot_2c

Shot_2d

Shot_2e

Shot_2f

Shot_2g

Shot_2h

Shot_2i

Shot_2j

Shot_2k

Shot_3a

Shot_3b

Shot_3c

Shot_3d

Shot_4a

Shot_4b

Shot_5a

Shot_5b

Shot_6a

Shot_6b

Shot_6c

Shot_6d

Shot_7 Shot_8 Shot_9 Shot_10a Shot_10b

Shot_10c Shot_10d Shot_10e Shot_10f Shot_10g

Shot_10h Shot_10i Shot_11a Shot_11b Shot_12

Shot_13a Shot_13b Shot_13c Shot_13d Shot_14

Figure 30 Screenshots of 'Therapy' scene, Season 6 Episode 21 Baggage, 0:00 – 01:24, 1 minutes 24 seconds

Shot No.	Script
	[Open on two armchairs facing each other over a low, round coffee table, which has on it a carafe of water, two glasses on a tray, a round, brass clock and a clunky, ugly green glass thing. The chair on the left is dark gray with a high back. The one of the right is white and fairly modern. Behind the coffee table is a screened fireplace. There's a clock in the middle of the mantle, framed pictures at either end and a few knickknacks in front of them. To the right, behind the white chair, are the fireplace tools and, further along, a table with several books stacked on it. There is a wrought iron table lamp with a white shade on the table. The walls are covered with framed photos.]
	[The room is fairly dark but none of the lights are on. To the left of the armchairs Dr. Nolan sits behind his desk. He faces a wall with semi-opaque glass and the door to his office, which is open. House appears in the doorway. He enters and closes the door behind him. He hangs his cane on the back of the gray chair and takes off his motorcycle jacket, which he throws on an unseen table further to the left. He picks up his cane and sits in the gray chair.]
0 to 2i	1. House: Okay! "Therafy" me.
2i to 3c	[Nolan stands, picks up a legal pad and sits in the white chair.]
3c to 3d	2. Nolan: You're late.
4a to 4b	3. House: You're fat.

5a to 5b	4.	*Nolan: It's unusual.*
6a to 7	5.	*House: You know how far the parking lot is? My leg's been hurting.*
7 to 8	6.	*Nolan: Anything been on your mind lately, any particular stress?*
8	7.	*House: No. Probably just gonna rain. [He grips his right thigh and looks off to his right, avoiding Nolan's gaze.]*
9 to 10a	8.	*Nolan: Mm-hmm. You like the new Monet reproduction in the waiting room? The Water Lilies?*
10a to 10c	9.	*House: I was late. I wasn't focusing on the decor, but it sounds appropriately bland and calming.*
10d to 10e	10.	*Nolan: Stress can also make you absentminded.*
10e to 10i	11.	*House: I'm not stressed. Beyond the stress induced by you telling me how stressed I am.*
11a to 14	12.	*Nolan: Just an ordinary week. [House stares at him but doesn't say anything.] Okay. [He settles back in his chair, smiling.] Tell me about it.*

Table 22 Transcript of 'Therafy' scene, Season 6 Episode 21 Baggage, 0:00 – 01:24, 1 min 24 seconds

Table 22 shows a 1-minute-24-second transcript of the 'Therafy' scene in Season 6 Episode 21 *Baggage* with a selection of salient frames (Figure 30) which will be discussed. Unlike example 1 'Zamyloidosis' scene and Example 2 'Cathlympics' scene, this episode is the only 1 in 128 instances of pattern-reforming creativity which occurs early in scene as the first utterance of a conversation initiator. Before the start of the analysis, here is a short description of the background of this episode prior to the 'Therafy' scene.

Season 6 has been a turning point for House in terms of his attitude in life. House admitted himself into Mayfield Psychiatric Hospital after his Vicodin addiction and induced hallucination have severely compromised his judgement in the Season 5 finale (Season 5 Episode 24 *Both Sides Now*). After he had received medical treatment and psychopathy from Dr. Nolan at the psychiatric hospital, he was eventually discharged and regained his medical licence. Throughout Season 6, House has been following Nolan's advice to pursue happiness, yet his love life has been going downhill ever since. In Episode 7 *Known Unknowns*, he confessed his affection for Cuddy to her at an 80s party at a medical conference, but it was at the same conference that House discovered that Cuddy is moving in with private detective Lucas. This 'Therafy' scene appears in the second last episode of Season 6. House returns to Mayfield Psychiatric Hospital for a supposedly routine post-discharge psychotherapy session with Dr. Nolan to recount the incidence happened in House's past week.

5.2.2.4.1. Tenor relationships and interpersonal metafunction

Shot No.	Script
	Phase 1
	[Open on two armchairs facing each other over a low, round coffee table, which has on it a carafe of water, two glasses on a tray, a round, brass clock and a clunky, ugly green glass thing. The chair on the left is dark gray with a high back. The one of the right is white and fairly modern. Behind the coffee table is a screened fireplace. There's a clock in the middle of the mantle, framed pictures at either end and a few knickknacks in front of them. To the right, behind the white chair, are the fireplace tools and, further along, a table with several books stacked on it. There is a wrought iron table lamp with a white shade on the table. The walls are covered with framed photos.]
	[The room is fairly dark but none of the lights are on. To the left of the armchairs Dr. Nolan sits behind his desk. He faces a wall with semi-opaque glass and the door to his office, which is open. House appears in the doorway. He enters and closes the door behind him. He hangs his cane on the back of the gray chair

Legends:
Red: Subject
Orange: Finite Modal
Yellow: Finite only
Turquoise: Predicator only
Bright Green: Finite and Predicator
Pink: Complement
Violet: Adjunct
Blue: Vocatives

and takes off his motorcycle jacket, which he throws on an unseen table further to the left. He picks up his cane and sits in the gray chair.]

0 to 2i	1. House: Okay! "Therafy" me.
2i to 3c	*[Nolan stands, picks up a legal pad and sits in the white chair.]*
3c to 3d	2. Nolan: You're late.
4a to 4b	3. House: You're fat.
5a to 5b	4. Nolan: It's unusual.
6a to 7	5. House: You know how far the parking lot is? My leg's been hurting.
7 to 8	6. Nolan: [∅: 'Has'] Anything been on your mind lately, [∅: 'Has'] any particular stress?
8	7. House: No. [∅: 'It is'] Probably just gonna rain. *[He grips his right thigh and looks off to his right, avoiding Nolan's gaze.]*
9 to 10a	8. Nolan: Mm-hmm. [∅: 'Do'] You like the new Monet reproduction in the waiting room? The Water Lilies?
10a to 10c	9. House: I was late. I wasn't focusing on the decor, but it sounds appropriately bland and calming.
10d to 10e	10. Nolan: Stress can also make you absentminded.
10e to 10i	11. House: I'm not stressed. Beyond the stress induced by you telling me how stressed I am.
11a to 14	12. Nolan: [∅: 'It is'] Just an ordinary week. *[House stares at him but doesn't say anything.]* Okay. *[He settles back in his chair, smiling.]* Tell me about it.

Table 23 'Therafy' scene highlighted with respect to functional elements of the MOOD structure

Prior to the analysis, it is worth noting that although House and Nolan are both doctors, but unlike the previous two examples in which House has absolutely or slight power advantage over other interlocutor(s), House does not have an advantage in power status over Nolan in this example. In this scene, Norlan is House's psychotherapist and House has been Nolan's psychiatric patient for a year.

Table 23 shows a version of the dialogue of the 'Therafy' scene highlighted according to functional elements of the MOOD system. The table contains 1 phase of the conversation in this scene. Phase 1 is the introduction of the scene in which Dr. Nolan probes House into recounting his past week in the therapy session. It contains clauses of indicative: yes/no-interrogative from both Dr. Nolan and House, but more from Dr. Nolan. Dr. Nolan's tenor : power is construed through yes/no-interrogative questions demanding information from House, realised by Mood element Finite ^ Subject "[ø: 'Has'] Anything", "[ø: 'Has'] any particular stress" (line 6), "[ø: 'Do'] You" (line 8). House, on the other hand, tries to negotiate his power through declarative acting as yes/no-interrogative, which is realised by Mood element Subject ^ Finite "You know" (line 5). This clause "You know how far the parking lot is?" does not demand information because it "functions as the equivalent of a generalised positive" (Halliday & Matthiessen, [1985] 2014, p. 175).

Phase 1 also contains indicative: declarative statements giving information from both Dr. Nolan and House. For Dr. Nolan, the declarative statements are mostly focused on House and his matters, realised by Mood element Subject ^ Finite "You're" (line 2), "It's" (line 4), "Stress can" (line 10) and "[ø: 'It is']" (line 12), whereas for House, his declarative statements are mostly about himself, realised by "You're" (line 3), "My leg's" (line 5), "[ø: 'It is']" (line 7), "I was", "I wasn't", "it sounds" (line 9) and "I'm not" (line 11). The Mood structure adopted by Dr. Nolan and House in both interrogatives and declaratives have provided a strong evidence that Dr. Nolan has a higher power status than House in this scene, given that Dr. Nolan's role as the psychotherapist having the

answers and House's role as Dr Nolan's psychiatric patient in need of help within the context of this psychotherapy session.

Both House and Dr. Nolan have used imperatives as commands demanding goods-&-services. House in line 1 produces an imperative with pattern-reforming creativity "'Therafy' me" to ask for goods-&-services at the beginning of the scene in order to gain power over Dr. Nolan, while Dr. Nolan in line 12 uses an imperative "Tell me about it" to demand information from House, hence regaining the control over the conversation.

Overall, House's production of pattern-reforming creativity in this example has demonstrated its correlation with tenor value such as power. House has construed his power through the production of neologism 'Therafy' as the Predicator of an imperative in the Rheme position in line 1, as well as through the pattern-forming creativity in line 3, although such gain in power is insufficient to compensate for the original difference in power between him and Dr. Nolan. This gain in power is eventually subdued by Dr. Nolan near the end of this scene. As the only 1 in 128 instances of pattern-reforming creativity which occurs in the first clause of the first scene in the episode, 'Therafy' does not have the prior text to act as trigger for pattern-reforming creativity like example 1 'Zamyloidosis' and example 2 'Cathlympics' do. However, the appearance of 'Therafy' in the first clause of the episode, as a replacement for greetings such as "good morning" or "hello" that most people will generally expect, does somehow hint for missing information which the TV audience will unavoidably request. The missing information and thus questions asked could be "This is already Season 6 Episode 20, why is House meeting Dr. Nolan again after having left Mayfield since Season 6 Episode 2?", "How long has House been having psychotherapy sessions?", "How many therapy sessions have House had from the time he left Mayfield to the time of this scene?", "Have I missed some episodes along the way? I do not remember House has returned to Mayfield prior to this episode." Therefore, the use of pattern-reforming creativity 'Therafy' as a replacement of common greetings has exposed the information gap through its implicitness and exo-referencing, causing TV audience to search for answers

to fill the information gap by moving forward, i.e. to watch the rest of the episode, or by backtracking, i.e. to (re)watch previous episodes, to search on the Internet or the official website.

Unlike example 1 and 2, a substandard comment made by an interlocutor or an exposure of an interlocutor's weakness is not a trigger for House's pattern-reforming creativity in this case, as 'Therafy' is the first clause and second word of the entire scene. However, despite the lack of verbal trigger, the production is prompted by the need for establishment of power, much like that in example 1 and 2. Such need may be contributed by the fear of losing power or the joy of possessing power.

5.2.2.4.2. IEEE type of pattern-reforming creativity in AFCMT

In line 1, House creates a neologistic transitive verb 'Therafy' from the word 'therapy'. It is an instance of pattern-reforming creativity because a neologism is created. This instance is implicit – as House has not been explicit about the formula of construction; and exo-referenced – as the source of the creativity construction element 'therapy' has not been mentioned in the preceding text or in any preceding scenes of this episode. The TV audience are assumed to possess the necessary information on House's previous encounters with Dr. Nolan, or to be able to process the purpose of House's visit from the range of shots of the set design before House's first utterance. This places the instance of pattern-reforming creativity on the highest position on the Cline of Creativity Complexity (CCC). Although arguably, it is endo-referenced when considering this instance from Dr. Nolan's perspective as the word 'therapy' should be within his psychotherapist lexicon. As a result, this instance of pattern-reforming creativity is in a lower position on CCC for Dr. Nolan than the same instance is for the TV audience.

In line 3, House produces an instance of pattern-forming creativity based on Dr. Nolan's clause "You're late" in line 2 by repeating Subject ^ Finite "You're" plus a different single word Complement "late". This instance is implicit – because the formula of repetition

has not been mentioned; and endo-referenced – because the same Mood structure is used in the repetition.

In line 9, "bland and calming" are semantically two opposing words. The usage might be a reference to Karlin and Zeiss's (2006) article titled *Environmental and Therapeutic Issues in Psychiatric Hospital Design: Toward Best Practices*, in which they argue that "[a]rtwork (soothing, not exciting) is recommended. Images of nature can reduce anxiety" as well as "monochromatic, bland color schemes … should be avoided." Given that House is a well-read character and the time of publication of Karlin and Zeiss's (2006) article happens before Season 6 was broadcasted in 2009, allowing enough time for the screenwriters to research into the topic, this could potentially be an instance of pattern-forming creativity that is implicit – because House has not mentioned the formula of how this pattern is formed; and exo-referenced – because House has not mentioned the source of reference for the use of these words. The likelihood of "bland and calming" as an instance of pattern-forming creativity is low, but the main point is on House's choice of two contradictive words. "Bland" has a negative connotation meaning dull or uninteresting, whereas "calming" has a positive meaning and is synonymous with "soothing". The fact that a generally highly observant House fails to see the reproduction of Monet's artwork *The Water Lilies* in the waiting room but imagines it to be "bland and calming" reflects his perception of the overall irony of the décor, possibly also reflecting the irony of his experience of this Mayfield Psychiatric Hospital, which then reflects the irony of his current life. This inference resonates many scenes throughout the episode, particularly with the final scene:

1. *Nolan: Cuddy… [He grins and gets up.] Cuddy. Approach to the Acute Abdomen? [He types something into his computer.] Written by Ernest T. Cuddy, M.D. Any relation to your Cuddy?*
2. *House: Her great-grandfather. I 've had it for years... Always meant to give it to her for a special occasion.*
3. *Nolan: Like her... housewarming?*

> *4.   House: It's just a gift!*
>
> *[House gets up as Nolan returns to his armchair.]*
>
> *5.   Nolan: A woman you care about is taking one step further away from you and closer to someone else? I'd think I can safely say yes, it's significant if you don't mention it. You were willing to punish the husband of your patient because you identified with him. He was also losing someone he loved.*
>
> *6.   House: I'm not gonna go out and get hammered because a woman I'm not even with is moving in with someone. That'd be pathetic. To hell with this. When I first came to you, I told you that I wanted to be happy, and I followed your advice. And instead, I'm just miserable. How is this working for me?*
>
> *7.   Nolan: It takes time.*
>
> *8.   House: For a year, I've done everything you've asked, and everybody else is happy. I run on my treadmill. You just sit there and watch. You're a faith healer. You take advantage of people who want to believe. But there's nothing in your bag of tricks.*
>
> *9.   Nolan: House?*
>
> *[House picks up his jacket and opens the door.]*
>
> *10.   House: Whatever the answer is, you don't have it.*
>
> *[He leaves, closing the door. Nolan sits with his hand on his head, which is bowed.]*
>
> EPISODE ENDS

Table 24 Part of the final scene of Season 6 Episode 21 Baggage

Table 24 clearly explains the irony in House's life for the past one year during which he has been receiving psychotherapy from Dr. Nolan.

5.2.2.4.3. Mise-en-scène

The scene begins with a static, medium-long shot of the psychotherapy area (Shot 0). In the foreground, it shows a glass jar and glasses on a wooden coffee table in front of a fireplace. Above the fireplace are some decorations such as an analog clock, a glass ball and two framed pictures. On either side of the wooden coffee table is a light-coloured therapist chair on the right side of the screen and a larger dark-coloured patient's chair on the left. On the right side of the therapist's chair is a cabinet with several books stacked on as well as stood up beside one another. Beside the books stood a table lamp with shade. There are several more framed pictures on the wall, mostly showing groups of people taken with wide-angle shots (Shot 0 and 1). There are also two candlelight-shaped wall lamp between some framed pictures on the wall behind the therapist's chair. On the left of the therapist's chair is Dr. Nolan's working table. On his table rests a folder rack with several files in it, and several possibly unopened letters in envelops in a letter holder beside the folder rack. There is a piece of yellow notepad and a pen on the right-hand side of Dr. Nolan, who sits before his desk using his laptop (Shot 2a to 2k). Dr. Nolan sits facing the wooden wall with large satin glass windows separating the room from the corridor. The room's door to the corridor opens inwards towards the patient's chair that is placed before it. Another framed picture of a group of people can be seen on the wall of the corridor through Dr. Nolan's opened door. All pictures are black and white in colour.

The room is lit by imitated natural sunlight shining through windows, which is relatively dim and gloomy when compared to the lighting from most of the episodes.

When House enters the room, he is dressed casually, wearing his black leather jacket with two white stripes on the upper arm positions. Below his jacket, he wears a dark blue T-shirt and slightly less dark denim jeans. He wears a watch on his left wrist, holds a dark wooden cane on this right (Shot 2f to 2i) and wears the same pair of Nike gym shoes he has been wearing since Season 1 Episode 8 *Poison* (Shot 2j to 2k). House has his signature stubble-style shaved beard that is slightly grey. He has kept the same short

hair since he has left Mayfield Psychiatric Hospital. Calculating his age from his fictional birthday June 11, 1959 (Season 2 Episode 24 *No Reason*) and the original air date of the episode May 10, 2010 (IMDb, n.d.), House is 50 years old in this episode. Dr. Darryl Nolan is a matured-figured psychotherapist who wears a pair of black pants, a deep blue cardigan over a white shirt with a badge attached to the left side of his red patterned tie. The difference in the formality of clothing has contributed to the difference in the role of the interlocutors and thus the difference in power.

Spatial movement is performed by both House and Dr. Nolan in this scene but are limited. House's spatial movement begins from the corridor into Dr. Nolan's room and ends at the patient's chair, while Dr. Nolan's spatial movement begins at his desk to the therapist's chair on his right.

This scene makes vast use of over-the-shoulder shots in combination with close-up shot, medium shots and medium-long shots. However, there is no evidence showing that set design, lighting, space or costume is used to construe any advantage in power in the tenor relationship between House and Sister Eucharist in this scene. There is some evidence in nonverbal behaviour suggesting the negotiation for power by House and that is analysed in the next section.

5.2.2.4.4. Nonverbal behaviour and acting

After House enters through the door (Shot 2b to 2c), he first closes the door, places the handle of his cane on the backrest of the patient's chair (Shot 2d), removes his leather jacket (Shot 2e), literally tosses it on the sofa without looking at it (Shot 2f), takes the handle of his cane with his left hand, passes it to his right, walks around the right side of the patient's chair to the front (Shot 2g to 2i) and without being asked to, sits down with his back fully rested on the patient's chair, where he then places his cane on the floor on the right side of it (Shot 2j). He then looks up at Dr. Nolan then to the empty therapist's chair and rubs his right thigh with his right hand (Shot 2k). This shows both familiarity

with the environment, including the positions of the patient's chair where he temporarily places his cane handle, the position of the sofa where he tosses his jacket without looking, which chair he should be sitting on and the best place to place his cane. The movement sends a signal of demanding goods-&-services which matches his verbal utterance in line 1, "Okay! 'Therafy' me."

Shot 2g shows the 'pre-moment' and Shot 2h to 2i show the moment of pattern-reforming creativity performance in the same shot respectively. In Shot 2g when House is saying "Okay!", his eyebrows are raised to look at Dr. Nolan for a short moment before his head is tilted forward to look at the floor. In Shot 2h to 2i, House turns his head to his right to stare momentarily at D. Nolan with a frown, his head jerks backwards during his production of pattern-reforming creativity "Therafy".

In this example, like example 1 and 2, House's use of pattern-reforming creativity acts as an authority-asserting device which further enhances his power status through both verbal and non-verbal behaviour, although the effect of this instance of pattern-reforming creativity is almost futile due to the unequal status of the interlocutors. Example 3 further supports the argument that that House's pattern-reforming creativity is closely related to the density of facial expression and head movement at the moment of production.

5.2.2.5. Summary

Based on the observations from the extracted pattern-reforming creativity and quantitative analysis of multimodal transcription, this qualitative analysis has taken two main observations as the point of departure: the lack of appearance of pattern-reforming creativity near the beginning of conversations in any scene and even more scarcely in the first utterance of a conversation initiator; and the significant percentage of power-related (tenor) facial expressions at the moments of pattern-reforming creativity.

The three main questions asked at the beginning of section 5.2.2.1 are reprinted as follows:

1) What triggers pattern-reforming creativity in general?
2) What IEEE type of pattern-reforming creativity is it in AFCMT?
3) How are interpersonal meanings construed by pattern-reforming creativity in these situations?

Question 1 is answered through both quantitative and qualitative analysis. From the quantitative analysis of pattern-reforming creativity, it can be observed that pattern-reforming creativity seldom appears near the beginning of conversations in any scene and almost never in the first utterance of a conversation initiator. In fact, only 1 in 128 instances of pattern-reforming creativity in the entire series, 'Therafy', has appeared in the first utterance of a conversation initiator. Through the qualitative analysis of the three examples 'Zamyloidosis', 'Cathlympics' and 'Therafy', it is found that House's pattern-reforming creativity may be verbally triggered by a substandard comment made by an interlocutor or an exposure of an interlocutor's weakness, which may be a result of his fear of losing power or his joy of possessing / demonstrating power.

Although the answers to question 2 differ from instance to instance, quantitative data of the SFMDA Transcription Excel sheet show that only 2 in 128 instances of pattern-reforming creativity (i.e. NILLAS and Sklung) are explicit. As most instances are implicit in *House M.D.*, the formula of construction of these instances of pattern-reforming creativity are not mentioned to the TV audience, increasing the complexity of comprehension. The implicitness of pattern-reforming creativity has also induced a 'backtracking' effect which draws the target and the TV audience's attention back to a piece of familiar and possibly related information from the preceding text, such as 'Zamyloidosis' backtracking to 'amyloidosis' in example 1. This 'backtracking' effect of implicit pattern-reforming creativity helps explain why pattern-reforming creativity is rarely observed near the beginning of conversations in any scene and even more scarcely in the first utterance of a conversation initiator. This is because to have such

implicit pattern-reforming creativity to appear in line 1 of a scene, like 'Therafy' in example 3, increases the creativity complexity and in turn risks losing the focus of the targets as well as the TV audience.

The answer to question 3 directly points to one particular tenor value – power. Quantitative analysis has proven that House's production of pattern-reforming creativity plays a key role in the overall production of pattern-reforming creativity of the entire TV series, accounting for 72.66% of the total (see Table 16). Qualitative analysis has shown that power is a crucial aspect in House's production of pattern-reforming creativity. Summarising all three examples and the functions of the pattern-reforming creativity, example 1 has demonstrated the ownership of power – House's joy of possessing power; example 2 has demonstrated the negotiation of power – House's pleasure of demonstrating power; example 3 has demonstrated the struggle for power – House's fear of losing power. Example 3 also agrees with Halliday and Matthiessen's ([1985] 2014, p. 34) argument that if a speaker is subordinate to a listener of higher power status and the contact is minimal, it will be very difficult to command the listener. Indeed, House's attempt to gain power before Dr. Nolan in example 3 through the use of "'Therafy' me" has proven to be ineffective or even somewhat humorous.

The importance of contact suggested by Halliday and Matthiessen's ([1985] 2014) is not forgotten, but it is impossible to provide a reliable measurement of contact or even affective involvement between House and his targets in any of the three examples. On the other hand, it is possible to compare their difference in power status, which is why the difference in power status between House (the creator) and the targets has been selected as the focus of this qualitative analysis.

The synergy of quantitative and qualitative analysis has helped to establish a positive correlation between the inequality of power (tenor) and House's production of pattern-reforming creativity. From the SFMDA perspective, it has been shown that nonverbal behaviour such as facial expression, head movements and spatial movements are used to construe power in *House M.D.*, with the first two elements being the most prominent

at the moments of pattern-reforming creativity production. Conversely, it has also been shown that there is no strong evidence of a correlation between the production of pattern-reforming creativity and mise-en-scène elements such as costumes, lighting, placement of objects or sound.

5.3. Chapter Summary

This chapter has made use of hapax legomenon as the point of departure for the extraction of pattern-reforming creativity, including neologisms, slang and portmanteaus (5.1.1). Instances of pattern-reforming creativity are then extracted (5.1.2 and 5.1.3), multimodally transcribed (5.1.4) and analysed quantitatively (5.2.1) and then qualitatively (5.2.2) through SFMDA and AFCMT.

Quantitative analysis reveals that among a total number of 128 counts of pattern-reforming creativity in 177 episodes of *House M.D.*, most instances are nouns, adjectives and verbs (Table 6), in the forms of portmanteaus, neologistic nouns and slang, listed in descending order of counts (Table 7) (5.2.1.1). House is the main contributor of pattern-reforming creativity in the TV series, followed by Chase and Wilson in second place and Foreman and Taub in the third. Statistical figures have revealed the importance of several multimodal resources in the construal of meanings at the moments of pattern-reforming creativity production, including the capturing of shots at eye-level, the adoption of stationary camera movement and tracking shot (Table 16), the creator's posture at stationary, upright and sitting position, the choice of personal and social space from the camera, and most importantly, the presence of a physical target for creators' gaze, suggesting that tenor may be a key factor leading to the production of pattern-reforming creativity in *House M.D.* (5.2.1.2). This has formed the basis for the selection of examples in the qualitative analysis.

Qualitative analysis of three selected examples (5.2.2.2, 5.2.2.3, 5.2.2.4) using the Analytical Framework for Creativity in Multimodal Texts (AFCMT) through the SFMDA approach reveals that House's production of pattern-reforming creativity has a positive correlation with power and may be triggered by his fear of losing power or his joy of possessing or demonstrating power. Owning to the 'backtracking' effect caused by the implicitness and endo-reference in most instances of pattern-reforming creativity, pattern-reforming creativity in this TV series rarely occurs near the beginning of conversations and even more scarcely in the conversation initiator's first utterance.

Both analyses have proven that facial expressions such as eye and eyebrow movements are significant at the moments of pattern-reforming creativity production, and visual framing shots such as close-up, medium, close-up over-the-shoulder and medium over-the-shoulder are the most commonly used shots to capture such facial expressions. On the other hand, both analyses have shown that hand / arm gestures are unlikely to be a key semiotic resource to the delivery of pattern-reforming creativity. Also, there is no strong evidence for a correlation between the production of pattern-reforming creativity and mise-en-scène elements in *House M.D.* such as set design, lighting, space, costume or auditory soundtrack (Table 17).

In the next chapter, pattern-forming creativity will first be extracted from HMDC through corpus linguistic approach using concgrams, *t*-score and MI values as numerical indicators, and then analysed quantitatively using CIRCF and qualitatively using the AFCMT.

6. Chapter 6 – Pattern-forming creativity

*"Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really **do** it, they just **saw** something. It seemed obvious to them after a while. That's because they were able to connect experiences they've had and synthesize new things." – Steve Jobs (1996)*

6.1. Pattern-forming creativity extraction using Corpus Linguistic approach – Stage 2

6.1.1. Extraction of pattern-forming creativity

The extraction of pattern-forming creativity is considerably different from that of pattern-reforming creativity. As pattern-reforming creativity is generally a non-repetitive process, one instance has little connection with another, therefore whether treating all episodes as a large series or as individual episodes when the extraction is performed makes no difference to the eventual outcome. Pattern-forming creativity on the other hand is often a repetitive process and due to the episodic design of television series, the connection between one instance and another within a certain span of words in the same episode will be strong. However, this kind of repetitive process rarely crosses from one episode to the next; in other words, there is negligible connection between one instance in one episode and another instance in a different episode. Therefore, in order to avoid the inclusion of pattern-forming creativity across episodes, the extraction of pattern-forming creativity must be performed on a per-episode basis.

In the extraction of pattern-forming creativity, ConcGram 1.0 was selected for its capability to find all permutations of word co-occurrences within certain span (Greaves, 2009). An alternative program to ConcGram 1.0 is WordSmith Tools 6.0's WSConcgram, but ConcGram 1.0 was chosen for its superior processing speed.
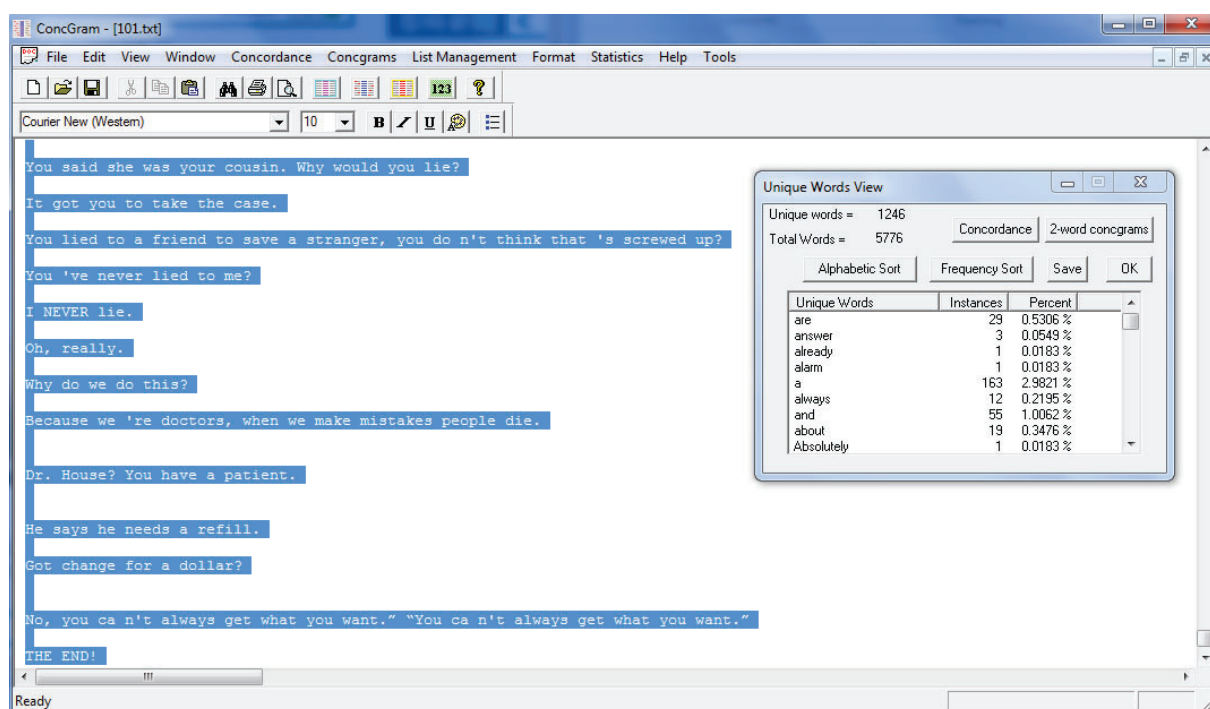
Figure 31 Creating unique wordlist in ConcGram 1.0

6.1.1.1. Creating a 2-word concgram list

To create a 2-word concgram list for the extraction of pattern-forming creativity using ConcGram 1.0, a unique wordlist must first be created and saved as individual .txt file for each episode of HMDC under *Statistics → Unique Words→ Unique Words (Open files)*, as shown in Figure 31. Then under *Concgrams → Create New Concgram List (automatic) → Using ALL the words in a text*, the following choices were selected and is as shown in Figure 32:

- USE SPAN

- Internal span = 5

- Use exclusion list

- Keep all words

- Discard matches with only 1 instance(s)

- Discard duplicates
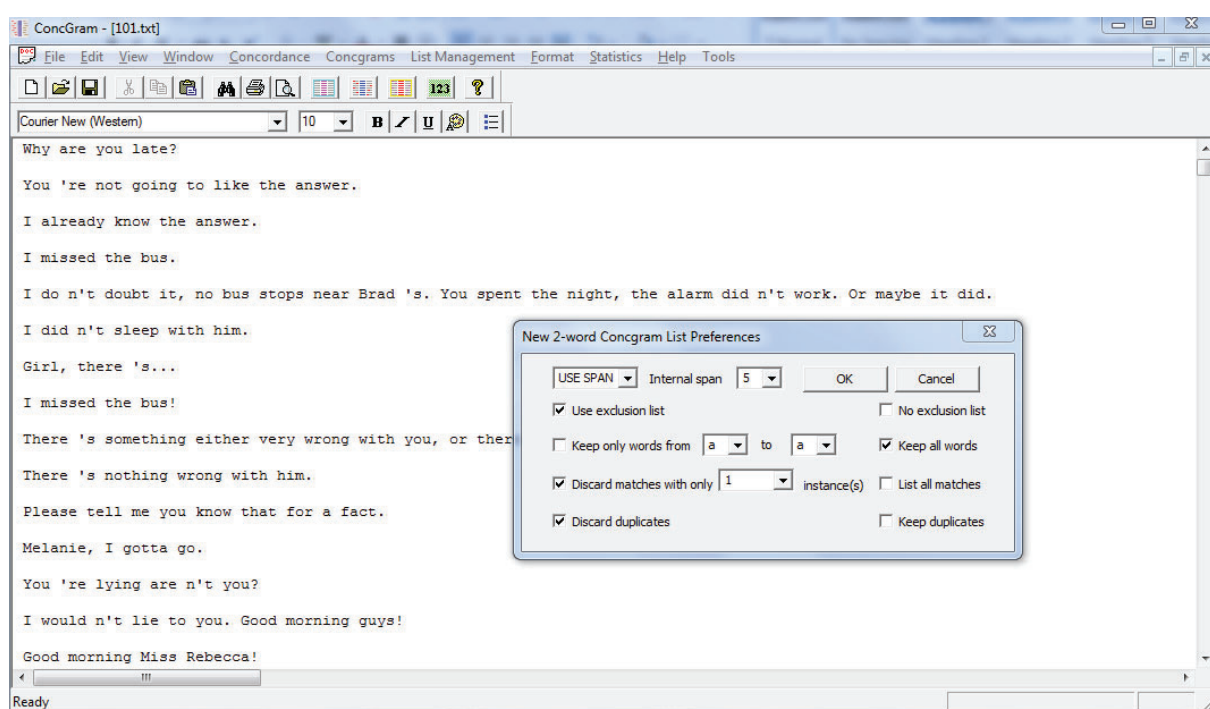
Figure 32 Creating 2-word concgram list preferences

6.1.1.2. Calculating internal span

In the above settings for the creation of concgram lists, the use of internal span being set to 5 is based not on random guessing, but on calculation. By the definition given in the Concgram Manual, setting an internal span of 2 refers to the display of all concgram

permutations up to two intervening words (i.e. AB, A*B and A**B) (Greaves, 2009). While selecting the maximum possible internal span allowed by the software (max = 10) does provide a wider possible coverage of pattern-forming creativity, it will also lower the percentage of creativity hit rate due to the increase in non-creativity-bearing concgrams, which will eventually lead to the waste of time in the process of pattern-forming creativity extraction. Therefore, in order to achieve a balance between creativity hit rate and time efficiency, there is a need to find the optimal word span for the computation of concgrams. The approach is to calculate the required internal span based on an overall mean value of the averages of words per orthographic sentence, or sentence span, in every episode of the TV series.

Episode	Average words-per-sentence	Episode	Average words-per-sentence
101	7.8	501	7
102	7.6	502	6.8
103	7.3	503	6.8
104	6.5	504	7.3
105	7.6	505	6.4
106	6.9	506	6.3
107	6.7	507	6.3
108	6.5	508	6.7
109	6.6	509	6.4
110	6.4	510	6.7
111	6.6	511	6.3
112	6.7	512	7.4
113	6.2	513	7.3
114	7.5	514	7.2
115	7	515	7.1
116	7.4	516	7.4
117	7.6	517	7.3
118	6.7	518	6.9
119	6.6	519	6.3
120	6.9	520	6.9
121	7.3	521	6.9
122	6.8	522	6

201	7.3	523	5.7
202	7.1	524	6.8
203	6.4	601	6.1
204	7.5	602	6.7
205	7.2	603	6.5
206	7.7	604	6.9
207	7	605	7
208	7.2	606	6.5
209	7.8	607	6.9
210	7.2	608	7.7
211	6.2	609	6.1
212	6.8	610	6.4
213	7.3	611	6.2
214	6.7	612	6.7
215	7.6	613	7.3
216	7	614	7.8
217	6.9	615	7.4
218	7.7	616	6.8
219	8.1	617	6.3
220	6.7	618	6.8
221	7.6	619	7.2
222	7.2	620	5.8
223	7.4	621	6.8
224	8	622	5.7
301	7.5	701	6
302	7.6	702	6.9
303	7	703	6.5
304	8.2	704	6.4
305	7.3	705	6.2
306	9.6	706	7.1
307	6.9	707	6.8
308	6.3	708	6.4
309	6.5	709	6.9
310	8.2	710	6.7
311	9.4	711	6.9
312	5.8	712	6.7
313	6.4	713	6.7
314	6.4	714	6.3
315	6	715	6.6
316	8.6	716	6.7
317	6.5	717	6.8

318	5.7	718	6.7
319	6.9	719	6
320	7.7	720	8.1
321	6.7	721	7.2
322	6.8	722	6.4
323	6.3	723	7.2
324	7.5	801	6.4
401	5.9	802	6.3
402	7.6	803	6.7
403	6.6	804	6.9
404	6.4	805	7.2
405	6.1	806	8.1
406	6.4	807	6.2
407	6.2	808	7.3
408	7	809	7
409	6.5	810	7
410	6.6	811	7
411	7	812	6.8
412	6.8	813	7.5
413	7.2	814	7.1
414	6.6	815	7.5
415	6	816	7
416	5.9	817	6.6
		818	6.8
		819	6.6
		820	6.7
		821	6.7
		822	7.4
Std. Dev.	0.61654754	Mean	6.893103448

Table 25 Average number of words per sentence by episode

Table 25 shows the average number of words per sentence from episode 1 of season 1 to episode 22 of season 8 in HMDC, each one of them obtained using Microsoft Word's *Word Count* function. The last row of the table shows the mean of all averages of 6.893 words per sentence and the standard deviation of 0.617. Taking one standard deviation above mean and a sentence span of 7.507 ($= 6.893 + 0.617$) is obtained. At this point, taking both the ceiling and floor of this value may be reasonable as 7.507 lies between 7 and 8, but because a difference of 1 in sentence span will result in a

difference of around a hundred instances of concgram, as shown in an example in Figure 33,
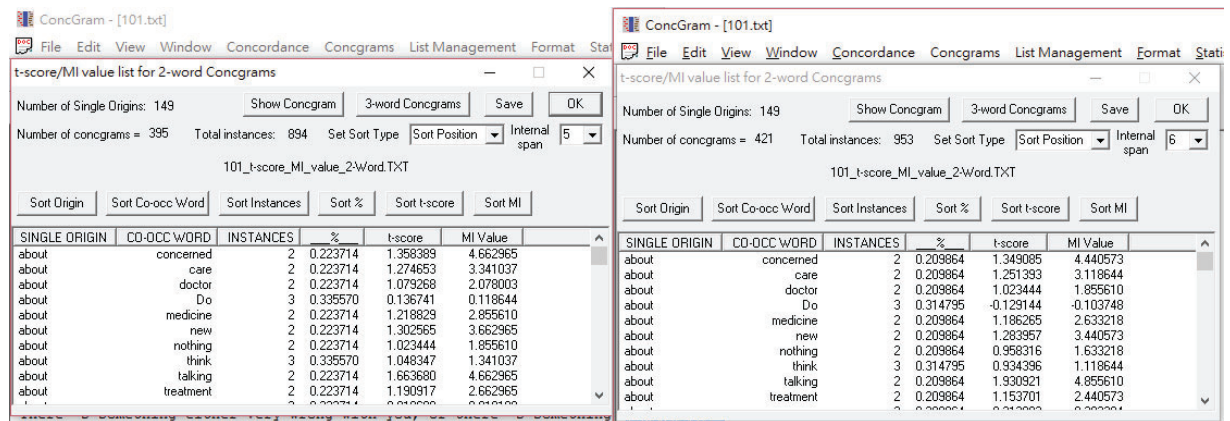
Figure 33 Difference in the number of concgrams with internal span 5 (left) vs 6 (right)

taking the floor of 7.507 (= 7) should provide adequate coverage for sentences of average word length while maintaining sufficient balance between creativity hit rate and time required for the extraction of pattern-forming creativity. Since the internal span is the "intervening words between the centre word and the outer co-occurring word in a concgram" (Greaves, 2009, p. 35), a sentence span of 7 will equate to an internal span of 5 (= sentence span – centre word – outer co-occurring word), hence the choice of internal span for the computation of concgrams in Figure 32.

6.1.1.3. The exclusion list

The exclusion list used in the process of generating concgrams is a modified version of the default exclusion list which comes with the software, consisting of mainly grammatical words and words which do not usually associate with creative language in *House M.D.* such as 'well', 'however', 'thus', 'yes', 'okay', 'ok', 'just', 'because', 'Dr', as listed in Table 26:

A	by	he	of	their	which	re	yes
all	can	her	on	there	will	ve	okay
an	for	his	or	they	with	ca	ok
and	from	i	s	this	would	m	just
are	had	if	she	to	you	me	because
at	has	in	t	was	ll	then	Dr
be	have	is	that	we	d	well	
been		it	the	were	n't	however	
but		not		what		thus	

Table 26 Words in the exclusion list

6.1.1.4. Final step in creating 2-word concgram list

After internal span and exclusion list have been finalised, the 2-word concgram list is only 4 more options away from being produced. *Keep all words* because pattern-forming creativity is not alphabet-dependent. As pattern-forming creativity is a repetitive process, concgram matches which are less than 2 instances cannot be considered as repetitive, hence the choice *discard matches with only 1 instance(s). Discard duplicates* as they are redundant in the process of pattern-forming creativity.
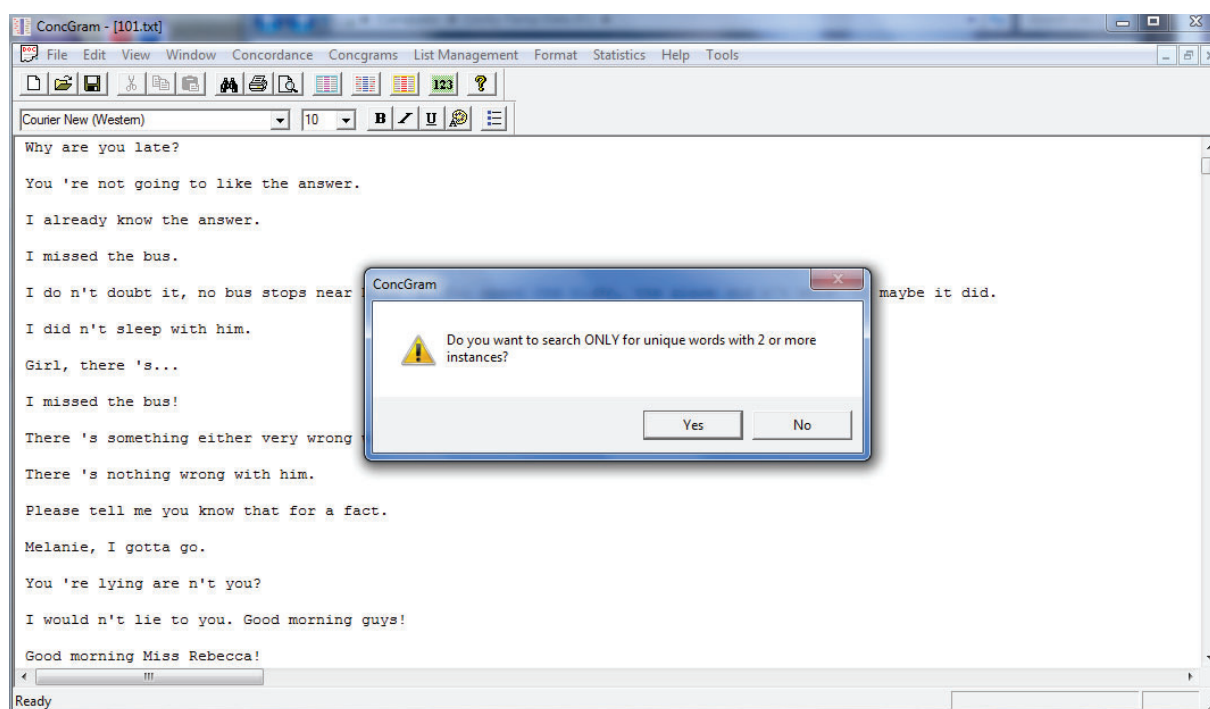
Figure 34 Concgram pop-up dialogue box

Following the same logic, only unique words of at least 2 instances can be considered as repetitive, hence the choice 'Yes' for the dialogue box "Do you want to search ONLY for unique words with 2 or more instances?" shown in Figure 34. The 2-word concgram list produced was then saved with no cut-off used.

6.1.1.5. Creating t-score / MI value lists for 2-word concgrams
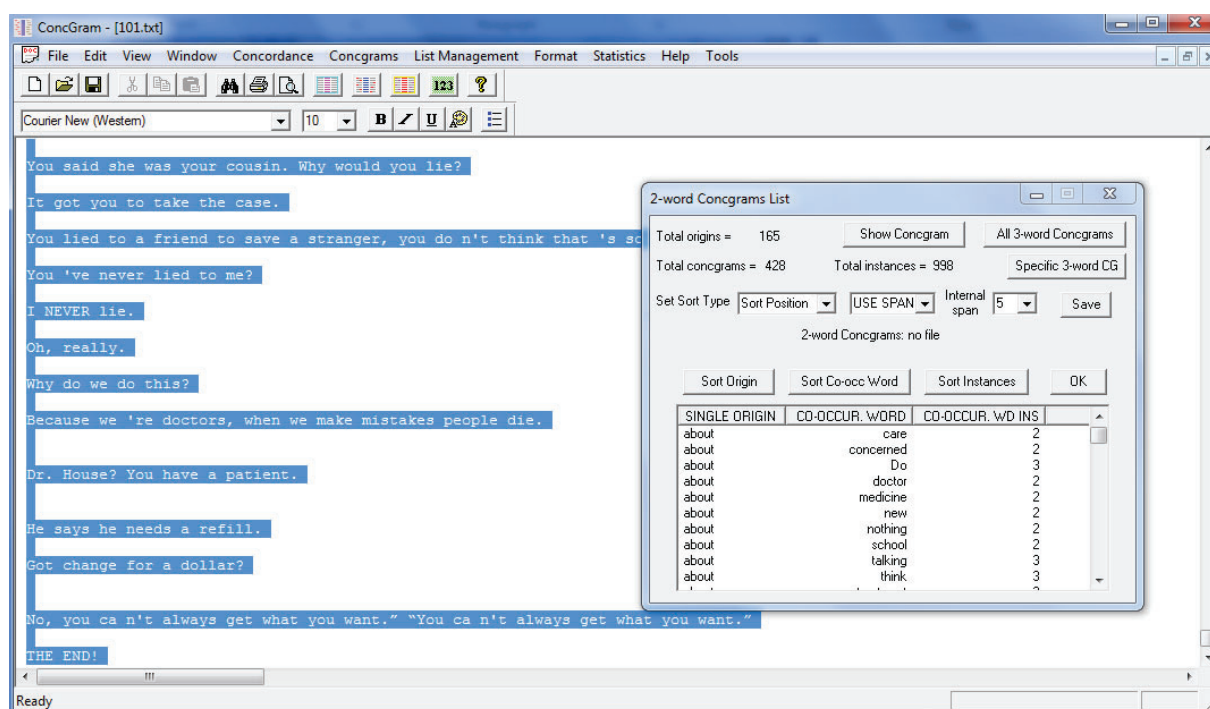
Figure 35 2-word Concgrams List

Since statistical operations available in ConcGram 1.0 such as *t*-score and MI are only available with 2-word concgram, only 2-word concgram lists were generated. The saved 2-word concgram list as shown in Figure 35 was then used to generate *t*-score and MI-values under *Concgrams* → *t*-score *and MI value for 2-word concgrams* → *Create new list* → *With 1 corpus file (C1)* with the following settings for *t*-score *List Preferences* as shown in Figure 36:

- Set span = 5 (internal span)
- Discard matches with only 1 instance(s)
- With no cut-off = checked
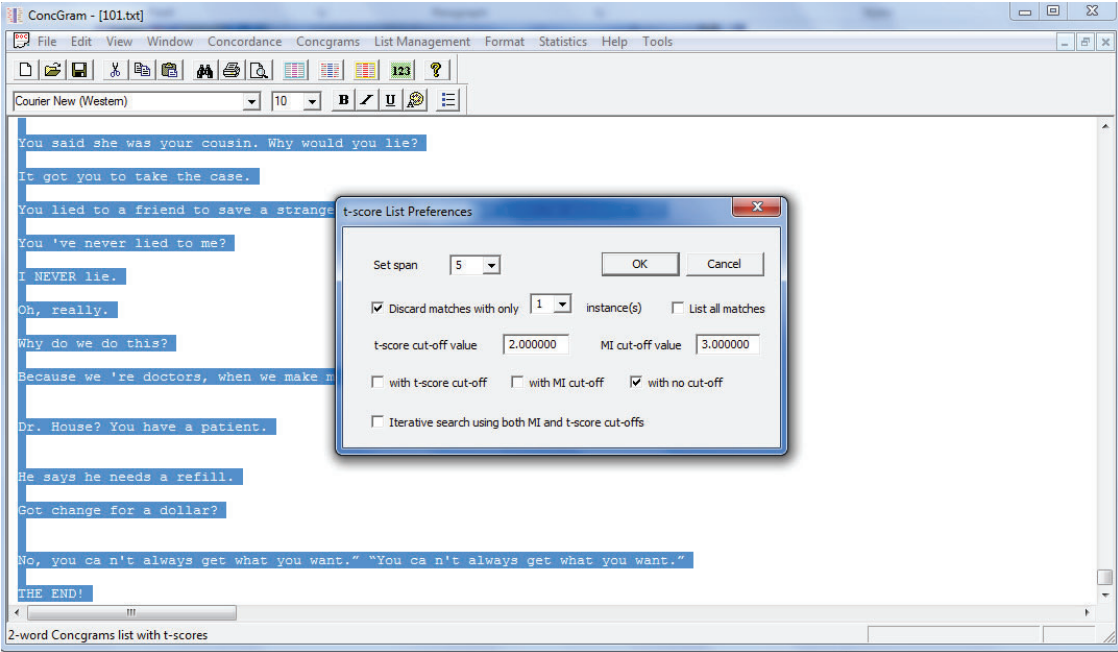
Figure 36 t-sore List Preferences

The result is a *t*-score/MI value list for 2-word concgrams as shown in Figure 37, which can be sorted according to needs, such as by MI value as shown in Figure 38.
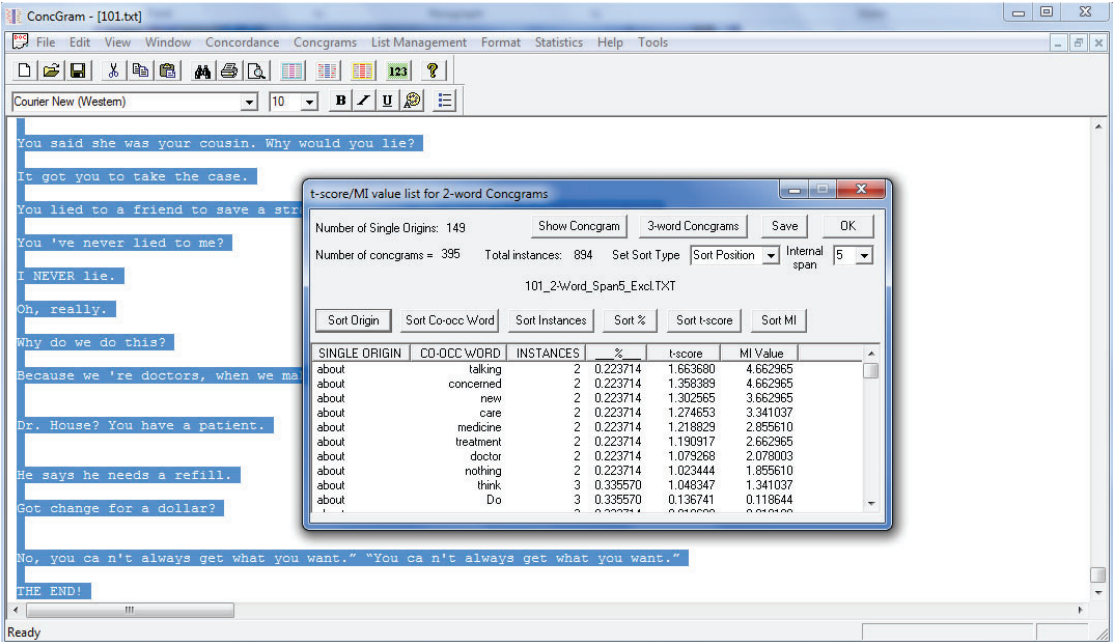
Figure 37 2-word concgram list sorted by origin by default
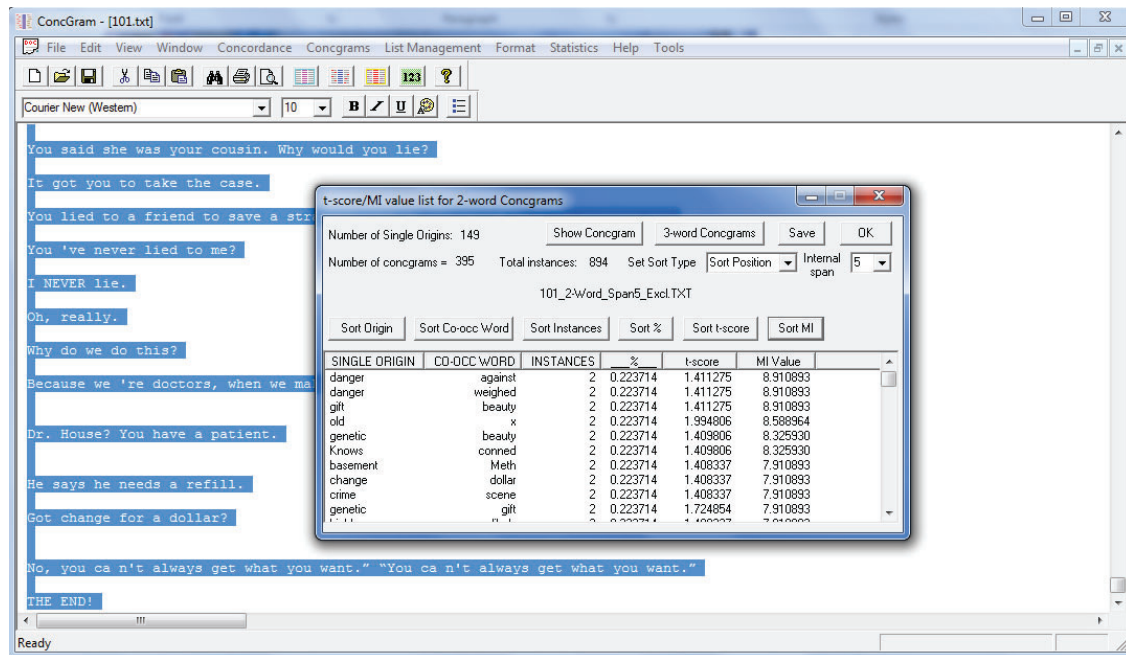
Figure 38 2-word concgrams sorted by Mutual Information (MI) value

Other useful information such as *Number of concgrams* and *Total instances* shown in the window was collected for further analysis.

6.1.1.6. Manual extraction of pattern-forming creativity

Cncgrm1	Cncgrm2	No.of ins	%	t-score	MI	Creative?	Reason?	1st instance	Concordanc
crazier	seeking	2	0.23753	1.411093	8.824163	N	Non-co-constructed, self-repetition		
especially	double	2	0.23753	1.411093	8.824163	Y	Non-co-constructed, self-repetition	Y	1 You
murder	Attempted	2	0.23753	1.411093	8.824163	N	Non-co-constructed, self-repetition		
pick	major	2	0.23753	1.411093	8.824163	N	Non-co-constructed, self-repetition		
scientist	mad	2	0.23753	1.411093	8.824163	Y	Non-co-constructed, self-repetition	Y	1 is c
scientist	slutty	2	0.23753	1.411093	8.824163	Y	Non-co-constructed, self-repetition	N	1 is c
comes	double	2	0.23753	1.409533	8.239201	Y	Non-co-constructed, self-repetition	N	1 some of
much	gets	2	0.23753	1.409533	8.239201	N	Non-co-constructed, self-repetition		
much	pounded	2	0.23753	1.409533	8.239201	N	Non-co-constructed, self-repetition		
save	after	2	0.23753	1.409533	8.239201	N	Non-co-constructed, self-repetition		
science	sweet	2	0.23753	1.409533	8.239201	Y	Non-co-constructed, self-repetition	Y	1 with
stupid	reasons	2	0.23753	1.409533	8.239201	N	Non-co-constructed, self-repetition		
comes	especially	2	0.23753	1.724408	7.824163	Y	Non-co-constructed, self-repetition	N	1 some of
art	projects	2	0.23753	1.407973	7.824163	N	Co-constructed repetition, repetition in the same scene		
brought	UTI	2	0.23753	1.407973	7.824163	N	Non-co-constructed		
clearance	security	2	0.23753	1.407973	7.824163	N	Non-co-constructed		
nose	runny	2	0.23753	1.407973	7.824163	N	Co-constructed repetition, repetition in the same scene		
push	shove	2	0.23753	1.407973	7.824163	Y	Co-constructed repetition, repetition in	Y	1 nights'
scientist	whose	2	0.23753	1.407973	7.824163	Y	Non-co-constructed, self-repetition	N	1 Appa
obviously	preface	2	0.23753	1.406413	7.502235	N	Non-co-constructed, self-repetition		
obviously	worthy	2	0.23753	1.406413	7.502235	N	Non-co-constructed, self-repetition		
Cuddy	Wilson	2	0.23753	1.404853	7.239201	N	Non-co-constructed		
EKG	normal	2	0.23753	1.404853	7.239201	N	Non-co-constructed		
every	poison	2	0.23753	1.404853	7.239201	Y	Co-constructed repetition, repetition in	Y	1 fluid
idea	pretend	2	0.23753	1.404853	7.239201	N	Non-co-constructed, self-repetition		
immune	system	2	0.23753	1.404853	7.239201	N	Non-co-constructed		
marrow	transplant	2	0.23753	1.404853	7.239201	N	Co-constructed repetition, repetition in the same scene		
too	gets	2	0.23753	1.403293	7.016808	N	Non-co-constructed, self-repetition		
too	pounded	2	0.23753	1.403293	7.016808	N	Non-co-constructed, self-repetition		
when	double	2	0.23753	1.403293	7.016808	Y	Non-co-constructed, self-repetition	N	1 have
condition	underlying	4	0.475059	1.98235	6.824163	N	Non-co-constructed		
things	use	2	0.23753	1.716765	6.824163	N	Non-co-constructed, self-repetition		
actual	patients	2	0.23753	1.401733	6.824163	N	Non-co-constructed, self-repetition		

Figure 39 2-word concgram on Excel spreadsheet, sorted by MI, highlighting pattern-forming creativity

The extraction of pattern-forming creativity was facilitated by the *t*-score/MI value list for 2-word concgrams. The list generated by ConcGram 1.0 from each episode was first exported as an Excel spreadsheet and sorted by MI /*t*-score value as shown in Figure 39. Each concgram and its instances were then checked manually against their original video source, dialogues and context for the presence or absence of pattern-forming creativity. Results were then recorded under column 'Reason?' and marked under column 'Creative?' as 'Y' for yes if they were present and 'N' for no if there were absent.

Presence / absence of pattern-forming creativity	Type	Repetition in scene(s)		
		(-)	…in the same scene / synchronic repetition	…across scenes / diachronic repetition
Absent/undetected	Non-co-constructed	✓	N.A.	N.A.
Present or absent/undetected	Non-co-constructed, self-repetition	N.A.	✓	✓
	Co-constructed repetition	N.A.	✓	✓

Table 27 Combinations of 'Reasons' for Pattern-forming creativity

Table 27 shows how descriptions of pattern-forming creativity under column 'Reason?' are categorized. The descriptions fall into two main categories: absent/undetected and present. If instances of a concgram indicate presence of pattern-forming creativity, they are classified into 'Non-co-constructed, self-repetition' – for pattern-forming creative instances of a concgram showing repetitions produced by one speaker, and 'Co-constructed repetition' – for pattern-forming creative instances of a concgram showing repetitions produced by two or more speakers. These two categories are then further supplemented by '…in the same scene / synchronic repetition' or '…across scenes / diachronic repetition' to represent the complete scenarios (Tannen, [1989] 2007, p. 102). Otherwise, if instances of a concgram indicate absence of pattern-forming creativity or that such creativity has not been detected, an additional description type 'Non-co-constructed' may apply to the four aforementioned.

The following examples demonstrate how each scenario is categorised.

1   Babbled like a <u>baby. Present deterioration of</u> **mental status**. <u>See that? They all</u> assume I 'm a patient
1   minutes later and she did <u>just fine. The altered</u> **mental status** <u>is intermittent, just like</u> the verbal

Pattern-forming creativity is absent/undetected. Instances of concgram do not show any signs of self-repetition or co-construction with no direct reference to the same idea. 'Non-co-constructed' is displayed.

1   you ever seen a worm under an **x**-ray, a regular **old** no contrast 100-year-**old** technology **x**-ray? They
2   an **x**-ray, a regular **old** no contrast 100-year-**old** technology **x**-ray? They light up like shotgun

Pattern-forming creativity is absent/undetected. Instances of concgram show a non-constructed, repetition use by one single speaker in the same scene. 'Non-co-constructed, self-repetition in the same scene' is displayed.

1   ca n't trust people. She probably knew she was **allergic** to **gadolinium**, figured it was an easy way to get
2   It 'll just be another minute. She 's having an **allergic** reaction to **gadolinium**. She 'll be dead in two

Pattern-forming creativity is absent/undetected. Instances of concgram show a non-constructed, repetition use by one single speaker in two separate scenes regarding the same idea. 'Non-co-constructed, self-repetition across scenes' is displayed.

1   the inflammation. The more **often** this **happens**... What? "The more **often** this **happens**..." What??
2   this **happens**... What? "The more **often** this **happens**..." What?? Forget it. If you do n't trust

Pattern-forming creativity is absent/undetected. Instances of concgram show a co-constructed repetition by 2 or more speakers in the same scenes regarding the same idea. 'Co-constructed repetition, repetition in the same scene' is displayed.

> 1   Because you guys were right. He <u>did n't have two</u> **conditions** at the **exact** <u>same</u>
> <u>time. First, he</u> got a cough.
>
> 2   Tell the family House <u>'s theory? Two odd</u> **conditions** striking completely
> coincidentally at the **exact**

Pattern-forming creativity is absent/undetected. Instances of concgram show a co-constructed repetition by 2 or more speakers in two separate scenes regarding the same idea. 'Co-constructed repetition, repetition across scenes' is displayed.

> 1   of the medicine, too. <u>She probably weighed that</u> **danger against** <u>the</u> **danger** <u>of</u>
> <u>not</u> breathing. Oxygen is so
>
> 2   She <u>probably weighed that</u> **danger against** the **danger** <u>of not breathing.</u>
> <u>Oxygen</u> is so important during

Pattern-forming creativity is present. Instances of concgram show a non-constructed, repetition use by one single speaker in the same scene. 'Non-co-constructed, self-repetition in the same scene' is displayed.

> 1   's cave.   Car 's clean. Did <u>you just see a</u> **blond guy** <u>with a pretentious accent?</u>
> Ca n't see an
>
> 2   episodes and a heart attack. <u>Do you see a</u> **blond guy** <u>who still has peach</u> fuzz
> standing up there?

Pattern-forming creativity is present. Instances of concgram show a non-constructed, repetition use by one single speaker in two separate scenes regarding the same idea. 'Non-co-constructed, self-repetition across scenes' is displayed.

> 1   country doctor. Brain tumors <u>at her age are</u> **highly unlikely**. <u>She 's 29.</u>
> <u>Whatever</u> she 's got is

> 2   **unlikely**. She 's 29. Whatever <u>she 's got is</u> **highly unlikely**. <u>Protein markers for the</u> three most

Pattern-forming creativity is present. Instances of concgram show a co-constructed repetition by 2 or more speakers in the same scenes regarding the same idea. 'Co-constructed repetition, repetition in the same scene' is displayed.

> 1   you to do your <u>job. Well, like the</u> **philosopher** **Jagger** <u>once said,</u> "You ca n't always get what you want.?
>
> 2   Oh, <u>I looked into that</u> **philosopher** you quoted, **Jagger**, <u>and you 're right,</u> "You ca n't always get what

Pattern-forming creativity is present. Instances of concgram show a co-constructed repetition by 2 or more speakers in two separate scenes regarding the same idea. 'Co-constructed repetition, repetition across scenes' is displayed.

6.1.1.7. Calculating MI value cut-off and t-score cut-off

Like the extraction of pattern-reforming creativity, the 2-word concgram list contains instances of non-pattern-forming creativity. Ideally, it is best to perform manual search and extraction of pattern-forming creativity from each 2-word concgram in every list generated for every single episode; however, taking Season 1 Episode 1 as example as shown in Figure 38, if every episode generates at least 395 concgrams then there will be 395 x 177 episodes = 69,915 concgrams and a minimum of 69,915 x 2 = 139,830 instances to be manually checked. Time-wise, it is highly impractical. It is thus necessary to determine a reasonable cut-off value which reduces the total number of concgrams to the minimum, maximises the hit rate of pattern-forming creativity and reduce time cost on manual checking. As mentioned previously in section 3.1.2.4 and 3.1.2.5, Concgram v1.0 uses a default MI cut-off value at 3.000000 and *t*-score cut-off value at

2.000000. However, celebrated these values are, whether empirical or theoretical, using these default cut-off values may not provide the optimal threshold that meets the specificity of HMDC. Therefore, it is preferable to establish a custom MI cut-off and *t*-score cut-off from the data instead.

An approach of small sample averages was used. First, 2-word concgram lists of two selected episodes (Season 1 Episode 1 *Pilot: Everybody lies* for it is the beginning of the show, Season 4 Episode 11 *Frozen* for it is near the middle of the entire series and also the episode with the highest U.S. viewers of the entire series (Seidman, 2008)) were generated and exported as Excel spreadsheets. After manual extraction of pattern-forming creativity in section 6.1.1.6 had been performed, all extracted concgrams of pattern-forming creativity were further manually checked to determine if they were the first instance to appear in this list. On the 2-word concgram on Excel spreadsheet as shown in Figure 39, they were marked 'Y' under column '1st instance?' with the row highlighted if the instance was the first appearance and 'N' if the instance had appeared earlier on in the list. This step is performed when it is sorted by MI value as shown in Figure 40 and repeated when sorted by *t*-score as shown in Figure 41 (also see enlarged figures in Appendices section 8.6 and 8.7). The final 'Y' of the column, that is the final first appearance of a pattern-forming creativity in a MI or *t*-score sorted concgram list, gives the cut-off value with which the data was sorted.

	Season 1 Episode 1 Pilot: Everybody lies	Season 4 Episode 11 *Frozen*	Cut-off average
Number of concgrams	395	373	N.A.
Total instances	894	861	N.A.
MI value cut-off	4.740968	2.792806	3.766887
t-score cut-off	1.361327	1.268443	1.314885
Number of concgrams after cut-offs	201	155	N.A.
Number of concgram instance after cut-offs	437	359	N.A.
Percentage of concgram instances removed after cut-offs	51.12%	58.30%	N.A.

Table 28 Calculation of MI and *t*-score cut-offs, with choice of values highlighted in blue

Table 28 below shows the cut-offs for MI and *t*-score with respect to the selected episodes:

Taking the average of MI (= (4.740968 + 2.792806) / 2) and *t*-score (= (1.361327 + 1.268443) / 2) from the two episodes, the MI cut-off of 3.766887 and *t*-score cut-off of 1.314885 were obtained. Both the MI value and *t*-score cut offs were used simultaneously as filtering criteria of the 2-word concgrams as suggested by Stubbs (1995). Using such averages as cut-offs is by no mean perfect, as some instances of pattern-forming creativity would be excluded. A more accurate cut-off can be calculated if more episodes are considered. However, it is worth noting that cut-offs are designed to maximise hit-rates within a minimal amount of time, not designed to ensure 100% selection of instances. Stubbs (1995, p. 13) points out that:

> *The important thing is that we have a replicable procedure for filtering out cases which might be entirely due to chance. The cases which survive the filters provide a set of words, based on solid quantitative evidence, for further human interpretation.*

Given that the two cut-offs trim more than 50% of the non-creative-bearing concgrams while retaining most of those creative-bearing ones, this cut-off calculation and the MI and *t*-score cut-offs produced are therefore adopted.
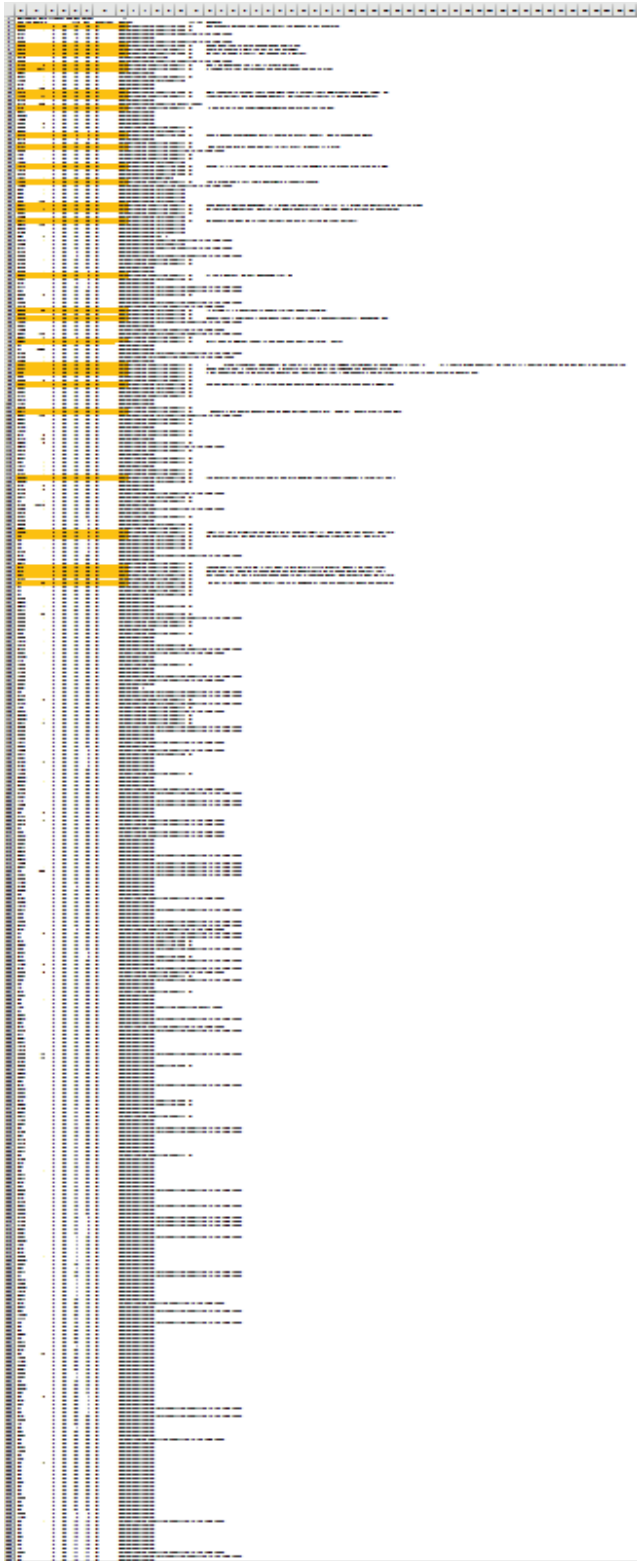
Figure 40 MI sorted, highlighting only 1st instance appearance

Figure 41 *t*-score sorted, highlighting only 1st instance appearance

6.2. Cut-off Analysis

According to McEnery, Xiao and Tono (2006, pp. 56-57) quoting Hunston (2002), an MI value greater than or equal to 3 can be considered "as evidence that two items are collocates", while a *t*-score greater or equal to 2 is "normally considered to be statistically significant". However, despite the fact that pattern-forming creativity falls under the consideration of collocations and statistical significance, the MI and *t*-score cut-offs produced in section 6.1.1.7 have evidently shown that the MI and *t*-score cut-offs supported by scholars such as Church & Hanks (1990), Hunston (2002), McEnery, Xiao and Tono (2006) may not be the best options for HMDC or for this study. A similar observation was made by Cheng, Greaves and Warren (2006, p. 421) in a study on a one-million-word sample of the Hong Kong Corpus of Spoken English (HKCSE), in which the authors state that "for the purpose of studying a corpus of spoken English at least, we are reluctant to fully endorse either the t-score or the MI-value" set at 2.00 and 3.00 respectively. In order to provide a clearer and more detailed picture as to how pattern-forming creativity may be governed by MI and *t*-score, a cut-off analysis was carried out in the hope to fill some of the niche of the much celebrated MI and *t*-score cut-offs by-default which Stubbs (1995) has criticised.

	Averages	Standard Deviations	% of sd	Max Range
Episode number				
Number in Season				
Number of concgrams before cut-offs				
Number of concgrams after cut-offs				
Percentage of concgrams removed after cut-offs				
Number of concgram instances before cut-offs				
Number of concgram instances after cut-offs				
Percentage of concgram instances removed after cut-offs				
MI of first instance of pattern-forming creativity first appearance				
MI of median instance of pattern-forming creativity first appearance				
MI of last instance of pattern-forming creativity first appearance				
t-score of first instance of pattern-forming creativity first appearance				
t-score of median instance of pattern-forming creativity first appearance				
t-score of last instance of pattern-forming creativity first appearance				
Number of pattern-forming creativity first appearance in MI				
Number of pattern-forming creativity first appearance in *t*-score				
Percentage of pattern-forming creativity yielded from average number of concgrams before cut-offs				
Percentage of pattern-forming creativity yielded from average number of concgrams after cut-offs				

Table 29 Extended version of table for cut-off analysis

Episode number	1	11	22	33	44	55	66	77	81	89	100	111	122	133	144	155	166	177	Averages	Standard Deviations	% of sd	Max Range
Number in Season	Season 1 Episode 1 Pilot	Season 1 Episode 11 Detox	Season 1 Episode 22 Honeymoon	Season 2 Episode 11 Need To Know	Season 2 Episode 22 Forever	Season 3 Episode 9 Finding Judas	Season 3 Episode 20 House Training	Season 4 Episode 7 Ugly	Season 4 Episode 11 Frozen	Season 5 Episode 3 Adverse Events	Season 5 Episode 14 The Greater Good	Season 6 Episode 01 Broken Part 1	Season 6 Episode 12 Remorse	Season 7 Episode 01 Now What?	Season 7 Episode 12 You Must Remember This	Season 7 Episode 23 Moving On	Season 8 Episode 11 Nobody's Fault	Season 8 Episode 22 Everybody Dies				
Number of congrams before cut-offs	395	319	266	241	259	324	377	453	373	361	279	285	290	221	248	266	331	272	308.8888889	62.24136027	20.15%	-
Number of congrams after cut-offs	201	132	142	97	149	167	195	246	155	167	131	120	135	102	115	123	191	151	151.0555556	38.38576976	25.41%	-
Percentage of congrams removed after cut-offs	49.11%	58.62%	46.62%	59.75%	42.47%	48.46%	48.28%	45.70%	58.45%	53.74%	53.05%	57.89%	53.45%	53.85%	53.63%	53.76%	42.30%	44.49%	51.10%			-
Number of congram instances before cut-offs	894	744	589	567	586	747	874	1064	861	825	644	643	674	490	536	625	752	608	706.8333333	150.1204418	21.24%	-
Number of congram instances after cut-offs	437	302	305	227	322	367	432	554	359	361	291	257	300	215	245	273	419	325	332.8333333	86.27333444	25.92%	-
Percentage of congram instances removed after cut-offs	51.12%	59.41%	48.22%	59.96%	45.05%	50.87%	50.57%	47.93%	58.30%	56.24%	54.81%	60.03%	55.49%	56.12%	54.29%	56.32%	44.28%	46.55%	52.91%			-
MI of first instance of pattern-forming creativity first appearance	8.910893	7.73245	7.626013	5.119806	6.375329	9.119979	7.843921	8.965784	8.922089	6.992466	7.785997	7.690871	7.314646	7.276124	8.769562	8.622357	7.606405	7.345405	7.77884278	1.025301239	13.18%	8.80419552
MI of median instance of pattern-forming creativity first appearance	6.004002	4.82556	6.626013	5.119806	5.889902	7.064463	6.343921	5.643856	6.6296075	6.407504	7.201035	6.520946	5.899609	6.598053	7.477081	6.5373945	6.214088	6.184441	6.28818233	0.670201605	10.66%	-
MI of last instance of pattern-forming creativity first appearance	4.740968	4.03201	5.818658	5.119806	3.94237	4.365091	4.843921	3.965784	3.899721	5.085576	4.464069	3.83289	4.577681	4.790698	4.769562	5.037394	4.606405	4.17548	4.557550205	0.515796343	11.32%	4.04175386
t-score of first instance of pattern-forming creativity first appearance MI	2.357888	1.699473	1.407055	1.373541	1.707014	2.445087	1.98259	2.214602	2.225005	2.180752	1.653574	1.407369	1.703037	1.403265	1.66855	1.17033	2.783978	2.424386	1.908749778	0.42870918	22.46%	2.33745896
t-score of median instance of pattern-forming creativity first appearance	1.402461	1.394264	1.399895	1.373541	1.390364	1.405063	1.4026725	1.397243	1.406925	1.397554	1.407806	1.398814	1.390524	1.399615	1.407732	1.407036	1.405142	1.395734	1.399021417	0.008045469	0.60%	-
t-score of last instance of pattern-forming creativity first appearance	1.361327	1.334415	1.363119	1.373541	1.322223	1.345587	1.374203	1.325118	1.366109	1.372565	1.351739	1.31497	1.35499	1.363119	1.380188	1.37115	1.356157	1.335948	1.353589789	0.019208517	1.42%	1.33438127
Number of pattern-forming creativity first appearance in MI	29	7	5	1	7	12	14	17	12	9	13	7	3	5	8	10	11	6	9.777777778	6.283082379	64.26%	-
Number of pattern-forming creativity first appearance in t-score	29	7	5	1	7	12	14	17	12	9	13	7	3	5	8	10	11	6	9.777777778	6.283082379	64.26%	-
Percentage of pattern-forming creativity yielded from average number of congrams before cut-offs	7.34%	2.19%	1.88%	0.41%	2.70%	3.70%	3.71%	3.75%	3.22%	2.49%	4.66%	2.46%	1.03%	2.26%	3.23%	3.76%	3.32%	2.21%	3.17%			-
Percentage of pattern-forming creativity yielded from average number of congrams after cut-offs	14.43%	5.30%	3.52%	1.03%	4.70%	7.19%	7.18%	6.91%	7.74%	5.39%	9.92%	5.83%	2.22%	4.90%	6.96%	8.13%	5.76%	6.47%	6.47%			-

Figure 42 Excel sheet 'every 10 episodes'

To achieve the aforementioned aim, three Excel sheets with an extension of the table similar to Table 28 were created for this analysis: Excel sheet 'every 10 episodes', 'every 5 episodes', and 'every 3 episodes'. These Excel sheets include statistical results from the extraction of pattern-forming creativity performed on concgram lists from the episodes selected specified in the name of the sheets, i.e. Excel sheet 'every 10 episodes' selects roughly one episode from every ten episodes, and so on. The extended version of Table 28 includes more statistical requirements as shown in Table 29. Some of the most important additions include the percentage of concgrams and of concgram instances removed after cut-offs were applied (which is 100% minus the ratio of the number of concgrams/concgram instances after cut-offs to the number of concgrams/concgram instances before cut-offs), averages and percentages of the lower, median and upper bound (and hence maximum range governed by one standard deviation from the lower and upper limit) of MI and t-score from the first appearances of pattern-forming creativity in each episode, their corresponding averages and their standard deviations as well as the numbers of pattern-forming creativity yielded from the number of concgrams before and after MI and t-score cut-offs are applied.

For the sampling of episodes, the spread and the inclusion of the cut-off-generating episodes are the only concerns. For example, Figure 42 shows an Excel sheet 'every 10 episodes' using Table 29, including episode number 1, 11, 22, 33, 44, 55, 66, 77, 81, 89, 100, 111, 122, 133, 144, 155, 166 and 177, a total of 18 relatively evenly distributed episodes, with episode number 1 and 81 being the two episodes used to calculate the MI cut-off (3.766887) and t-score cut-off (1.314885), hence blue-highlighted cells. Using the above selection criteria and cut-offs, it can be seen that a level of consistency has been achieved. First, after cut-offs were applied, the percentage of concgrams and of concgram instances removed in every episode are consistently above 42% and 44% respectively, giving an overall average of 51.10% and 52.91%. A huge narrowing of

standard deviation in the number of concgrams and concgram instances after cut-offs is also observed, converging from 62.24 to 38.39 and 150.12 to 86.27 respectively. Percentage of pattern-forming creativity yielded from the number of concgrams after cut-offs in each episode has mostly doubled when compared to the percentage yield before cut-offs, helping an overall increase of yield from 3.17% to 6.47% in the sample. Such numbers support that the use of MI and t-score cut-offs have effectively increased the density of pattern-forming creativity in the concgram lists.

The sample also produced interesting results in the first instance of pattern-forming creative concgram analysis. First, standard deviations of MI and t-score of the first instance, median instance and last instance of pattern-forming creativity first appearance are not far off from their respective means. The standard deviations of MI of the first instance, median instance and last instance range are 1.025, 0.516 and 0.670 respectively, which correspond to 13.18%, 11.32% and 10.66% of their numerical averages. These standard deviations are around 1.0 in numerical values and around 10%, which are not low but are close to one another enough to provide a reasonable range (4.042 – 8.804) at a distance of one standard deviation (lower limit = 4.558 - 0.516, upper limit = 7.779 + 1.025). Whereas the standard deviations of t-score of the first instance, median instance and last instance range are 0.429, 0.008 and 0.019 respectively, which correspond to 22.46%, 0.60% and 1.42% of their numerical averages. While the first of the three standard deviations of t-score offers a larger percentage difference like that of MI's, it is worth noting that the MI cut-off (3.766887) and t-score cut-off (1.314885) have in fact helped produce tighter lower limits, which otherwise could have been wider than they are presented here. Having presented that, the standard deviations of the t-score of the median instance and last instance are of considerably low values and percentages. In summary, considering this sample alone, t-score's maximum range (1.334 – 2.337) would give a more accurate lower limit (= 1.354 - 0.019 = 1.334) and median (= 1.399 $\pm$ 0.008) but a larger upper limit (= 1.909 + 0.429 = 2.337) than MI's maximum range, whereas MI's maximum range is more consistent across all three standard deviations. A synergy of both MI and t-score maximum ranges

can further increase the hit rate of concgrams of pattern-forming creativity. Lastly, with an improved yield of the overall pattern-forming creative concgrams from 3.17% to 6.47%, the cut-offs have not only doubled the effectiveness but also halved the time required to process every single concgram of every episode. Even though the hit-rate of creativity-bearing concgrams is still low, a synergetic application of both MI and t-score maximum ranges can be used to narrow the search and increase efficiency even further.

	every 10 episodes				every 5 episodes				every 3 episodes			
	Averages	Standard Deviations	% of sd	Max Range	Averages	Standard Deviations	% of sd	Max Range	Averages	Standard Deviations	% of sd	Max Range
Episode number												
Number in Season												
Number of congrams before cut-offs	308.8888889	62.24136027	20.15%	-	300	61.65102177	20.55%	-	305.1641791	56.20298628	18.42%	-
Number of congrams after cut-offs	151.0555556	38.38576976	25.41%	-	147.4117647	35.65671142	24.19%	-	147.5223881	31.89345815	21.62%	-
Percentage of congrams removed after cut-offs	51.10%		-	-	50.86%		-	-	51.66%		-	-
Number of congram instances before cut-offs	706.8333333	150.1204418	21.24%	-	698.7647059	153.7392635	22.00%	-	709.8358209	142.4741972	20.07%	-
Number of congram instances after cut-offs	332.8333333	86.27333444	25.92%	-	327	84.89030355	25.96%	-	329.2537313	78.62422005	23.88%	-
Percentage of congram instances removed after cut-offs	52.91%		-	-	53.20%		-	-	53.62%		-	-
MI of first instance of pattern-forming creativity first appearance	7.778894278	1.025301239	13.18%	8.80419552	8.003797029	0.883218713	11.03%	8.887015743	7.94029397	0.964480867	12.15%	8.90474837
MI of median instance of pattern-forming creativity first appearance	6.288182333	0.670201605	10.66%	-	6.3911375	0.625528402	9.79%	-	6.43360206	0.744294178	11.57%	-
MI of last instance of pattern-forming creativity first appearance	4.557550205	0.515796343	11.32%	4.04175386	4.62730141 2	0.623954499	13.48%	4.003346913	4.632179433	0.701959286	15.15%	3.930220146
t-score of first instance of pattern-forming creativity first appearance	1.908749778	0.42870918	22.46%	2.33745896	1.98404853	0.510772954	26.35%	2.449177807	1.884616104	0.422046	22.39%	2.306662104
t-score of median instance of pattern-forming creativity first appearance	1.399021417	0.008454689	0.60%	-	1.400552632	0.007116325	0.51%	-	1.404888104	0.032359151	2.30%	-
t-score of last instance of pattern-forming creativity first appearance	1.353589789	0.019208517	1.42%	1.33448127	1.356474235	0.02198423	1.62%	1.334490005	1.361239821	0.043962209	3.23%	1.317277612
Number of pattern-forming creativity first appearance in MI	9.777777778	6.283082379	64.26%	-	9.294117647	5.231196698	56.29%	-	8.373134328	4.588641513	54.80%	-
Number of pattern-forming creativity first appearance in t-score	9.777777778	6.283082379	64.26%	-	9.294117647	5.231196698	56.29%	-	8.373134328	4.588641513	54.80%	-
Percentage of pattern-forming creativity yielded from average number of congrams before cut-offs	3.17%		-	-	3.10%		-	-	2.74%		-	-
Percentage of pattern-forming creativity yielded from average number of congrams after cut-offs	6.47%		-	-	6.30%		-	-	5.68%		-	-

Figure 43 Excel sheet 'every 10 episodes' (left), 'every 5 episodes' (middle) and 'every 3 episodes' (right)

Figure 43 shows a screen capture of the final four columns of the Excel sheets 'every 10 episodes' (left), 'every 5 episodes' (middle) and 'every 3 episodes' (right). Excel sheet 'every 10 episodes', 'every 5 episodes' and 'every 3 episodes' consists of 18, 34 and 67 episodes respectively. When comparing all three Excel sheets side-by-side, trends become more apparent. Firstly, the percentage of concgrams and concgrams instances removed after cut-offs remain relatively constant around 50% across all three Excel sheets regardless of the number of episodes included, which shows that the MI (3.766887) and t-score (1.314885) cut-offs are able to provide a consistent level of trimming despite the fact that each episode produces different number of concgrams and concgram instances. This provide a good evidence to support the effectiveness of calculating a custom MI and t-score cut-offs from a small sample of a specific data set rather than using the commonly accepted MI (= 3.0) and t-score (= 2.0) cut-offs.

Secondly, MI of the first, median and last instance of pattern-forming creativity first appearance also maintained consistency in numbers and percentages as the number of episodes increased. The first began with 7.779 in 'every 10 episodes' to 8.004 in 'every 5 episodes' to 7.940 in 'every 3 episodes', all within a range of 0.225. The respective standard deviations (and percentages in brackets) are 1.025 (13.18%), 0.883 (11.03%) and 0.964 (12.15%), all within a range of 0.142. The median has an average value that changes from 6.288 in 'every 10 episodes' to 6.391 in 'every 5 episodes' to 6.434 in 'every 3 episodes', spanning a range of 0.146. The respective standard deviations (and percentages in brackets) are 0.670 (10.66%), 0.626 (9.79%) and 0.744 (11.57%), spanning a difference of 0.118. The last sees a slight increase from 4.558 in 'every 10 episodes' to 4.627 in 'every 5 episodes' to 4.632 in 'every 3 episodes', spanning a range of 0.074. The respective standard deviations (and percentages in brackets) are 0.516 (11.32%), 0.624 (13.48%) and 0.702 (15.15%), spanning a range of 0.186. Maximum range governed by one standard deviation from the lower and upper limit widens gradually as the number of episodes accounted for almost quadrupled from 18 episodes

to 67 episodes, that is from 4.042—8.804 in 'every 10 episodes' to 4.003 – 8.887 in 'every 5 episodes' to 3.930 – 8.905 in 'every 3 episodes', representing a widening of 0.112 (= 4.042 - 3.930) at the lower limit and 0.101 (= 8.905 - 8.804) at the upper limit that equates to 0.213 (= 0.112 + 0.101) or 4.28% (= (8.905 - 3.930) / 0.213) of the maximum range in 'every 3 episodes'. This relatively minor widening (<5%) provides evidence that most concgrams of pattern-forming creativity first appearance in *House M.D.* could be found within the maximum range of MI, given that the calculated MI and *t*-score cut-offs are used. The maximum range also has about the same percentage of standard deviations at its lower, median and upper limit, which shows the stability of MI maximum range.

Thirdly, *t*-score of the first, median and last instance of pattern-forming creativity first appearance see a great fluctuation in numbers and percentages as the number of episodes increased. The first began with 1.909 in 'every 10 episodes' to 1.938 in 'every 5 episodes' to 1.885 in 'every 3 episodes', all within a range of 0.024. The respective standard deviations (and percentages in brackets) are 0.429 (22.46%), 0.511 (26.35%) and 0.422 (22.39%), all within a range of 0.089. The median has an average value that changes from 1.399 in 'every 10 episodes' to 1.401 in 'every 5 episodes' to 1.405 in 'every 3 episodes', spanning a range of 0.006. The respective standard deviations (and percentages in brackets) are 0.008 (0.60%), 0.007 (0.51%) and 0.032 (2.30%), spanning a difference of 0.025. The last sees a slight increase from 1.354 in 'every 10 episodes' to 1.356 in 'every 5 episodes' to 1.361 in 'every 3 episodes', spanning a range of 0.007. The respective standard deviations (and percentages in brackets) are 0.019 (1.42%), 0.022 (1.62%) and 0.044 (3.23%), spanning a range of 0.025. Maximum range governed by one standard deviation from the lower and upper limit widens gradually as the number of episodes accounted for almost quadrupled from 18 episodes to 67 episodes, that is from 1.334—2.337 in 'every 10 episodes' to 1.334 – 2.449 in 'every 5 episodes' to 1.317 – 2.307 in 'every 3 episodes', representing a widening of 0.017 (= 1.334 - 1.317) at the lower limit and a narrowing of -0.142 (= 2.307 - 2.449) at the upper limit that equates to -0.125 (= 0.017 - 0.142) or -7.92% (= (2.307 - 1.317) / -0.125) of the maximum range in

'every 3 episodes'. This relatively significant narrowing contributed mainly by the narrowing at the upper limit indicates that using t-score to locate concgrams of pattern-forming creativity first appearance in *House M.D.* at the upper end may not be desirable, given the high percentage of standard deviation and the rather significant fluctuation at the upper limit (>5%). However, using t-score at the lower end and at the median have statistically shown to be reliable (<5%), given that the calculated MI and t-score cut-offs are used. Analysis of trends over 3 Excel sheets confirms that a synergetic application of both MI and t-score maximum ranges can be used to narrow the search for concgrams of pattern-forming creativity first appearance and increase efficiency.

Fourthly, standard deviation of various numbers such as number of concgrams and concgram instances before and after cut-offs as well as the number of pattern-forming creativity first appearance (in both MI and t-score) have seen a general downtrend from 'every 10 episodes' to 'every 5 episodes' to 'every 5 episodes' to 'every 3 episodes' as the total number of episodes considered increases from 18 to 34 to 67. This implies that the data has become gradually less dispersed and is likely to continue if all episodes are considered.

Lastly, the percentage of pattern-forming creativity yielded from average number of concgrams before cut-offs and after cut-offs, which is calculated using the number of patter-forming creativity first appearance in MI/t-score divided by number of concgrams before cut-offs and after cut-offs respectively, saw their highest at 3.17% and 6.47% in 'every 10 episodes' and lowest at 2.74% and 5.68% in 'every 3 episodes' respectively. Such slight decrease in percentages is contributed mainly by the fall of 1.405 (= 9.778 – 8.373) in the numerator, a relatively significant value compared to the minor decrease in the large denominators (from 308.889 to 305.164 for number of concgrams before cut-offs and 151.056 to 147.522 for number of concgrams after cut-offs). Overall, judging by the percentage of pattern-forming creativity yielded from average number of concgrams after cut-offs from each episode in the 'every 3 episodes' Excel sheet, only 5 of the 67 episodes managed to reach more than 10%. Therefore, even when all episodes are

considered, it is expected that the average yield to remain no higher than 10% using the calculated MI and *t*-score cut-offs alone. However, should max range be used in the cut-off process, the number of concgrams after cut-offs can be reduced further and possibly increase the yield of pattern-forming creativity.

In the next section, a new theoretical framework based on SFL will be proposed to facilitate the analysis of pattern-reforming creativity.

6.3. Analysis through Creativity-In-Register Cube Framework (CIRCF) – Stage 3

6.3.1. Introduction to Creativity-In-Register Cube Framework (CIRCF)

The derivation of this proposed model is twofold: 1) a revisit-cum-reinvestigation of Carter's (2004) corpus data and matrix framework for the use of creative language in spoken English from an systemic functional linguistic perspective with key emphasis on the relationship between tenor values as proposed by Poynton (1985) and the probabilistic nature of linguistic creativity (Carter, 2004), and 2) the mapping of fields of activity from Matthiessen's (2009; 2015b) registerial cartography onto the intermediate output from 1).

6.3.1.1. Carter's (2004) creativity matrix for spoken English

Mode-wise, in the systemic functional linguistics sense, the data used in this article is fully based on Carter's (2004) randomly searched examples of spoken English (ten extracts for each cell in the matrix, 500-800 words in each extract (p. 150)) in the creativity matrix of twelve text types as reproduced in Table 30 (see Carter (2004, p. 165) for the original table and descriptions) – a framework he proposed from his analysis of the five-million-word CANCODE corpus, which is arranged in a two-dimensional tabulated formation along two primary axes: *context type* and *interaction type*, and a cline which consists of four categories: from *transactional*, *professional*, *socialising* to *intimate*. Context type, being a distinction from interaction type as the name suggests, is *information provision,* meaning that such exchanges are mostly "non-collaborative", unidirectional and has a "dominant speaker" despite the presence of "backchannelling from the other speaker(s)" (Carter, 2004, p. 149). Examples of such

texts are jokes telling, instructions giving, explaining or presentations giving in a professional context. Interaction type of texts thus involves collaborative, bi-directional effort in the spoken discourse. It can be further divided into collaborative task and collaborative idea. The former focuses mainly on task-related discourse including exchange of and discussion about goods during the transaction, while the latter involves the "interactive sharing of thoughts, opinions and attitudes" (Carter, 2004, p. 149). Since creativity is probabilistic in nature (Carter, 2004), shading is used to indicate the examples' susceptibility to linguistic creativity such that the probability for creative language uses is directly proportional to the darkness of the shading, that is, the darker the shading the more frequent such creativity is expected to appear.

Context type (communication varies according to cultural and language affiliation)		Interaction type (including hybrid forms and embedding for creative purposes)	
	Information provision	Collaborative task	Collaborative idea
Transactional	commentary by museum guide	choosing and buying a television	chatting with hairdresser
Professional	oral report at group meeting	colleagues window dressing	planning meeting at place of work; therapist or counsellor problem-solving with a patient
Socialising	telling jokes to friends	friends cooking together; on-line communication in MUD game	reminiscing with friends; adolescents insulting an adult authority figure
Intimate	partner relating the story of a film seen	couple decorating a room	siblings discussing their childhood; Hong Kong Chinese friends emailing in English in mixed code

Key: light shading=less prone to creativity; dark shading = more prone to creativity.

Table 30 Mapping creativity and social interactional context: Matrix 2; reproduced from Carter (2004, p. 207)

The generic arrangement of the corpus, as explained in Carter (2004, pp. 148-149) aims to enhance the exploration of the "extent" of creative language use by a speaker as a choice made for "the maintenance of interpersonal relations and the construction of social identities" across various speech genres. In other words, although the architecture of this matrix does not explicitly involve any systemic functional linguistic theories, there is strong implication that the three metafunctions (mode, field and particularly tenor) have a determining effect on the creative language production.

There are of course limitations to the design of the creativity matrix. In terms of data collection, the participants who contributed to the CANCODE data of spoken English

have consented to and notified of the recording process, thus the naturalness of the speakers' performance may vary from that of their usual selves in reality (Carter, 2004, p. 219), but the same will apply to almost all ethically-compiled spoken corpora. In terms of categorisation, Carter (2004) also admits the challenge in the categorisation of collaborative task and collaborative idea in situations where these two types overlap, thus priority is given to the dominating type. In terms of the representation of the "scalar and clinal nature" of creativity (Carter, 2004, p. 205), matrix cells are shaded with different shades of grey based on certain probability of creative language occurrence and criteria which are undisclosed, making it almost impossible to tell the difference between cells of the same shade. Fortunately, this will not affect the design of the new model as it can handle both numerical and relative data.

6.3.1.2. Poynton's (1985) three continua of tenor

The pillar sustaining this multi-combinatory approach is Poynton's (1985) sub-classification of Halliday's (1985) *tenor* value in his register theory into three continua, involving equal and unequal **Power**, frequent and occasional **Contact**, and lastly high and low **Affective Involvement**. (Note that although Poynton (1990) has renamed these three dimensions of tenor in the later work *power*, *social distance* and *affect*, the original terms are retained in this article as the concept of tenor continua binds better with the concept of creativity as continuum than the further sub-classification of *affect* into *unmarked*, *positively marked* and *negatively marked*.) These three continual "simultaneous dimensions" of tenor shown schematically in Figure 44 can be summarised as follow (Eggins, 2004, p. 100),

1. Power: denotes a continuum of one of the three tenor dimensions that governs the roles of equal or unequal power among participants in a particular instance.

Close friends are an example of equal power, whereas the relationship between boss and employee are often considered as unequal power.

2. Contact: denotes a continuum of one of the three tenor dimensions that governs the amount of frequent or infrequent contact among participants. Spouses would be an example of frequent contact, whereas a museum visitor and a museum guide would be an example of infrequent contact.

3. Affective Involvement: denotes a continuum of one of the three tenor dimensions that governs the high or low level of intimacy among participants, and by intimacy that includes the level of emotional involvement or commitment. Lovers and family members are among the high affective involvement whereas customer and hairdresser are considered to have low affective involvement.

POWER

equal ⟵―――――――――――――――――――⟶ unequal

CONTACT

frequent ⟵―――――――――――――――――――⟶ occasional

AFFECTIVE INVOLVEMENT

high ⟵―――――――――――――――――――⟶ low
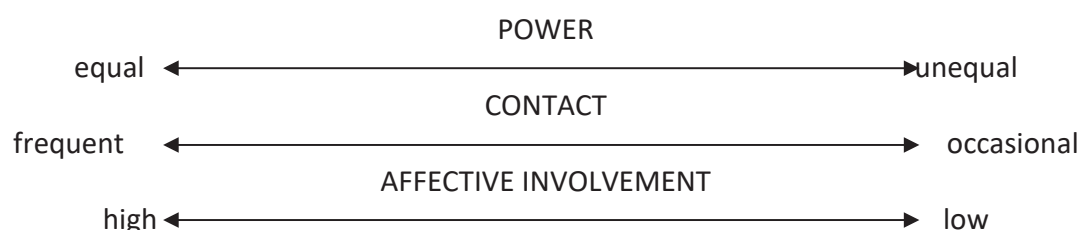
Figure 44 Poynton's (1985) three continua of tenor, reproduced from Eggins (2004)

Drawing on this theory, according to Eggins (2004), the formal and informal situation types can be described using these three continua as summarised in Table 31. An informal situation is likely to involve participants of equal power, frequent contact and high affective involvement, such as when siblings discussing their childhood, whereas in a formal situation, an unequal hierarchic power together with infrequent contact and low affective involvement is expected, such as giving oral report at a group meeting.

TENOR: typical situations of language use	
INFORMAL	**FORMAL**
equal power	unequal, hierarchic power
frequent contact	infrequent, or one-off contact
high affective involvement	low affective involvement

Table 31 Formal vs informal situations; reproduced from Eggins (2004, p. 101)

The above theories will provide a framework for describing the probabilistic nature of linguistic creativity in spoken English with respect to tenor variation.

6.3.1.3. Matthiessen's (2009; 2015b) registerial cartography

Herein adding semiotic colours and completing this intermediate model is Matthiessen's (2009; 2015b) registerial cartography, which will be used to categorise creativity according to their socio-semiotic processes depicted in the matrix's corpus examples. Drawing on Ure's work (Ure, 1989) on context-based register typology (Matthiessen, 2015b) of which "different settings of field, tenor and mode values correspond to different registers" (Matthiessen & Teruya, 2013), Matthiessen's (2009; 2015b) registerial cartography consists of eight fields of activity, summarised below and illustrated in Figure 45:

- **expounding** general classes of theoretical phenomena either by **categorising** (or documenting) these phenomena or by **explaining** them.
- **reporting** on experience of particular phenomena by **chronicling** a series of events (eg. news reports), **surveying** particular places (eg. travel guide books) or **inventorying** particular entities (eg. product catalogues);

- **recreating** our experience of the world through imaginations by **narrating** or **dramatising** imaginary events.

- **sharing** personal information, reminiscence, private **experiences** and / or sharing of **values**.

- **doing** social activities through interactive means, accomplishing certain task by **collaborating** with others and/or **directing** others.

- **enabling** others to perform tasks by **instructing** them or by **regulating** their actions, a precursor of 'doing'.

- **recommending** others to participate in an activity by **advising** them or **inducing** them through **promotion** of benefits, also a precursor of 'doing'.

- **exploring** societal values in public by **reviewing** a commodity or **arguing** about different views and positions.

Figure 45 Fields of activity within context; reproduced from Matthiessen (2015b)

It is worth noting that these activities are susceptible to indeterminacy and hybridity (Matthiessen & Teruya, 2013) in the categories of "ambiguity" (Matthiessen & Teruya, 2013, p. 6), "overlaps, blends and neutralizations" (Matthiessen, 2015b, p. 10; Matthiessen & Teruya, 2013, p. 6) thus these eight fields of activity can be distinct as much as they can be shaded into one another.

6.3.2. Formation

The starting point of the analysis is Carter's (2004, p. 207) creativity matrix which maps creativity and social interactional context (Table 30). While it is not designed based upon any systemic functional theories, it has captured not only the likelihood for the occurrence of linguistic creativity in the CANCODE corpus, but also the relationship between creative language production in spoken English and the key values within the 'context of situation' with subtlety (Halliday, 1985). Intriguingly, Carter (2004, p. 205) has also hinted the presence of such relationship by arguing that, "different clines of affect (intimacy, evaluation and intensity), as manifested in lexical, grammatical and discoursal choices, have been shown to be closely related to instances of creativity and to pattern forming and pattern re-forming tendencies in particular." This provides a crucial clue to the possibility of a merger with Poynton's (1985) three continua of tenor.

6.3.2.1. Creativity Matrix-Three Tenor Continua Merger

Constructed within the mode of spoken English, the matrix's framework and data reveal a pattern very much in line with Poynton's (1985) three continua of tenor proposal. Moving from top to bottom of the creativity matrix in the vertical direction as shown in Table 30 from *transactional*, *professional*, *socialising* to *intimate*, it follows an increasing level of intimacy by Carter's (2004, p. 207) definition of 'context' type. Considering the same modelling criteria on Poynton's three continua of tenor, this is equivalent to an increasing level of affective involvement on the Affective Involvement continuum, with an additional sense of continuity which is lacking in the matrix. In the horizontal direction, from *information provision*, *collaborative task* to *collaborative idea*, there is an increasing level of collaboration and equality. This phenomenon constitutes a decreasing level of power from left to right of the matrix, which represents a transition of discourse from unequal power to equal power by a single knowledgeable, dominant,

information-giving speaker to that produced by collaborative, task-oriented participants and finally to that resulted from the co-constructing of ideas, thus maps well onto the Power continuum. Judging from the data examples in the diagonal direction from the top left to the bottom right corner in the creativity matrix by drawing information from the roles of the participants in each situation, there exists a subtle yet increasing trend in the likelihood of frequency of contact among the participants, (that is, in the horizontal direction of the matrix, from museum guide/visitor to customer/salesman to customer/hairdresser; in the vertical direction, from museum guide/visitor to superior/employee to friend/friend to partner/partner; in the diagonal direction, from museum guide/visitor to colleague/colleague to friend/friend to online gamer/online gamer to sibling/sibling) which can be represented by the Contact continuum from occasional to frequent. As a result, the following intermediate outcome of a tenor-value added creativity matrix can be obtained as shown in Table 32:

Increasing level of equality

Context type (communication varies according to cultural and language affiliation) (monologue)		Interaction type (including hybrid forms and embedding for creative purposes) (dialogue)	
	Information provision	Collaborative task	Collaborative idea
Transactional	commentary by museum guide	choosing and buying a television	chatting with hairdresser
Professional	oral report at group meeting	colleagues window dressing	planning meeting at place of work
Socialising	telling jokes to friends	friends cooking together; on-line communication in MUD game	reminiscing with friends; adolescents insulting an adult authority figure
Intimate	partner relating the story of a film seen	couple decorating a room	siblings discussing their childhood ; Hong Kong Chinese friends emailing in English in mixed code

Increasing level of intimacy

Increasing Contact

Table 32 Creativity matrix and three continua of tenor (large arrows indicate major trend)

From the above Table 32, it is now apparent that the probability of creativity appearance in spoken English has a strong and direct correlation with respect to tenor variation, in a way that not only does creativity in language closely follow, as Carter (2004, p. 206) has argued, with the level of intimacy and the number of participants involved in an interaction in certain context types, but also more specifically in an increasing fashion as Power, Contact and Affective Involvement gain. Thus, instead of a two-dimensional corpus matrix, a three-dimensional tenor 'space' with a vector within this space representing the possibility of creativity occurrence will make a more appropriate representation of the scenario. Keeping this representational concept in

mind, there is still a descriptive value of context to be assimilated into the new model – field.

6.3.2.2. Merging with Registerial Cartography

Given that the twelve examples in the creativity matrix are in fact data collected from the CANCODE corpus and therefore are reliable representations of different text types in the corpus, it is reasonable and possible to locate where each of them falls within Matthiessen (2009)'s registerial cartography – the categorisation of **socio-semiotic processes**, or **field of activity** within context. Table 33 shows the outcome yielded after the characterisation of examples in the creativity matrix according to the definitions of fields of activity (Matthiessen, 2015b; Matthiessen & Kashyap, 2014).

Context type (communication varies according to cultural and language affiliation) (monologue)	Interaction type (including hybrid forms and embedding for creative purposes) (dialogue)		
	Information provision	Collaborative task	Collaborative id... Increasing level of equality
Transactional (low affective involvement)	commentary by museum guide (expounding, reporting)	choosing and buying a television (doing)	chatting with hairdresser (sharing - conversation)
Professional	oral report at group meeting (reporting)	colleagues window dressing (doing)	planning meeting at place of work (exploring-discussion)
Socialising	telling jokes to friends (recreating-dramatising)	friends cooking together (doing); on-line communication in MUD game (doing)	reminiscing with friends(Sharing-Reminiscing); adolescents insulting an adult authority figure (Sharing - Gossip)
Intimate (high affective involvement) Increasing level of intimacy	partner relating the story of a film seen (exploring)	couple decorating a room (doing)	siblings discussing their childhood (Sharing-Reminiscing) Hong Kong C... ...ing in E... ...e (Sharing-email) Increasing level of contact

Table 33 Creativity matrix, three tenor continua & socio-semiotic processes (large and small arrows indicate major and minor trends respectively)

Provided that the twelve examples in the creativity matrix are indeed as accurately represented in its original content as its wordings, then the mapping of these examples onto the registerial cartography will be straightforward and precise. The following part is an analytical walk-through of the reasoning involved in the process of mapping. Do note that further examples given after each explanation are not from the actual content of the matrix's examples but only to serve as supplementary resources to help the understanding.

When considering information provision category under context type which is strictly a one-speaker dominated discourse, *commentary by museum guide* often **expounds**

knowledge such as scientific theories either by **categorizing** or **explaining** the phenomena, or **reports** on certain historical events to the visitors, depending on the types of museums the participants were recorded in – a science museum or a history museum, as well as the focus on the discourse, therefore both expounding and reporting are possible. *Oral report at group meeting*, as the name suggests, will most likely be dominated by **reporting** of experiences, through **chronicling** the flow of certain events such as giving an oral annual report on a company's achievements, **surveying** particular places such as a site visit report or **inventorying** particular entities such as existing stocks in the inventory. *Telling jokes to friends* often involves **recreating** real world experiences by using the speaker's imaginations through **narrating** and/or **dramatizing** to draw attention such as exaggerating funny animal moments in America's Funniest Home Videos. Finally, *partner relating the story of a film seen* functions very much in the area of **exploring** values and positions by **reviewing** commodities or **arguing** about positions, such as discussing what they like about the Marvel superheroes movie *Avengers: Age of Ultron*.

Collaborative task, as the term suggests, would fit well into social process of **doing**, though other types of processes are expected to appear. *Choosing and buying a television* in transactional context type – presumably between family members or friends as customers discussing which one to buy and a staff at an electronics store, is clearly to facilitate the negotiation of product exchange and is therefore to 'get things done', that is to choose the most suitable television and purchasing it, despite the fact that semiotic process such as **recommending** (i.e. **promoting** and **advising**) is expected to appear in the seller's discourse. Also, **recommending** is not considered in this case as the example would have been *selling a television to a customer* instead. As for *colleagues window dressing*, *friends cooking together*, *on-line communication in MUD game* and *couple decorating a room*, though possibly involving certain **enabling** exchanges of instructions or procedures for window-dressing, steps and recipes for cooking, gamers sitting next to each other chatting about the battles and tactics, as well as the negotiation of views and opinions about decorating, "the category of

collaborative task is reserved for task-oriented communication" (Carter, 2004, p. 149), which suggests **directing** or **collaborating** to play major roles in these examples, thus making **doing** the definitive field of activity.

Last but not least, collaborative idea refers to the "interactive sharing of thoughts, opinions and attitudes" (Carter, 2004, p. 149) , thus **sharing** is expected to play a dominating role in the discourse concerned. *Chatting with hairdresser* is very much a **sharing of experience** about hair styling and daily happenings, with quite possibly some instances of **recreating** aspects such as jokes in the conversation. *Planning meeting at place of work* may seem to include instances of **exploring**, i.e. **reviewing** or even **arguing** in the discussion, however as **exploring** appears "typically between one person (a professional or a member of the general public) and some segment of these general public, so between strangers" (Matthiessen & Teruya, 2013), thus **sharing values** and/or **experiences** would be relatively more appropriate. As for the remaining four examples, **reminiscing** with friends is a form of **sharing** of personal experiences and memories; *adolescents insulting an adult authority figure* falls within the category of gossip thus a form of **sharing of value**; siblings discussing their childhood is again **sharing of reminiscence**; *Hong Kong Chinese friends emailing in English in mixed code* is **sharing of cultural experience and identities** embedded in their choice of language in the mode of email (note that emailing is not formally spoken English but may be presented as a written form of spoken English when mixed code is adopted).

Results from the above analysis shown in Table 33 can be graphically represented as a three-dimensional tenor 'space' having axis Contact, Power and Affective Involvement with a Cline of Creativity, represented by a vector extending from occasional-unequal-low to frequent-equal-high. Each coloured area formed between the cline of creativity and any one of the three planes represents the probability (relative probability in this particular case and not of fixed value probability) for linguistic creativity to appear in each field of activity, as illustrated in Figure 46 below:
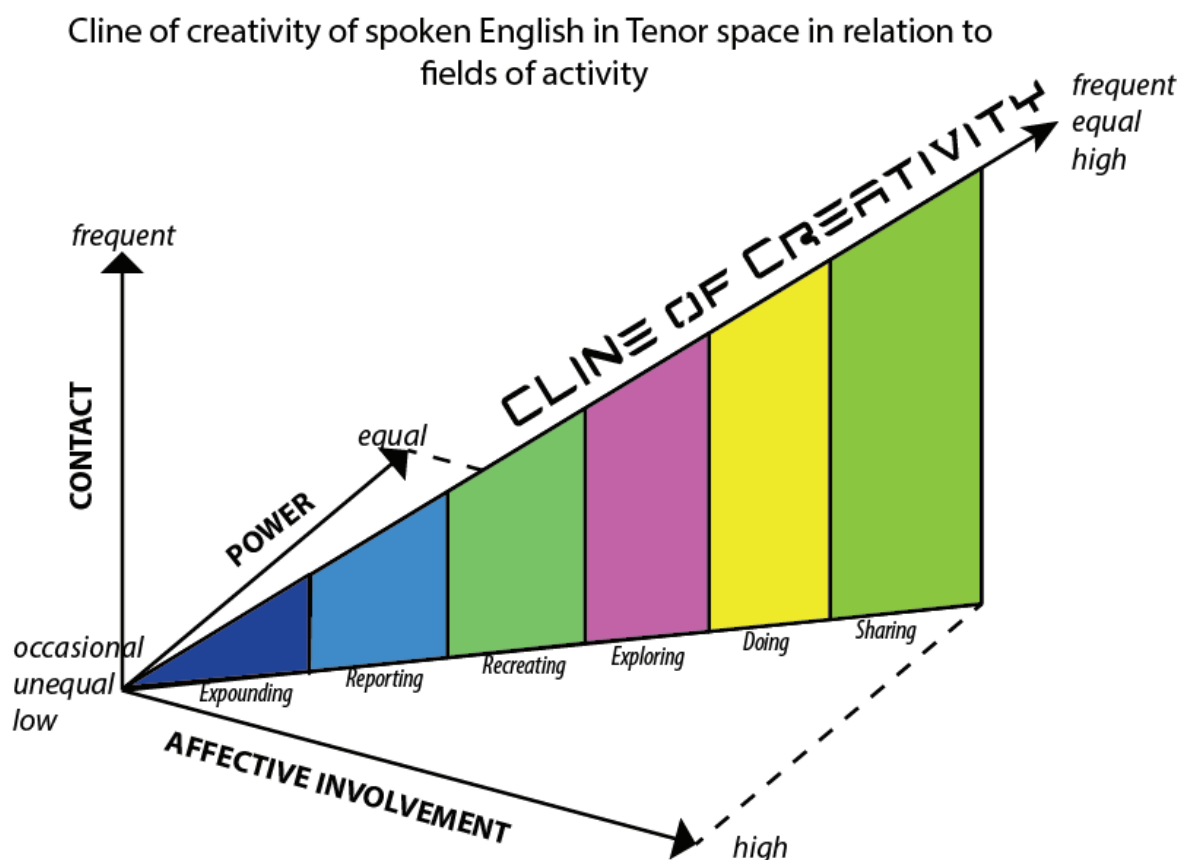
Figure 46 The Creativity-In-Register Cube Framework (CIRCF): a graphical representation of creativity with respect to tenor and socio-semiotic processes

The above diagram has demonstrated a new graphical representation of the probabilistic nature of creativity language use in spoken English (Mode) with respect to tenor and fields of activity (Field). Although this **Creativity-In-Register Cube Framework (CIRCF)** in Figure 46 represents solely the 'behaviour' of linguistic creativity through a single mode relying purely on examples from a single corpus, its key contribution lies in this new, three-dimensional perspective on the graphical interpretation of creativity which, thanks to its highly flexible 'vector-in-space' design, can be used to denote different cline patterns of creativity in various modes as well as the probability allocation of such creativity for each field of activity, whether in a pure corporal statistical fashion or in a relative abstract manner, given the information on tenor is known.

6.3.2.3. Creativity-In-Register Cube Framework (CIRCF) Explained

The description of CIRCF is unequivocal. For this particular corpus, the CANCODE corpus, the cline of creativity begins with fields of activity in the order of **expounding** – the lowest in Contact, Affective Involvement and Power, followed by **reporting**, **recreating**, **exploring**, **doing** and **sharing** – the highest in Contact, Affective Involvement and Power. Since the data does not come with actual statistics for each text types, the cline of creativity could be an upward curve in reality, but it is represented as a straight line for convenience sake.

In terms of the analysis of the ranking of fields of activity along the cline of creativity in Figure 46, it is not surprising to see **expounding** and **reporting** being closest to the origin of the three-dimensional tenor space near occasional Contact, unequal Power and low Affective Involvement. Discourse in these two fields of activity, with examples given as *commentary by museum guide* (expounding, reporting) and *oral report at group meeting* (reporting), tends to be more formal (Eggins, 2004) and typical formal situations involve unequal, hierarchic power, infrequent or one-off contact and low affective involvement (Eggins, 2004) as shown in Table 31. Speakers are more likely to be individualistic and follow a stricter, predetermined 'scripts', thus limiting the room and need for creativity.

Recreating and **exploring** (involving narrating or dramatizing, and reviewing or arguing respectively), having higher values in all three tenor continua, enjoy a relatively higher level of conversational participation and thus providing opportunities for creativity to develop, even though a disproportion in the amount of contribution between speakers can still be observed. Situations in which participants can find chances of less restrictive recreating and exploring spoken discourse could be inferred as having a less formal atmosphere than that is expected in expounding and reporting activities.

Doing on the other hand, is not monologic by definition (Matthiessen, 2015b), meaning that there cannot be a domination of conversation by one single participant. Speakers are expected to share a fair amount of chances in contributing to the conversation, be of relatively equal or slightly unequal power in order to cooperate in a collaborative task and be involved in dialogues, as oppose to **enabling: instructing/ regulating** which usually involves parties of unequal power. Their level of affective involvement and frequency of contact have helped ease formality, allowing creative language uses to fill gaps in between task-oriented turns.

Finally, **sharing** of **values** and **experiences**, due to its informality, that is equal power, frequent contact and high affective involvement (Eggins, 2004) as shown in Table 31, provides the highest freedom for verbal contribution from each speaker with relatively fewer restrictions on maintaining politeness and less concern for reaching agreement (Eggins, 2004). Co-construction and recycling of words and phrases forming patterns in creativity are abundant in such situation.

As the analytical walk-through reaches an end, it is worth noting several major properties of CIRCF:

1. This model's design is unbiased in itself and does not offer any definitions for "creativity". It purely represents the probabilistic nature of creative language productions with respect to field, tenor and mode within a particular timeframe based on the definition of "creativity" established by a particular analyst of a certain cultural background at the time of CIRCF construction.

2. Interpretation of input attributes or factors such as the degree of power, contact, affective involvement or even what is considered as 'creative' data as a whole, is very much dependent on a particular analyst and may not "accord with the value systems or observations of participants" (Carter, 2004, p. 165).

3. Indeterminacy and hybridity (Matthiessen & Teruya, 2013) do exist in some of the matrix's examples, as acknowledged by Carter (2004, p. 149) as the term

"embedding", nevertheless, CIRCF does not restrict further expansion or division along such lines of investigation or categorisation. In fact, it encourages it.

4. The cline of creativity can theoretically be of any shapes and curvature, which area this cline forms with which plane to represent certain probability of creative language occurrences is freely definable by the analysts.

5. The cline of creativity is expected to vary with respect to changes in field, mode, tenor, language, culture, time and data from a different corpus even if all CIRCF variables remain constant.

6. The CIRCF is not limited by its singular three-dimensional cubical design, that is to say, given adequate evidence to support any forms of correlations between similar field, tenor, mode and cline of creativity, a formation of a multi-cube or even a tesseract in four-dimensional space is theoretically possible.

6.3.2.4. Summary

Apart from the above-mentioned properties, this successful blend of the cline of creativity, Carter's (2004) creativity matrix, Matthiessen's (2009; 2015b) registerial cartography as well as Poynton's (1985) three tenor continua has embedded in itself a measure of triangulation, thus any irregularities in the input data (whether it is due to bias, imbalanced corporal construction, data corruption, cultural difference, or paradigm shift, to name a few) can be made obvious to the human eyes through CIRCF's graphical representation.

Retrospectively, CIRCF (and Carter's (2004) creativity matrix as a matter of fact) also resonates with Csikszentmihalyi's (1988; 1997; 1999) and Kerrigan's (2013) Systems Model of Creativity from psychology and psycholinguistics in terms of attributes considered in their model construction. Even though the terms of attributes differ in naming and stratification, the concepts do share a lot of similarity, such as the notion of

field versus field, tenor versus personal background/idiosyncratic background, and mode versus domain.

All in all, while this new proposed model has made use of Carter's (2004, p. 208) creativity matrix of spoken English as a foundation of modelling, CIRCF has in fact moved away from the original "static" illustration of individual examples to a "dynamic" representation. Therefore, it has addressed precisely some inadequacy in Carter's creativity matrix model, that is, its capability of capturing "the shifting and overlapping nature of discourse creativity" as well as perfecting the analogy of creativity as a continuum which shading of the creativity matrix cannot achieve (2004, p. 208). It is hoped that this proposed model has now opened a new dimension in both the modelling and description of creativity from a systemic functional linguistics perspective.

6.3.3. Quantitative Analysis of Pattern-forming Creativity

6.3.3.1. Introduction

The starting point of this quantitative analysis requires an elicitation of semiotic resources from HMDC as well as the video content at the moments of pattern-forming creativity. These semiotic resources, belonging to Field, Tenor and Mode which form the basis of systemic functional linguistics, hold crucial information to the relationship between pattern-forming creativity and (scripted) conversations.

Figure 47 Screen-capture of an 'All instances' quantitative analysis Excel sheet

A new 'All instances' Excel spreadsheet, as shown in Figure 47, is compiled from every MI-sorted list (as shown in Figure 40) of all concgrams of pattern-forming creativity first appearance (marked 'Y' under column '1st instance?' with the row highlighted as shown in Figure 39) of every episode listed in the Excel sheet 'every 3 episodes' that is used in section 0 above. Note that this 'All instances' Excel spreadsheet can also be compiled using every *t*-score-sorted list as shown in Figure 41 and results will remain the same as MI and *t*-score values are not considered in this analysis. Qualitativeness-wise, the origin word and co-occurred word might occasionally differ for the same concgram, but that is not a concern for this quantitative analysis.

This 'All instances' Excel sheet adds the columns 'Season' and 'Episode' to indicate the original source of the concgrams. Concgrams from different episodes are separated by an empty row for better visibility. Each concgram's concordance lines are listed in their respective row under the column 'Concordance lines'. From each row of concordance lines, the second appearance (not the second instance or number 2 of the concordance lines, as the second instance may sometimes be the first appearance of the instance in the episode), that is the instance of repetition, was then referred to its original drama scene to give values to the columns including 'Creator' (Tenor), 'Location' (Field), 'Conversation type' (Register), 'Socio-semiotic process' (Field) and 'Grid number' (CIRCF).

Under the 'Creator' column, the value is recorded in <creator> - <target> format, for <creator> is the user of pattern-forming creativity while <target> is the person to whom the use of pattern-forming creativity is targeted. Taking the first co-constructed pattern-forming creative concgram 'human' and 'connection' from Figure 47 as example and extracting the excerpt from the fan script as follows:

……

WILSON: [stopping while House walks ahead] Where are you going?

HOUSE: Going to see the patient. That all-important <u>human connection</u>. Thought I'd give it a whirl.

......

[House joins other docs]

WILSON: Learn anything from the "<u>human connection</u>"?

HOUSE: Yeah. The Mets suck. Also, for the last two months, she hasn't shaved her legs. Because of the tremors, she cuts herself.

CHASE: The tremors aren't new, she must always cut herself.

HOUSE: Exactly. Something changed in the last two months. I'm thinking the amount of blood when she cut herself. So let's start with some bloodwork. Collect and send for clotting studies, PT, PTT, factor 5, protein, CNS, the whole shebang.

WILSON: [walking away] Good luck.

From the above excerpt, <creator> is Wilson and <target> is House, therefore the value is "Wilson-House". The creative instance happened in the hospital corridor as seen from the video, hence the value "hospital corridor" under column 'Location'.

'Conversation type' refers to the type of conversation in which the interlocutors are engaged in during the second appearance of the pattern-forming creativity. It is a description of the main purpose of a discourse. Using the same example mentioned above, Wilson and House were engaging in differential diagnosis, therefore the value is "DDX-ing".

'Socio-semiotic process' marks the field of activity for the key purpose of the second appearance of the pattern-forming creativity instance. Following the diagram of

registerial cartography in Figure 45, there are 17 combinations in total. From the excerpt, House was mainly involved in a verbal explanation to Wilson during a DDX, hence "expounding-explaining" as the value.

Context type (communication varies according to cultural and language affiliation) (monologue)		Interaction type (including hybrid forms and embedding for different purposes) (dialogue)		Increasing level of equality
	Information provision	Collaborative task	Collaborative idea	
Transactional (low affective involvement)	1	2	3	
Professional	4	5	6	
Socialising	7	8	9	
Intimate (high affective involvement)	Increasing level of intimacy	10	11	12	Increasing level of contact

Table 34 Assigning Grid Numbers to Creativity Matrix (large and small arrows indicate major and minor trends respectively)

Lastly, 'CIRCF Grid Number' corresponds to the number assigned to each grid of Carter's (2004) creativity matrix as shown in Table 34. From 1 to 12, the grids are numbered in an ascending manner according to an increasing level of Contact in the three tenor continua, as indicated by the small arrows in the table. Continuing with the example, Wilson's use of pattern-forming creativity, a repetition of House's own words several scenes ago, was an intention to draw explanation from House during a DDX in order to get updates about a patient, as such, it is a collaborative idea belonging to the interaction type in a professional context. As a result, CIRCF Grid Number '6' best fits this scenario, representing an occurrence of pattern-forming creativity that is collaborative idea-oriented with high equality of power and a contact level of 6 on the scale of 12 at a professional level of affective involvement. Basically, CIRCF Grid Number represents the degree of power, contact and affective involvement from the three tenor

continua by Poynton (1985). CIRCF Grid Number will be used mainly in Section 6.3.3.3 Pattern-forming creativity created by House targeting other character.

Using various Microsoft Excel tools such as PivotTables and PivotCharts on the 'All instances' Excel sheet shown in Figure 47, pattern-forming creativity can be analysed computationally and visually to unveil any patterns or correlations with various semiotic resources.

6.3.3.2. Pattern-forming creativity by conversation type and socio-semiotic process

6.3.3.2.1. General

Socio-semiotic process	Count of Socio-semiotic process	Percentage
⊞exploring	204	36.30%
⊞expounding	138	24.56%
⊞sharing	107	19.04%
⊞enabling	47	8.36%
⊞recreating	40	7.12%
⊞recommending	13	2.31%
⊞reporting	10	1.78%
⊞doing	3	0.53%
Grand Total	562	100.00%

Table 35 PivotTable of pattern-forming creativity in 'every 3 episodes by fields of activity

Table 35 shows a PivotTable generated from the 'All instances' Excel spreadsheet which contains data of pattern-forming creativity collected from 67 episodes of HMDC listed in Excel sheet 'every 3 episodes'. A total of 562 concgrams of pattern-forming creativity a collected. Ranking by socio-semiotic process in descending order of counts and percentages (and all subsequent percentages in this section are percentages of the grand total): exploring (204, 36.30%), expounding (138, 24.56%), sharing (107, 19.04%), enabling (47, 8.36%), recreating (40, 7.12%), recommending (13, 2.31%), reporting (10,

1.78%) and doing (3, 0.53%). The figures listed above illustrate the socio-semiotic processes involved in the production of pattern-forming creativity in the TV drama, which in a way, partially depict the overall construction of content of the series. While this study has not considered the duration of time allocated for each field of activity in all conversations of the TV drama and the proportion of any fields of activity in extracted pattern-forming creativity does not necessarily equates the proportion of fields of activity appeared in all conversations in the entire series, the results shown in Table 35 do shed light on how pattern-forming creativity or creativity in general might contribute to viewers' perception of the show. Given that *House M.D.* is a medical dramedy surrounding the search for answers to numerous medical mysteries, it makes sense that it involves much exploring and expounding as the main socio-semiotic processes (in about one in every three occurrences and one in every four occurrences of pattern-forming creativity respectively), more so than sharing which is mainly expected in the soap of the TV drama (about one in every five occurrences of pattern-forming creativity). The rest such as enabling, recreating, recommending, reporting and doing may be more difficult for viewers to perceptualise and quantify, making such quantitative analysis worthy of attention.

Socio-semiotic process	Count	Percentage
exploring		
exploring-arguing	**195**	**34.70%**
DDx-ing	77	13.70%
Chat	33	5.87%
Negotiation	25	4.45%
Doctor-patient talk	15	2.67%
Private chat	14	2.49%
Stating believes	11	1.96%
Intrapersonal conversation	4	0.71%
Joke	3	0.53%
Quarrel	3	0.53%
Analysing Kutner's death	3	0.53%
Employer-employee talk	3	0.53%
Testimony	2	0.36%
Disciplinary hearing	1	0.18%
Doctor-patient's family talk	1	0.18%
exploring-reviewing	**9**	**1.60%**
Doctor-patient talk	4	0.71%
DDx-ing	2	0.36%
Employer-employee talk	2	0.36%
Private chat	1	0.18%
expounding		
expounding-explaining	**138**	**24.56%**
Doctor-patient talk	27	4.80%
Chat	26	4.63%
DDx-ing	19	3.38%
Private chat	15	2.67%
Doctor-patient's family talk	13	2.31%
Employer-employee talk	12	2.14%
Stating believes	7	1.25%
Disciplinary hearing	4	0.71%
Negotiation	4	0.71%
Final diagnosis	4	0.71%
Interview	2	0.36%
Hallucinating	1	0.18%
Flirting	1	0.18%
Joke	1	0.18%
Translating	1	0.18%
Analysing Kutner's death	1	0.18%
sharing		
sharing-sharing experiences	**54**	**9.61%**
Private chat	22	3.91%
Chat	22	3.91%
Negotiation	4	0.71%
Doctor-patient talk	3	0.53%
DDx-ing	2	0.36%
Testimony	1	0.18%
sharing-sharing values	**53**	**9.43%**
Chat	27	4.80%
Private chat	15	2.67%
Stating believes	3	0.53%
DDx-ing	3	0.53%
Doctor-patient talk	3	0.53%
Doctor-patient's family talk	2	0.36%

Socio-semiotic process	Count	Percentage
enabling		
enabling-instructing	**40**	**7.12%**
DDx-ing	17	3.02%
Giving procedural instructions	9	1.60%
Employer-employee talk	6	1.07%
Chat	2	0.36%
Private chat	2	0.36%
Doctor-patient talk	1	0.18%
Quarrel	1	0.18%
Telephone chat	1	0.18%
Negotiation	1	0.18%
enabling-regulating	**7**	**1.25%**
DDx-ing	2	0.36%
Negotiation	2	0.36%
Employer-employee talk	2	0.36%
Provoking	1	0.18%
recreating		
recreating-dramatising	**38**	**6.76%**
Joke	19	3.38%
Chat	5	0.89%
Private chat	4	0.71%
Doctor-patient talk	4	0.71%
Negotiation	2	0.36%
Employer-employee talk	2	0.36%
Quarrel	1	0.18%
Doctor-patient's family talk	1	0.18%
recreating-narrating	**2**	**0.36%**
DDx-ing	1	0.18%
Chat	1	0.18%
recommending		
recommending-advising	**8**	**1.42%**
Chat	3	0.53%
Private chat	2	0.36%
Negotiation	1	0.18%
Doctor-patient talk	1	0.18%
Employer-employee talk	1	0.18%
recommending-promoting	**5**	**0.89%**
Praise	2	0.36%
Negotiation	1	0.18%
Chat	1	0.18%
Interview	1	0.18%
reporting		
reporting-chronicling	**9**	**1.60%**
Employer-employee talk	3	0.53%
Doctor-patient talk	2	0.36%
Giving procedural instructions	1	0.18%
DDx-ing	1	0.18%
Chat	1	0.18%
Doctor-patient's family talk	1	0.18%
reporting-surveying	**1**	**0.18%**
Chat	1	0.18%
doing		
doing-collaborating	**1**	**0.18%**
Chat	1	0.18%
doing-directing	**2**	**0.36%**
Private chat	1	0.18%
Employer-employee talk	1	0.18%
Grand Total	**562**	**100.00%**

Table 36 PivotTable of counts and percentages for each type of fields of activity

Table 36 further subdivides the figures shown in Table 35 into different types of fields of activity and provides the counts and percentages for each of the type as well as for the conversation types belonging to each type of fields of activity. A total of 15 types of fields of activity is documented. In 204 concgrams of Exploring, 195 (34.70%) of them are of arguing, indicating that arguing plays the most crucial role in pattern-forming creativity in *House M.D.* The second highest is Expounding with 138 concgrams, all of which are of the type explaining (24.56%). Sharing is ranked the third highest with 54 concgrams in sharing experiences (9.61%) and almost equally at 53 concgrams in sharing values (9.43%). Enabling consists of 40 concgrams of instructing (7.12%) whereas Recreating consists of 38 concgrams in dramatising (6.76%). The rest of the types below 5% are Exploring-reviewing and Reporting-chronicling both at 9 concgrams (1.60%), Recommending-advising at 8 concgrams (1.42%), Enabling-regulating at 7 concgrams (1.25%), Recommending-promoting at 5 concgrams (0.89%), Recreating-narrating and Doing-directing both at 2 concgrams (0.36%), and finally Reporting-surveying and Doing-collaborating both at 1 concgrams (0.18%).

Extending the above analysis into the quantification of conversation type as shown in Table 36, one is able to see how each conversation type is contributing to the various types of fields of activity. Significant percentage cut-off is set such that only types of socio-semiotic process above 5% and conversation types higher than 1% are considered in the following analysis:

In 195 concgrams (34.70%) of Exploring-arguing, DDX-ing contributed 77 concgrams (13.70%), followed by chat at 33 concgrams (5.87%), negotiation at 25 concgrams (4.45%), doctor-patient talk at 15 concgrams (2.67%), private chat at 14 concgrams (2.49%) and lastly stating believes at 11 concgrams (1.96%). In 138 concgrams of Expounding-explaining, doctor-patient talk and chat are near equal numbers, 27 for the former (4.80%) and 26 for the latter (4.63%). DDX-ing is third with 19 concgrams (3.38%), private chat with 15 (2.67%), doctor-patient's family talk with 13 (2.31%), employer-employee talk with 12 (2.14%) and stating believes with 7 (1.25%). 54

concgrams of Sharing-sharing experiences includes 22 from both private chat and chat (3.91%), while 53 concgrams of Sharing-sharing experiences have chat before private chat at 27 (4.80%) and 15 (2.67%) concgrams respectively. Among 40 concgrams of Enabling-instructing, 17 are from DDX-ing (3.02%), 9 are from giving procedural instructions (1.60%) and 6 are from employer-employee talk (1.07%). Finally, exactly half of the 38 concgrams of Recreating-dramatising are from joke (3.38%).

6.3.3.2.2. DDX-ing

Socio-semiotic process	Count	Percentage
⊟**exploring**		
⊟**exploring-arguing**	**195**	**34.70%**
⊟DDx-ing	77	13.70%
House's conference room	42	7.47%
Hospital corridor	8	1.42%
House's office	6	1.07%
Patient's room	3	0.53%
Airplane	3	0.53%
Hospital cafeteria	2	0.36%
Cuddy's office	2	0.36%
Outside OR	1	0.18%
Morgue	1	0.18%
Dark room	1	0.18%
Toilet	1	0.18%
Operating room	1	0.18%
Doctor's lounge	1	0.18%
Hospital lecture hall	1	0.18%
Procedure room	1	0.18%
Locker room	1	0.18%
Lab	1	0.18%
House's conference room-Wilson's car at car park	1	0.18%

⊟ **expounding**			
⊟ **expounding-explaining**		138	24.56%
⊟ DDx-ing		19	3.38%
House's conference room		8	1.42%
Hospital corridor		3	0.53%
Hospital lecture hall		2	0.36%
House's office		1	0.18%
Hospital chapel		1	0.18%
Inside a car		1	0.18%
Airplane		1	0.18%
Cuddy's office		1	0.18%
Hospital lobby		1	0.18%
⊟ **enabling**			
⊟ **enabling-instructing**		40	7.12%
⊟ DDx-ing		17	3.02%
House's conference room		8	1.42%
Hospital corridor		3	0.53%
House's office		2	0.36%
Patient's room		1	0.18%
Outside OR		1	0.18%
Hospital lecture hall		1	0.18%
Lab		1	0.18%

Table 37 Excerpt of PivotTable for DDX-ing

From the above figures, it is apparent that the doctors of the drama *House M.D.* most frequently used conversation type of pattern-forming creativity during the differential diagnosis (DDX) stage. Conversation type '**DDX-ing**' is a discourse happening during the differential diagnosis stage in which doctors distinguish "a disease or condition from others presenting similar symptoms", as defined by Merriam-Webster medical dictionary (Merriam-Webster, 2017). An example of DDX-ing with pattern-forming creativity from Season 1 Episode 1 *Pilot: Everybody Lies* (pattern-forming creativity underlined) is provided below:

Foreman: I still think it's a tumor. I think we should go back to the radiation.

Chase: She didn't respond to the radiation.

Foreman: Well, maybe we didn't see the effects until we started steroids.

House: No, it's not a tumor. The steroids did something, I just don't know what.

Foreman: So we're just gonna do nothing? <u>We're just gonna watch her die?</u>

House: Yeah, <u>we're gonna watch her die</u>. <u>Specifically we're gonna watch how fast she's dying</u>. You just told us, each diagnosis has its own timeframe. When we see how fast it's killing her we'll know what it is.

Significant percentages of DDX-ing have been recorded in mainly three types of socio-semiotic process, namely Exploring-arguing, Expounding-explaining and Enabling-instructing. Table 37 shows an excerpt of an extended version of PivotTable Table 36 for conversation type 'DDX-ing'. DDX-ing constitutes to a total of 123 concgrams (113 above 1% significance in conversation types). Among the 77 concgrams (13.70%) of DDX-ing in 195 concgrams (34.70%) of Exploring-arguing, the top 3 most frequent locations of occurrence are House's conference room (42 concgrams, 7.47%), hospital's corridor (8 concgrams, 1.42%) and House's office (6 concgrams, 1.07%). In 138 concgrams (24.56%) of Expounding-explaining, DDX-ing accounts for 19 concgrams (3.38%), and the top 3 most frequent locations of occurrence are House's conference room (8 concgrams, 1.42%), hospital's corridor (3 concgrams, 0.53%) and hospital lecture hall (2 concgrams, 0.36%). In 40 concgrams (7.12%) of Enabling-instructing, 17 concgrams (3.02%) belongs to DDX-ing, and the top 3 most frequent locations of occurrence are House's conference room (8 concgrams, 1.42%), hospital's corridor (3 concgrams, 0.53%) and hospital lecture hall (2 concgrams, 0.36%). As shown in Table 38, there is a total of 22 locations for DDX-ing and can be classified into mainly two groups of settings, 20 of which are within hospital premises such as House's conference room, hospital corridor, House's office, hospital lecture hall, patient's room, Cuddy's office, outside operating room (OR), hospital cafeteria, lab, dark room, hospital chapel, procedure room, House's conference room-Wilson's car at car park, lift, toilet, locker room, hospital lobby and morgue. Two other venues such as on an airplane and inside a car is also recorded.

Locations of DDX-ing	Count	Percentage
House's conference room	65	52.42%
Hospital corridor	16	12.90%
House's office	10	8.06%
Airplane	4	3.23%
Hospital lecture hall	4	3.23%
Patient's room	4	3.23%
Cuddy's office	3	2.42%
Outside OR	2	1.61%
Hospital cafeteria	2	1.61%
Lab	2	1.61%
Dark room	1	0.81%
Hospital chapel	1	0.81%
Procedure room	1	0.81%
Inside a car	1	0.81%
Operating room	1	0.81%
Doctor's lounge	1	0.81%
House's conference room-Wilson's car at car park	1	0.81%
Lift	1	0.81%
Toilet	1	0.81%
Locker room	1	0.81%
Hospital lobby	1	0.81%
Morgue	1	0.81%
Grand Total	124	100.00%

Table 38 Locations for socio-semiotic process of DDX-ing

One of the main features of this stage as presented in the drama is the rapid firing of ideas from House's fellows while House "get your theories, mock them, then embrace my own" (Season 3 Episode 10 *Merry Little Christmas*), a process designed by House in order to get "the next good idea" in solving his medical puzzle (Season 4 Episode 7 *Ugly*). Such moments of high production of dialogues of which the main characters engaged in ideational crossfire have provided a breeding ground for frequent co-construction of creativity. The results presented above suggest that pattern-forming creativity is most frequently used within the hospital setting, or more specifically, areas which are mostly within House's reach and quite possibly his favourite places for discussing cases with his team, carrying out his thinking process and in a less subtle way,

teaching his fellows. All of these DDX-related activities apparently involve explaining and arguing over the use of medical tests, medical diagnosis and treatment options, as well as instructing medical staff to perform their duties. From Table 38 Locations for socio-semiotic process of DDX-ing, it can be seen that **House's conference room** is the most DDX-intensive pattern-forming creativity hotspot with 65 concgrams (52.42%) across all three types of fields of activity. **Hospital corridor** is the next DDX-friendly with 16 concgrams (12.90%) while **House's office** is third with 10 concgrams (8.06%). Such figures provide strong evidence as to where (i.e. the location) and when (i.e. when the scenes are filmed in the above locations) viewers of the TV drama are expected to find the highest occurrences of pattern-forming creativity. House's conference room accounted for 52.42% of the total number of pattern-forming creativity in DDX-ing, which means every one out of two creative instances of DDX-ing related happens inside House's conference room, where House and his diagnostic team sit down to argue and explain diagnosis, as well as receiving treatment instructions. Frequency count of such creative instances is 4 times higher than the second most frequent creativity producing venue – hospital corridor. The obvious unusuality of the three numbers above is the higher count for hospital corridor than for House's office, as one would have expected DDX-related discussions, debates and instructions giving to be performed within rooms with doors to protect patient's confidentiality rather than in public area such as the hospital corridors. However, because House rarely remembers his patients' names (Cascione, 2010) and people of the public will not be able to identify exactly which patients House and team are DDX-ing, therefore DDX-ing with his team along hospital corridors has made sense in this TV drama. In fact, the starting point of the TV series, as told by executive producer Katie Jacobs (Season 8 _Swan Song,_ 7:01), was that the character House was designed to walk with a cane because she "wanted someone who could walk down those halls and hold the center". The result is House's signature modus operandi, that he walks rapidly with a cane in his hand along and sometimes round and round hospital corridors while discussing cases with his team following closely behind him (Barnett, 2010). The fact that there are 6 more concgrams of pattern-forming

creativity found happening along hospital's corridors than inside House's office (and apparently far fewer than in House's conference room) suggests how pattern-forming creativity varies with locations, which in turn indicates how interactions between characters and therefore the type of discourse shift from venue to venue.

7	18 Going	twice	2	0.38835	1.399793	6.615761	Y	Non-co-cons	Y	1	the rest of	House-team	House's conference room	DDx-ing	enabling-regulating	9
7	18 crack	team	2	0.38835	1.405973	7.423116	Y	Non-co-cons	Y	1	sulfide is	House-team	House's conference room	DDx-ing	enabling-instructing	5
7	15 blood	peeing	2	0.193986	1.371787	5.056894	Y	Co-construct	Y	1	I think I just	House-team	House's conference room	DDx-ing	expounding-explaining	4
1	4 dumb	version	2	0.403226	1.408001	7.830515	Y	Non-co-cons	Y	1	back to the	House-team	House's conference room	DDx-ing	exploring-arguing	6
1	1 pork	Where	2	0.223714	1.703263	5.910893	Y	Non-co-cons	Y	1	Where there 's	House-team	House's conference room	DDx-ing	expounding-explaining	9
6	7 knows	rhabdo	2	0.286533	1.676342	4.958421	Y	Non-co-cons	Y	1	it 's rhabdo,	House-team	House's conference room	DDx-ing	exploring-arguing	6
6	4 Meeting	Where	2	0.326797	1.403736	7.076519	Y	Non-co-cons	Y	1	The Egypt	House-team	House's conference room	DDx-ing	exploring-arguing	6
5	17 cool	neighborhoo	2	0.232288	1.408888	8.052794	Y	Non-co-cons	Y	1	fun would that	House-team	House's conference room	DDx-ing	exploring-arguing	6
5	12 pain	killer	2	0.284091	1.314998	3.833292	Y	Non-co-cons	Y	1	brain	House-team	House's conference room	DDx-ing	exploring-arguing	6
5	12 cure	torture	2	0.284091	1.40004	6.640647	Y	Co-construct	Y	1	killer pain. Take	House-team	House's conference room	DDx-ing	exploring-arguing	6
5	1 die	watch	2	0.223714	1.365735	4.896498	Y	Non-co-cons	Y	1	gonna do	House-team	House's conference room	DDx-ing	enabling-instructing	6
5	12 rain	singing	2	0.284091	1.407914	7.810572	Y	Non-co-cons	Y	1	Thirteen and	House-team	House's conference room	DDx-ing	exploring-arguing	6
1	1 strong	sick	4	0.449438	1.990183	7.670538	Y	Non-co-cons	Y	1	symptoms. Why	House-team	House's conference room	DDx-ing	exploring-arguing	4
4	3 explanation	simplest	2	0.213675	1.40825	7.889504	Y	Co-construct	Y	1	simultaneously?	House-team	House's conference room	DDx-ing	expounding-explaining	6
1	13 One	invites	2	0.240096	1.374425	5.151502	Y	Non-co-cons	Y	1	them with a	House-team	House's conference room	DDx-ing	exploring-arguing	4
4	3 as	really	2	0.213675	1.406759	7.507576	Y	Non-co-cons	Y	1	each year from	House-team	House's conference room	DDx-ing	expounding-explaining	6
3	13 pleasure	say	2	0.240096	1.39653	6.321427	Y	Non-co-cons	Y	1	were wrong.	House-team	House's conference room	DDx-ing	sharing-sharing values	6
3	3 million	shot	3	0.320513	1.710138	6.304541	Y	Co-construct	Y	1	it 's not the	House-team	House's conference room	DDx-ing	exploring-arguing	6
3	23 Normal	treatment	4	0.492611	2.390511	5.376143	Y	Co-construct	Y	1	the swelling,	House-team	House's conference room	DDx-ing	exploring-arguing	6
3	23 beat	someone	2	0.246305	1.394756	6.183498	Y	Non-co-cons	Y	1	fight after	House-team	House's conference room	DDx-ing	exploring-arguing	6
3	23 getting	lethargic	2	0.246305	1.410971	8.76846	Y	Non-co-cons	Y	1	What	House-team	House's conference room	DDx-ing	exploring-arguing	6
2	7 like	comes	2	0.246718	1.396757	6.34012	Y	Non-co-cons	Y	1	father 's. When	House-team	House's conference room	DDx-ing	exploring-arguing	6
2	20 humor	sense	2	0.294118	1.404043	7.119518	Y	Non-co-cons	Y	1	is my own	House-team	House's conference room	DDx-ing	exploring-arguing	6
2	17 may	screwed	2	0.274348	1.711501	6.397175	Y	Non-co-cons	Y	1	need to go near	House-team	House's conference room	DDx-ing	exploring-reviewing	6
1	11 Give	much	2	0.352734	1.373541	5.119806	Y	Non-co-cons	Y	1	means we have	House-team	House's conference room	DDx-ing	enabling-instructing	6
2	6 Are	keeping	2	0.223885	1.42261	6.929258	Y	Co-construct	Y	1	slip of the needle	House-team	House's conference room	DDx-ing	enabling-instructing	6
2	3 garden-variety	Levaquin	2	0.225989	1.401833	6.835787	Y	Co-construct	Y	1	pneumonia, he	House-team	House's conference room	DDx-ing	exploring-arguing	6
1	16 saying	hospital	2	0.20429	1.409922	8.364135	Y	Co-construct	Y	1	a staph infection	House-team	House's conference room	DDx-ing	expounding-explaining	4
1	14 da	man	3	0.256082	1.397341	6.389165	Y	Non-co-cons	Y	1	VPs checked out	House-team	House's conference room	DDx-ing	enabling-instructing	6
1	11 hurt	wo	3	0.403226	1.670967	4.82556	Y	Non-co-cons	Y	2	Not as much.	House-team	House's conference room	DDx-ing	exploring-arguing	6
4	11 realise	us	2	0.232288	1.366109	4.877695	Y	Co-construct	Y	1	've had no UTIs.	Patient-House	House's conference room	DDx-ing	exploring-arguing	6
6	10 problem	unable	2	0.298063	1.401199	6.763766	Y	Non-co-cons	Y	1	Fungal	Taub-13	House's conference room	DDx-ing	exploring-arguing	6
6	12 backed	up	2	0.193986	1.35499	4.577681	Y	Co-construct	Y	1	and demanded	Taub-House & team	House's conference room	DDx-ing	exploring-arguing	6
7	15 Mood	swings	2	0.296736	1.40743	7.643856	Y	Co-construct	Y	1	factor in his	Taub-Masters	House's conference room	DDx-ing	exploring-arguing	6
7	21 nose	saying	2	0.22753	1.401733	6.824163	Y	Co-construct	Y	1	a diagnosis. That	Taub-team	House's conference room	DDx-ing	exploring-arguing	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation ty	Socio-semiotic process	Grid Number
8	17 explain	same		2	0.339559	1.401068	6.749311	Y	Co-construct	Y	1	does n't explain	Chase-Adams & House	Hospital corridor	DDx-ing	exploring-arguing	6
3	9 Horrible	news		2	0.267738	1.411163	8.855944	Y	Non-co-cons	Y	1	Tritter released	House-Cameron	Hospital corridor	DDx-ing	sharing-sharing experiences	9
4	7 gonna	say		3	0.281955	1.6212	3.965784	Y	Non-co-cons	Y	1	here? Skipping	House-Cuddy & Taub	Hospital corridor	DDx-ing	expounding-explaining	6
2	20 agree	disagree		2	0.204118	1.407434	7.70448	Y	Non-co-cons	Y	1	worse since	House-Foreman	Hospital corridor	DDx-ing	enabling-instructing	6
1	16 hypercortisoli	MRI		2	0.20429	1.401338	6.779172	Y	Co-construct	Y	1	be sick. Do an	House-Foreman & Chase	Hospital corridor	DDx-ing	enabling-instructing	5
4	13 high	lower		2	0.240096	1.378846	5.321427	Y	Co-construct	Y	1	Lower than	House-Kutner	Hospital corridor	DDx-ing	exploring-arguing	6
5	14 hard	time		2	0.310559	1.351739	4.500595	Y	Non-co-cons	Y	1	If they get	House-Kutner & Taub	Hospital corridor	DDx-ing	enabling-instructing	6
5	6 vitas	gordas		2	0.283688	1.411029	8.794687	Y	Non-co-cons	Y	1	Vasculitis?	House-Taub & Kutner	Hospital corridor	DDx-ing	exploring-arguing	7
5	6 battey	replace		2	0.283688	1.411029	8.794687	Y	Non-co-cons	Y	1	have to	House-Taub & Kutner	Hospital corridor	DDx-ing	exploring-arguing	6
7	21 scientist	mad		2	0.23753	1.411093	8.824163	Y	Non-co-cons	Y	1	is crazy.	House-team	Hospital corridor	DDx-ing	exploring-arguing	6
2	9 does	wolf		2	0.238663	1.347446	4.40471	Y	Co-construct	Y	1	sheep, and the	House-team	Hospital corridor	DDx-ing	sharing-sharing values	6
6	10 double	poison		2	0.298063	1.401199	6.763766	Y	Co-construct	Y	1	table. And	House-Wilson	Hospital corridor	DDx-ing	exploring-arguing	6
5	23 make	supposed		2	0.345423	1.36729	4.913554	Y	Co-construct	Y	1	It 's MS.	House-Wilson	Hospital corridor	DDx-ing	expounding-explaining	6
8	9 friend	good		2	0.278164	1.295392	6.231488	Y	Co-construct	Y	1	helps me with my	Park-team	Hospital corridor	DDx-ing	exploring-arguing	6
7	21 every	poison		2	0.23753	1.404853	7.239201	Y	Co-construct	Y	1	fluid for toxic	Taub-team	Hospital corridor	DDx-ing	exploring-arguing	6
1	6 human	connection		2	0.254453	1.404875	7.242645	Y	Co-construct	Y	1	Going to see	Wilson-House	Hospital corridor	DDx-ing	expounding-explaining	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation t	Socio-semiotic process	Grid Number
8	20 longer	wait		2	0.375235	1.395038	6.204571	Y	Co-construct	Y	1	He 's in	Adams-Chase	House's office	DDx-ing	exploring-arguing	9
3	23 lie	Symptom		3	0.369458	1.659234	4.572063	Y	Co-construct	Y	1	treatments do	Cameron-House	House's office	DDx-ing	exploring-arguing	6
1	1 People	corollary		2	0.223714	1.390709	5.910893	Y	Non-co-cons	Y	1	. I assume it 's a corollar	Foreman-House	House's office	DDx-ing	exploring-arguing	6
2	9 doctors	street		2	0.238563	1.385184	5.606344	Y	Co-construct	Y	1	the blame game.	House-Foreman	House's office	DDx-ing	reporting-chronicling	6
1	1 medical	school		4	0.447427	1.963643	5.78161	Y	Co-construct	Y	1	I do n't think it	House-Foreman	House's office	DDx-ing	exploring-arguing	6
8	3 possible	probable		2	0.278164	1.408234	7.885696	Y	Non-co-cons	Y	1	if there 's	House-team	House's office	DDx-ing	exploring-arguing	6
5	14 obsessing	why		3	0.310559	1.653574	4.464069	Y	Co-construct	Y	1	must have	House-team	House's office	DDx-ing	exploring-arguing	6
2	14 shoes	wearing		3	0.51458	1.711749	6.414756	Y	Co-construct	Y	1	bowling. And	House-team	House's office	DDx-ing	enabling-instructing	6
2	6 arrest	develop		2	0.229885	1.408412	7.929258	Y	Non-co-cons	Y	1	not. So	House-team	House's office	DDx-ing	expounding-explaining	6
1	1 thing	bigger		2	0.223714	1.402461	6.910893	Y	Non-co-cons	Y	1	bored. It 's a lesion. An	House-team	House's office	DDx-ing	enabling-instructing	6

Table 39 PivotTables of DDXing-House's conference room, hospital corridor and House's office

Table 39 shows PivotTables of DDX-ing-House's conference room, hospital corridor and House's office. In 65 concgrams of House's conference room, 45 of them are pattern-forming creativity created by House with 43 of them targeting his team as a whole or individual doctors and only 2 concgrams targeting his patient. It is also recorded that House's team of fellow doctors has 9 concgrams of pattern-forming creativity during DDX, all of which directed to House. Therefore, the data shows that House plays a dominating role in terms of generating pattern-forming creativity in his conference room, producing 5 times more than his doctor fellows do, combined.

A slightly different phenomenon is observed when the scene is set in hospital corridors. While House remains dominant over the creation of pattern-forming creativity by generating 12 out of 16 concgrams in DDX-ing along hospital corridors, his targets now include Cuddy (his boss and close friend) and Wilson (his best friend), who are absent from DDX-ing in House's conference room; creativity at this location not involving House has also recorded 2 concgrams.

As for House's office, House remains the leader in pattern-forming creativity generation with 7 out of 10 concgrams originated from House, 2 out of 10 originated from his fellow doctors to House and 1 other from his fellow doctors to fellow doctors.

6.3.3.2.3. Chat

Socio-semiotic process	Count	Percentage
⊟**exploring**		
⊟**exploring-arguing**	**195**	**34.70%**
⊟Chat	33	5.87%
House's office	5	0.89%
Hospital corridor	4	0.71%
Wilson's office	3	0.53%
Restaurant	2	0.36%
Patient's room	2	0.36%
Airplane	2	0.36%
Inside a car	2	0.36%
Hospital lobby	2	0.36%
Hospital cafeteria	1	0.18%
Hospital lecture hall	1	0.18%
Wilson's home	1	0.18%
Dark room	1	0.18%
Patient's home	1	0.18%
Doctor's lounge	1	0.18%
Hospital car park	1	0.18%
Foreman's home	1	0.18%
Bowling alley	1	0.18%
Lab	1	0.18%
MRI room	1	0.18%

expounding		
expounding-explaining	138	24.56%
Chat	26	4.63%
Hospital corridor	6	1.07%
House's office	5	0.89%
House's conference room	4	0.71%
Wilson's office	2	0.36%
Exam room	2	0.36%
Inside a car	1	0.18%
Hospital lobby	1	0.18%
Rehab	1	0.18%
Amber's home	1	0.18%
Airplane	1	0.18%
ER	1	0.18%
Hypnosis-Bar	1	0.18%

sharing		
□ sharing-sharing experiences	54	9.61%
□ Chat	22	3.91%
Hospital corridor	6	1.07%
Hospital lobby	4	0.71%
ER	2	0.36%
House's home	1	0.18%
Patient's room	1	0.18%
Exam room	1	0.18%
House's conference room	1	0.18%
Hospital cafeteria	1	0.18%
Outside Cuddy's home	1	0.18%
Cuddy's office	1	0.18%
Wilson's home	1	0.18%
Bowling alley	1	0.18%
Hotel room	1	0.18%
□ sharing-sharing values	53	9.43%
□ Chat	27	4.80%
House's office	8	1.42%
Wilson's office	3	0.53%
Patient's room	2	0.36%
Hospital corridor	2	0.36%
Lab	2	0.36%
Wilson's home	1	0.18%
Doctor's lounge	1	0.18%
CT room	1	0.18%
Inside a car	1	0.18%
Restaurant	1	0.18%
Cuddy's home	1	0.18%
House's home	1	0.18%
Operating room	1	0.18%
Hospital cafeteria	1	0.18%
Outside psychiatric hospital main door	1	0.18%

Table 40 Excerpt of PivotTable for Chat

After DDX-ing, the next most pattern-forming creativity prominent conversation type is chat. Conversation type 'chat' involves social or casual verbal exchange between two or

more individuals. An example of chat with pattern-forming creativity from Season 6 Episode 10 *Wilson* (pattern-forming creativity underlined) is provided below:

[Taub and Foreman come rushing down the hallway pushing a patient on a gurney. House follows behind]

Foreman: Coming through. House got a new case.

House: (stopping to hand Wilson a piece of paper) Revised OR schedule. Sorry, Wilson, had to bump you. <u>It's not like your guy's bleeding out of his eyes.</u>

Wilson: House, your guy's not bleeding out of his eyes either.

House: The nurse who books the OR thinks he is.

Wilson: Your case is no more urgent than mine.

House: (pushing through the doors of the surgical suite) Yeah, but you're way more patient.

Significant percentages of chat have been recorded in mainly four types of socio-semiotic process, namely Exploring-arguing, Expounding-explaining, Sharing-sharing experiences and Sharing-sharing values. Table 40 shows an excerpt of PivotTable for conversation type 'chat'. Chat constitutes to a total of 123 concgrams (108 above 1% significance in conversation types). Among these 33 concgrams (5.87%) of chat in 195 concgrams (34.70%) of Exploring-arguing, the top 3 most frequent locations of occurrence are House's office (5 concgrams, 0.89%), hospital's corridor (4 concgrams, 0.71%) and Wilson's office (3 concgrams, 0.53%). In 138 concgrams (24.56%) of Expounding-explaining, chat accounts for 26 concgrams (4.63%), and the top 3 most frequent locations of occurrence are hospital corridor (6 concgrams, 1.07%), House's office (5 concgrams, 0.89%) and House's conference room (4 concgrams, 0.71%). In 54 concgrams (9.61%) of Sharing-sharing experiences, 22 concgrams (3.91%) belongs to chat, and the top 3 most frequent locations of occurrence are hospital corridor (6 concgrams, 1.07%), hospital lobby (4 concgrams, 0.71%) and ER (2 concgrams, 0.36%). In

53 concgrams (9.43%) of Sharing-sharing values, 27 concgrams (4.80%) belongs to chat, and the top 3 most frequent locations of occurrence are House's office (8 concgrams, 1.42%), Wilson's office (3 concgrams, 0.53%), and hospital corridor, lab, patient's room (2 concgrams, 0.36%). As shown in Table 41 Locations for socio-semiotic process of chat, there is a total of 36 locations for chat and can be classified into mainly two groups of settings, 18 of which are non-hospital venues such as patient's home, inside a car, Wilson's home, restaurant, airplane, bowling alley, House's home, outside psychiatric hospital main door, hotel room, Hypnosis-bar, 13's bed, psychiatric hospital ward, patient's home, rehab, coffee shop, Foreman's home, Amber's home, outside Cuddy's home, as well as 18 others within hospital premises such hospital corridor, House's office, Wilson's office, hospital lobby, patient's room, House's conference room, ER, Exam room, hospital cafeteria, lab, Cuddy's office, doctor's lounge, CT room, hospital lecture hall, hospital car park, dark room, MRI room and operating room.

Locations of chat	Count	Percentage
Hospital corridor	20	16.26%
House's office	18	14.63%
Wilson's office	9	7.32%
Hospital lobby	7	5.69%
Patient's room	6	4.88%
Patient's home	6	4.88%
House's conference room	6	4.88%
ER	4	3.25%
Inside a car	4	3.25%
Exam room	3	2.44%
Wilson's home	3	2.44%
Restaurant	3	2.44%
Hospital cafeteria	3	2.44%
Airplane	3	2.44%
Lab	3	2.44%
Cuddy's office	2	1.63%
Bowling alley	2	1.63%
House's home	2	1.63%
Doctor's lounge	2	1.63%
Outside psychiatric hospital main door	1	0.81%
CT room	1	0.81%
Hotel room	1	0.81%
Hypnosis-Bar	1	0.81%
13's bed	1	0.81%
Psychiatric hospital ward	1	0.81%
Cuddy's home	1	0.81%
Rehab	1	0.81%
Coffee shop	1	0.81%
Hospital lecture hall	1	0.81%
Foreman's home	1	0.81%
Hospital car park	1	0.81%
Dark room	1	0.81%
MRI room	1	0.81%
Amber's home	1	0.81%
Operating room	1	0.81%
Outside Cuddy's home	1	0.81%
Grand Total	123	100.00%

Table 41 Locations for socio-semiotic process of chat

It can be seen that **hospital corridor** is the most chat-intensive pattern-forming

creativity hotspots with 20 concgrams (16.26%) across all three types of fields of activity.

House's office is the next chat-friendly with 18 concgrams (14.63%) while Wilson's office

is third with 9 concgrams (7.32%). Adding onto the analysis of hospital corridor as the second highest hotspot for DDX-related pattern-forming creativity with 16 concgrams, it has become apparent that hospital corridor with a sum of 36 concgrams is not only a major location for use of creative language while performing medical diagnosis, but also an almost equally popular venue for generating verbal creativity in chat for characters in *House M.D.* The above numbers have provided statistical evidence for the 'role' hospital corridor plays in setting the scene for the production of pattern-forming creativity. The effect of the hospital corridor scenes could well be for the establishment of a reflex action in habitual viewers who will subconsciously anticipate the use of linguistic creativity in DDX and chat whenever the hospital corridor scene appears on the TV scene. The same argument could apply to House's office (18 concgrams) and Wilson's office (9 concgrams) but in a lesser scale. From Table 42, it can be seen that House contributes to 16 of the 20 concgrams of pattern-forming creativity occurring along hospital corridors: 10 of which are targeted at Wilson, the other 6 are targeted at Cuddy. The remaining 4 concgrams of the 20 include 1 from Wilson to House, and the other 3 concgrams created by and to his fellows. The number of concgrams generated by House to Wilson and Cuddy is almost as honest a numerical representation of their relationships as viewers may have when they watch the TV drama. House almost completely reserves his pattern-forming creativity with two of his closest friends when they are in the hospital corridors.

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
3	20	talk	God	2	0.228833	1.403442	7.036566	Y	Non-co-cons	Y	attention. So	Chase-Foreman	Hospital corri	Chat	sharing-sharing experiences	9
1	3	enough	long	2	0.213675	1.384394	5.567576	Y	Co-construct	Y	ideas are usually	Foreman-Chase & Cameron	Hospital corri	Chat	exploring-arguing	9
1	14	saying	way	2	0.310559	1.380574	5.39368	Y	Co-construct	Y	are n't matched	House-Cuddy	Hospital corri	Chat	expounding-explaining	3
5	14	man	needs	2	0.310559	1.390185	5.879107	Y	Co-construct	Y	You should go	House-Cuddy	Hospital corri	Chat	recreating-dramatising	3
5	14	man	rationalization	2	0.310559	1.399796	6.616072	Y	Non-co-cons	Y	but whatever.	House-Cuddy	Hospital corri	Chat	recreating-dramatising	3
5	14	human	jerk	2	0.310559	1.407806	7.785997	Y	Co-construct	Y	a jerk, you	House-Cuddy	Hospital corri	Chat	sharing-sharing values	9
5	20	choice	safe	2	0.228833	1.40498	7.258959	Y	Co-construct	Y	Maybe I just	House-Cuddy	Hospital corri	Chat	sharing-sharing values	9
1	19	see	usually	2	0.305344	1.329219	4.056487	Y	Non-co-cons	Y	a 13-year-old!	House-Cuddy	Hospital corri	Chat	expounding-explaining	9
8	9	impulse	natural	2	0.278164	1.404803	7.231488	Y	Co-construct	Y	cash. Two	House-Wilson	Hospital corri	Chat	exploring-arguing	9
8	6	Saturday	talk	2	0.217391	1.385557	5.624978	Y	Co-construct	Y	No, no, no,	House-Wilson	Hospital corri	Chat	sharing-sharing experiences	9
6	10	bleeding	out	2	0.298063	1.329621	4.063326	Y	Co-construct	Y	had to bump	House-Wilson	Hospital corri	Chat	exploring-arguing	9
4	2	feelings	primary	2	0.274348	1.411301	8.923575	Y	Co-construct	Y	residual... Not	House-Wilson	Hospital corri	Chat	exploring-arguing	9
3	20	enjoyed	play	2	0.228833	1.380359	5.38489	Y	Non-co-cons	Y	See, she is	House-Wilson	Hospital corri	Chat	sharing-sharing experiences	12
3	20	interested	qua	2	0.228833	1.408058	7.843921	Y	Non-co-cons	Y	She's busy for	House-Wilson	Hospital corri	Chat	expounding-explaining	12
3	22	Like	needy	2	0.341297	1.386957	5.697257	Y	Non-co-cons	Y	she's single.	House-Wilson	Hospital corri	Chat	expounding-explaining	12
1	14	get	laid	3	0.384123	1.63286	4.126131	Y	Co-construct	Y	is much more	House-Wilson	Hospital corri	Chat	expounding-explaining	9
1	14	bug	go	2	0.256082	1.346723	4.389165	Y	Non-co-cons	Y	you have it here.	House-Wilson	Hospital corri	Chat	expounding-explaining	9
1	6	pretty	sure	2	0.254453	1.383086	5.505679	Y	Co-construct	Y	because of	House-Wilson	Hospital corri	Chat	expounding-explaining	9
5	12	guys	torches	2	0.284091	1.401615	6.810572	Y	Non-co-cons	Y	And someone	Kutner-Taub	Hospital corri	Chat	sharing-sharing experiences	9
5	17	many	buggies	2	0.232288	1.410219	8.467832	Y	Non-co-cons	Y	tolerated them.	Wilson-House	Hospital corri	Chat	sharing-sharing experiences	9

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	5	axe	grind	2	0.287356	1.408213	7.880604	Y	Co-construct	Y	Mirror	Brennan-House	House's office	Chat	expounding-explaining	6
6	15	thy	Loving	2	0.290698	1.411285	8.91563	Y	Non-co-cons	Y	literal sermons,	Chase-Wilson	House's office	Chat	expounding-explaining	7
4	5	about	talking	2	0.287356	1.357205	4.632676	Y	Non-co-cons	Y	the sooner we	House-Brennan	House's office	Chat	exploring-arguing	9
2	22	him	Stop	2	0.341297	1.322223	3.94237	Y	Co-construct	Y	because she's a pr	House-Cameron	House's office	Chat	sharing-sharing values	12
2	22	doing	job	2	0.341297	1.363108	4.790367	Y	Co-construct	Y	Well then I need	House-Cameron	House's office	Chat	sharing-sharing values	12
2	22	feel	guilty	2	0.341297	1.393771	6.112295	Y	Co-construct	Y	of us wants to	House-Cameron	House's office	Chat	expounding-explaining	12
1	16	As	Freudian	2	0.20429	1.381308	5.425535	Y	Non-co-cons	Y	is another	House-Cameron	House's office	Chat	expounding-explaining	9
3	20	doctors	lot	2	0.228833	1.383436	5.521993	Y	Non-co-cons	Y	that. No. And	House-Foreman	House's office	Chat	sharing-sharing values	6
1	22	Guy	definition	2	0.339559	1.396316	6.304085	Y	Non-co-cons	Y	you. So I'm	House-Stacey	House's office	Chat	expounding-explaining	12
5	3	account	bank	5	0.606061	2.180752	5.337114	Y	Co-construct	Y	the crap, House.	House-Taub	House's office	Chat	sharing-sharing values	7
8	3	girl	newer	2	0.278164	1.406739	7.563768	Y	Non-co-cons	Y	both to her	House-team	House's office	Chat	expounding-explaining	4
6	12	easier	much	2	0.296736	1.390524	5.899609	Y	Co-construct	Y	I'm just	House-Wilson	House's office	Chat	sharing-sharing values	9
3	2	as	pig	2	0.252845	1.402624	6.931019	Y	Non-co-cons	Y	that won't	House-Wilson	House's office	Chat	exploring-arguing	12
1	11	my	bills	2	0.268817	1.354364	4.562525	Y	Non-co-cons	Y	an addict. I did	House-Wilson	House's office	Chat	sharing-sharing values	12
1	11	envious	jealous	2	0.268817	1.407564	7.73245	Y	Co-construct	Y	What kind of	House-Wilson	House's office	Chat	sharing-sharing values	12
3	3	crap	piece	2	0.213675	1.405268	7.304541	Y	Co-construct	Y	he'd be going	House-Wilson	House's office	Chat	exploring-arguing	9
3	20	rug	anagram	2	0.228833	1.408058	7.843921	Y	Co-construct	Y	he would up at	House-Wilson's 2	House's office	Chat	exploring-arguing	3
1	19	Exactly	type	2	0.305344	1.392965	6.056487	Y	Co-construct	Y	a decent looking,	Wilson-House	House's office	Chat	exploring-arguing	9

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
3	4	power	play	4	0.441501	1.982093	6.803324	Y	Co-construct	Y	1	lungs? Why are	House-Cameron	Wilson's office	Chat	expounding-explaining	9
8	17	Hawking	Stephen	3	0.509338	2.226715	7.901314	Y	Non-co-cons	Y	1	up three of your	House-Wilson	Wilson's office	Chat	sharing-sharing values	12
8	17	whom	attractive	2	0.339559	1.410927	8.749311	Y	Non-co-cons	Y	1	women out there	House-Wilson	Wilson's office	Chat	exploring-arguing	12
6	4	Get	adulation	2	0.326797	1.367063	4.906594	Y	Non-co-cons	Y	1	to go screw	House-Wilson	Wilson's office	Chat	exploring-arguing	6
5	1	sluts	today	2	0.224719	1.405884	7.407504	Y	Non-co-cons	Y	1	trenches, but	House-Wilson	Wilson's office	Chat	expounding-explaining	7
6	15	forest	nymphs	2	0.290698	1.405428	7.330668	Y	Co-construct	Y	1	Where are you	Nurse Sandy-Wilson	Wilson's office	Chat	recreating-dramatising	9
4	11	secretly	than	2	0.232088	1.39089	5.922089	Y	Co-construct	Y	1	best friend. Hold	Patient-Wilson	Wilson's office	Chat	sharing-sharing values	3
7	15	no	proof	2	0.193986	1.325825	4	Y	Co-construct	Y	1	a crisis before	Wilson-House	Wilson's office	Chat	exploring-arguing	9
3	20	badly	Market	2	0.228833	1.401903	6.843921	Y	Co-construct	Y	1	she got her	Wilson-House	Wilson's office	Chat	sharing-sharing values	9

Table 42 PivotTables of Chat-hospital corridor, House's office and Wilson's office

House's office is the third most pattern-forming creativity-friendly location with 10 concgrams in DDX-ing and second most with 18 concgrams in chat. In a way that makes House's office 80% more likely to be a venue for pattern-forming creative chat than it is for differential diagnosing his patients. Indeed, House is often seen and remembered using his office for various fun activities which often lead to chats, such as enjoying a massage by a professional masseuse (Season 1 Episode 11 *Detox*), listening to loud music and air synthesiser on his desk (Season 1 Episode 14 *Control*), taking a nap (Season 3 Episode 16 *Top Secret*), playing electric guitar (Season 4 Episode 1 *Alone*), throwing and catching his red fuzzball (Season 4 Episode 4 *Guardian Angels*) and playing with "Surgeon" toy anatomy model (Season 4 Episode 4 *Guardian Angels*), watching pornography (Season 6 Episode 15 *Private Lives*) and many more. Given the above examples regarding House's use of his office, there is a strong reason to believe that House's office is a more prominent location for pattern-forming creative chats than for pattern-forming creative DDX-ing. Within chat, House's office has a highest concgrams in Sharing-sharing values with 8 concgrams, highest in Exploring-arguing with 5 concgrams and second highest in Expounding-explaining with 5 concgrams. These highests show that House's office is a location where creative chats are viewed as value-intensive, argumentative and reasoning-intensive. From Table 42, it can be seen that House contributes to 15 of the 18 concgrams of pattern-forming creativity occurring in his office: 6 of which are targeted at Wilson, 4 are targeted at Cameron and the other 5 are targeted at his ex-wife Stacey, his team, Wilson's 2nd ex-wife, fellow doctors Taub and fellowship applicant / contestant Brennan. The remaining 3 concgrams of the 18 include 1 from Wilson to House, 1 from fellowship applicant / contestant Brennan to House and 1 from Wilson to House. While Wilson is House's best friend and that visiting House's office is logical, an interesting observation can be made about House's use of pattern-forming creativity with House's female fellow Dr. Alison Cameron, who has developed her feelings for him from a crush (Season 1 Episode 19 *Kids*) to love (Season 6 Episode 7 *Teamwork*). Although 3 out of 4 concgrams are recorded in the same episode (Season 2 Episode 22 *Forever*) and more evidence from conversation type such as

private chat is needed to relate the use of pattern-forming creativity with House and Cameron's relationship, 4 out of 15 concgrams from House to Cameron is a significant percentage indicating something special between the two main characters.

Wilson's office, on the other hand, does not make it to the list of locations for socio-semiotic process of DDX-ing at all but is ranked third in the list of locations for socio-semiotic process of chat with 9 concgrams. Such frequency indicates the importance of Wilson's office and Wilson's role in the TV drama. Although Wilson might not be House's most frequently talked-to person in the TV drama because he is not involved in day-to-day DDX-ing with House and his team, he is House's best friend who can understand him "half the time" (Season 6 Episode 15 *Private Lives*) and his office is one of House's favourite go-to places. Within chat, Wilson's office has the second highest concgrams in Sharing-sharing values with 3 concgrams, the third highest in Exploring-arguing with 3 concgrams and 2 concgrams in Expounding-explaining. Statistically, in terms of chat, Wilson's office is about half as pattern-forming creativity productive as House's office. From Table 42, in 9 concgrams produced in Wilson's office, 4 of them are created by House targeting Wilson, 1 of them is created by House targeting Cameron, 2 others are created by Wilson targeting House, 1 by Nurse Sandy targeting Wilson and 1 by patient targeting Wilson. The figures show that even in Wilson's office, House creates over half of the pattern-forming creativity and most of them targeting his best friend Wilson, whereas Wilson would be "half the time" as creative before House (Season 6 Episode 15 *Private Lives*). Overall, Wilson does not tend to be more actively pattern-forming than his visitors even if he is in his own office.

This difference in numbers between the non-hospital venues and the hospital premises also tells the nature of chat. Excluding the top 3 locations which are hospital venues, there is a total of 17 non-hospital venues (33 concgrams) and 11 hospital premises (23 concgrams). A higher number of non-hospital venues than hospital premises shows that pattern-forming creative chat occurs in more locations outside than inside the doctors'

work area, which demonstrates the scriptwriters and producers' awareness of how locations can affect the type of discourse in which characters are engaged.

6.3.3.2.4. Private Chat

Socio-semiotic process	Count	Percentage
⊟**exploring**		
⊟**exploring-arguing**	**195**	**34.70%**
⊟Private chat	14	2.49%
Wilson's office	5	0.89%
House's office	4	0.71%
Patient's room	1	0.18%
House's conference room	1	0.18%
Hotel corridor	1	0.18%
Hospital corridor	1	0.18%
Patient's home	1	0.18%
⊟**expounding**		
⊟**expounding-explaining**	**138**	**24.56%**
⊟Private chat	15	2.67%
House's office	5	0.89%
Wilson's home	2	0.36%
Lab	1	0.18%
Cuddy's office	1	0.18%
Inside a car	1	0.18%
Foreman's office	1	0.18%
Renaissance Faire	1	0.18%
Hospital car park	1	0.18%
Court	1	0.18%
Hospital corridor	1	0.18%

⊟ **sharing**		
⊟**sharing-sharing experiences**	**54**	**9.61%**
⊟Private chat	22	3.91%
Cuddy's office	4	0.71%
Hospital corridor	3	0.53%
Record room	2	0.36%
Outside Wilson's office	2	0.36%
Wilson's home	2	0.36%
House's home	2	0.36%
Bar	2	0.36%
House's conference room	1	0.18%
Wilson's office	1	0.18%
Hospital cafeteria	1	0.18%
Bowling alley	1	0.18%
Hospital lobby	1	0.18%
⊟**sharing-sharing values**	**53**	**9.43%**
⊟Private chat	15	2.67%
Hospital cafeteria	2	0.36%
Lake	2	0.36%
House's office	2	0.36%
House's home	1	0.18%
New apartment	1	0.18%
MRI room	1	0.18%
Restaurant	1	0.18%
Operating room	1	0.18%
Wilson's office	1	0.18%
Hospital car park	1	0.18%
Cuddy's office	1	0.18%
Lab	1	0.18%

Table 43 Excerpt of PivotTable for Private chat

Following DDX-ing (123 concgrams) and chat (123 concgrams), the third most pattern-forming creativity prominent conversation type is private chat (76 concgrams, 66 above 1% significance in conversation types). Conversation type 'private chat' differs from 'chat' in terms of the level of intimacy and privacy in the context. The following example from Season 4 Episode 9 *Games* is considered as private chat instead of chat due to the

level of confidentiality given in the detail of the conversation, that is where Wilson keeps his chequebook (pattern-forming creativity underlined):

House: Why would _you_ have a blank liability release form, plus your checkbook, on top of your desk?

[He holds them up.]

Wilson: [annoyed] Probably because they were in the second drawer in a manila envelope under a book, and you put them on top of my desk.

House: You usually keep your checkbook at home. It's your go-to excuse for why you can't lend me money. You're gonna pay the guy the six grand, aren't you?

Significant percentages of private chat have been recorded in mainly four types of socio-semiotic process, namely Expounding-explaining, Exploring-arguing, Sharing-sharing experiences and Sharing-sharing values. Table 43 shows an excerpt of PivotTable for conversation type 'private chat'. Private chat constitutes to a total of 66 (= 14 + 15 + 22 + 15) concgrams above 1% significance in conversation types. Among the 14 concgrams (2.49%) of private chat in 195 concgrams (34.70%) of Exploring-arguing, the top 2 most frequent locations of occurrence are Wilson's office (5 concgrams, 0.89%), and House's office (4 concgrams, 0.71%). In 138 concgrams (24.56%) of Expounding-explaining, private chat accounts for 15 concgrams (2.67%), and the top 2 most frequent locations of occurrence are House's office (5 concgrams, 0.89%), and Wilson's home (2 concgrams, 0.36%). In 54 concgrams (9.61%) of Sharing-sharing experiences, 22 concgrams (3.91%) belongs to private chat, and the top 2 most frequent locations of occurrence are Cuddy's office (4 concgrams, 0.71%) and hospital's corridor (3 concgrams, 0.53%). In 53 concgrams (9.43%) of Sharing-sharing values, 15 concgrams (2.67%) belongs to private chat, and the top 3 most frequent locations of occurrence are hospital cafeteria (2 concgrams, 0.36%), lake (2 concgrams, 0.36%) and House's office (2 concgrams, 0.36%). As shown in Table 44, there is a total of 31 locations for private chat

and can be classified into mainly two groups of settings, 13 of which are non-hospital venues such as Wilson's home, House's home, bar, lake, bowling alley, restaurant, inside a car, psychiatric hospital basketball court, new apartment, Renaissance faire, court, hotel corridor, patient's home, as well as 18 others within hospital premises such as House's office, Wilson's office, Cuddy's office, hospital corridor, hospital cafeteria, locker room, patient's room, House's conference room, outside Wilson's office, hospital car park, record room, lift, lab, Foreman's office, hospital lobby, MRI room, operating room and ER.

Locations of private chat	Count	Percentage
House's office	13	17.11%
Wilson's office	7	9.21%
Cuddy's office	6	7.89%
Hospital corridor	5	6.58%
Wilson's home	4	5.26%
Hospital cafeteria	4	5.26%
House's home	3	3.95%
Locker room	2	2.63%
Patient's room	2	2.63%
House's conference room	2	2.63%
Outside Wilson's office	2	2.63%
Hospital car park	2	2.63%
Record room	2	2.63%
Lake	2	2.63%
Lift	2	2.63%
Bar	2	2.63%
Lab	2	2.63%
Bowling alley	1	1.32%
Restaurant	1	1.32%
Inside a car	1	1.32%
Foreman's office	1	1.32%
Hospital lobby	1	1.32%
MRI room	1	1.32%
Psychiatric hospital basketball court	1	1.32%
New apartment	1	1.32%
Renaissance Faire	1	1.32%
Operating room	1	1.32%
ER	1	1.32%
Court	1	1.32%
Hotel corridor	1	1.32%
Patient's home	1	1.32%
Grand Total	76	100.00%

Table 44 Locations for socio-semiotic process of private chat

It can be seen that House's office is the most private chat-intensive pattern-forming creativity hotspot with 13 concgrams (17.11%) across all three types of fields of activity. Wilson's office is the next private chat-friendly with 7 concgrams (9.21%) while Cuddy's office is third with 6 concgrams (7.89%). It is intriguing that the locations

aforementioned are all offices which belong to either House himself or someone who has very close relationship with House but not necessarily the most frequently person House talks to.

Season	Episode	Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	9	else	mask	2	0.273973	1.390138	5.876261	Y	Co-construct Y	1	you so sure that	13-House	House's office	Private chat	exploring-arguing	9
3	23	chasing	Everybod	2	0.246305	1.407728	7.76846	Y	Non-co-cons Y	1	nobody did	Chase-House	House's office	Private chat	exploring-arguing	9
3	15	feeling	knowing	2	0.336134	1.403022	6.981409	Y	Non-co-cons Y	1	I did n't want	House-Cameron	House's office	Private chat	exploring-arguing	12
1	16	No	chocolate	2	0.20429	1.358418	4.663895	Y	Non-co-cons Y	1	to sign this.	House-Cameron	House's office	Private chat	recreating-dramatising	12
1	1	as	beautiful	2	0.022714	1.361327	4.740968	Y	Non-co-cons Y	1	go to medical sch	House-Cameron	House's office	Private chat	sharing-sharing values	12
1	1	juvenile	record	2	0.022714	1.400992	6.740968	Y	Co-construct Y	1	the job? You hire	House-Cameron	House's office	Private chat	expounding-explaining	12
1	1	could	married	2	0.022714	1.384832	5.588964	Y	Non-co-cons Y	1	and you defied it. That !	House-Cameron	House's office	Private chat	sharing-sharing values	9
6	7	bomb	off	2	0.286533	1.392504	6.025535	Y	Co-construct Y	1	n't leave. You lit	House-Chase	House's office	Private chat	expounding-explaining	9
1	9	difference	styles	2	0.288184	1.405096	7.277158	Y	Co-construct Y	1	It 's just with	House-Foreman	House's office	Private chat	expounding-explaining	6
8	6	children	screw	3	0.326087	1.696954	5.624978	Y	Non-co-cons Y	1	Chase is	House-Taub	House's office	Private chat	expounding-explaining	7
4	7	do	realize	2	0.18797	1.325118	3.968504	Y	Co-construct Y	1	've not, fire	House-Wilson	House's office	Private chat	expounding-explaining	9
6	15	giving	computer	2	0.290698	1.406892	7.593702	Y	Non-co-cons Y	1	Do n't do that	Wilson-Chase	House's office	Private chat	recreating-dramatising	9
7	7	also	special	2	0.378072	1.407705	6.709945	Y	Co-construct Y	1	the pasta special	Wilson-House	House's office	Private chat	exploring-arguing	9

Season	Episode	Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
6	18	kitchen	naked	2	0.404858	1.367417	4.917443	Y	Co-construct Y	1	I was in the	House-Wilson	Wilson's office	Private chat	sharing-sharing experiences	9
4	9	your	plus	2	0.273973	1.351014	4.483944	Y	Co-construct Y	1	_you_ have a	House-Wilson	Wilson's office	Private chat	exploring-arguing	9
4	9	boring	without	2	0.273973	1.382614	5.483944	Y	Non-co-cons Y	1	You 're paying	House-Wilson	Wilson's office	Private chat	exploring-arguing	9
4	9	gave	months	2	0.273973	1.387128	5.706336	Y	Co-construct Y	1	He 's	House-Wilson	Wilson's office	Private chat	exploring-arguing	9
4	9	distressed	sentence	2	0.273973	1.405185	7.291299	Y	Co-construct Y	1	's not distressed	House-Wilson	Wilson's office	Private chat	exploring-arguing	9
4	9	interested	describe	2	0.273973	1.408195	7.876261	Y	Non-co-cons Y	1	that word?	House-Wilson	Wilson's office	Private chat	exploring-arguing	9
4	7	boy	girl	3	0.281955	2.214602	6.70275	Y	Non-co-cons Y	1	that 's making	Wilson-House	Wilson's office	Private chat	sharing-sharing values	12

Season	Episode	Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
6	18	important	Somethin	2	0.404858	1.339004	4.232945	Y	Co-construct Y	1	MRSA? I know,	Cuddy-House	Cuddy's office	Private chat	sharing-sharing experiences	9
5	6	love	unconditiona	2	0.283688	1.399883	6.624762	Y	Non-co-cons Y	1	worth it? Just for	Cuddy-House	Cuddy's office	Private chat	sharing-sharing values	12
7	12	putty	tat	2	0.373134	1.407732	7.769562	Y	Non-co-cons Y	1	to get some	House-Cuddy	Cuddy's office	Private chat	sharing-sharing experiences	12
4	13	eyes	tell	2	0.240096	1.334636	4.151502	Y	Non-co-cons Y	1	employees	House-Cuddy	Cuddy's office	Private chat	expounding-explaining	12
4	7	Sometimes	beings	3	0.281955	1.727432	8.550747	Y	Non-co-cons Y	1	On the other	House-Cuddy	Cuddy's office	Private chat	sharing-sharing experiences	12
3	9	rude	thousand	2	0.267738	1.405063	7.271982	Y	Co-construct Y	1	Nothing. What	Wilson-Cuddy	Cuddy's office	Private chat	sharing-sharing experiences	12

Table 45 PivotTables of private chat-House's office, Wilson's office and Cuddy's office

To begin with, **House's office** holds 10 concgrams in DDX-ing, 18 concgrams in chat and 13 concgrams in private chat. The numbers have not only put House's office as primarily a location for pattern-forming creative chat, but also for private chat by 30% higher than it is for DDX-ing. The concgrams in private chat assert the argument that House tends to be more engaged in pattern-forming creativity for casual or private conversations when inside his own office than when he is in his **conference room** (which has 64 concgrams in DDX-ing, 6 concgrams in chat and 2 concgrams in private chat) even though it is separated by just one glass door in the set. From Table 45, it can be seen that out of 13 concgrams of pattern-forming creativity in private chat, 9 of them are created by House including 5 targeting Cameron, 1 targeting Wilson, 1 targeting Chase and another targeting Taub; 2 are created by Wilson targeting House and Chase separately, 1 is created by 13 targeting House and 1 by Chase targeting House. The fact that Cameron is the most popular target of pattern-forming creativity created by House in his office not only in chat but also in private chat unveils that the pair of characters find House's office suitable for social or intimate conversations, so much so that pattern-forming creativity occurs far more often than any other characters in this location. Such argument is supported by the final concgram of House-Cameron in Season 3 Episode 15 *Half-Wit* from the Cameron and House kissing scene in his office.

Wilson's office on the other hand, which has 0 concgram in DDX-ing, 9 concgrams in chat and 7 concgrams in private chat, lacks the pattern-forming creativity in medicinal discussions but is a venue for creative chat and private chat, at frequencies roughly half as many as that in House's office. Location-wise, the fact that House's office and Wilson's office are connected via the balconies has provided better accessibility for chat and private chat to occur (Season 2 Episode 17 *All In*). From Table 45, it can be seen that all 7 concgrams of pattern-forming creativity in private chat in Wilson's office involve House and Wilson only: 6 of them are created by House targeting Wilson and only 1 is created by Wilson targeting House. While House's use of pattern-forming creativity targeting Wilson has nearly doubled from 4 in chat to 7 in private chat, Wilson has not seen any increase in his use of such creativity form as it remains at 1 concgram in both

conversation types. This finding implies that Wilson tends to keep this form of creativity to its minimal when chatting or having private chats with House in his office.

Cuddy's office, which has 3 concgrams in DDX-ing, 2 concgrams in chat and 6 concgrams in private chat, produces a number of concgrams of pattern-forming creativity in private chat that is double of that in DDX-ing and triple of that in chat. Therefore, Cuddy's office is primarily creative in a pattern-forming manner when it comes to private chat, but not so much in DDX-ing or in chat. From Table 45, it can be seen that in 6 concgrams of pattern-forming creativity in private chat, 3 of them are created by House targeting Cuddy, 2 of them are created by Cuddy targeting House, and the last one is created by Wilson targeting Cuddy. The figures show that pattern-forming creativity produced in Cuddy's office is limited to House and Wilson – two of Cuddy's closest friends. It is also worth indicating that the number of concgrams produced by House targeting Cuddy is only 1 higher than concgrams produced by Cuddy targeting House in private chat in Cuddy's office, which is considered rare given that House is the key character in the TV series and has by far dominated in the frequency of production of pattern-forming creativity in the locations analysed above.

The 18 non-hospital venues and 13 within hospital premises for private chat suggest that conversations at the very personal level may not be affected by the location in the TV drama world. Statistics show that pattern-forming creativity in private chat can happen in either enclosed rooms where sensitive and personal topics are limited to certain number of people such as the offices aforementioned, or public areas where passersby will be difficult to overhear the conversation such as **hospital cafeteria** and **lake**, which in turn suggests that locations may have little effect on the presence of private chat in the TV series.

6.3.3.2.5. Doctor-patient talk

Socio-semiotic process	Count	Percentage
⊟ **exploring**		
⊟ **exploring-arguing**	195	34.70%
⊟ Doctor-patient talk	15	2.67%
Patient's room	6	1.07%
Exam room	3	0.53%
Park	3	0.53%
House's conference room	1	0.18%
CT room	1	0.18%
Procedure room	1	0.18%
⊟ **expounding**		
⊟ **expounding-explaining**	138	24.56%
⊟ Doctor-patient talk	27	4.80%
Exam room	13	2.31%
Patient's room	7	1.25%
Park	2	0.36%
ER	1	0.18%
MRI room	1	0.18%
Cuddy's office	1	0.18%
Convenient store	1	0.18%
Gym	1	0.18%

Table 46 Excerpt of PivotTable for doctor-patient talk

Following private chat (76 concgrams) is doctor-patient talk (60 concgrams, 42 above 1% significance in conversation types) in fourth place. Conversation type 'doctor-patient talk' refers to all conversations between one or more doctors and any admitted patients, irrespective of the content. An example of doctor-patient talk with pattern-forming creativity from Season 2 Episode 20 *Euphoria (Part 1)* (pattern-forming creativity underlined) is provided below:

> [Cut to Foreman checking patient Joe's eyes with a slit lamp.]

> Joe: I'm fine! [Leans forward, and smacks his head on the machine.]

Foreman: You're blind.

Joe: I bumped into something. That doesn't mean I can't see.

Cameron: I'm sure it's frightening, but you only think you?

Foreman: What's Dr. Cameron wearing?

Joe: [Looks over Cameron] Dark blue pants, white shirt, black shoes.

Foreman: Oh! Almost, except <u>for the pants, shirt, and shoes.</u> You're blind.

[Joe smiles sadly.]

Significant percentages of doctor-patient talk have been recorded in mainly two types of socio-semiotic process, namely Exploring-arguing and Expounding-explaining. Table 46 shows an excerpt of PivotTable for conversation type 'doctor-patient talk'. Doctor-patient talk constitutes to a total of 42 (= 15 + 27) concgrams above 1% significance in conversation types. Among the 15 concgrams (2.67%) of doctor-patient talk in 195 concgrams (34.70%) of Exploring-arguing, the top 3 most frequent locations of occurrence are patient's room (6 concgrams, 1.07%), exam room (3 concgrams, 0.53%) and park (3 concgrams, 0.53%). In 138 concgrams (24.56%) of Expounding-explaining, doctor-patient talk accounts for 27 concgrams (4.80%), and the top 3 most frequent locations of occurrence are exam room (13 concgrams, 2.31%), patient's room (7 concgrams, 1.25%) and park (2 concgrams, 0.36%). As shown in Table 47, there is a total of 15 locations for doctor-patient talk and can be classified into mainly two groups of settings, 4 of which are non-hospital venues such as park, bus stop, gym and convenient store, as well as 11 others within hospital premises such as patient's room, exam room, Norlan's office, MRI room, CT room, House's conference room, Cuddy's office, ER, procedure room, operating room and lift.

Locations of doctor-patient talk	Count	Percentage
Patient's room	20	33.33%
Exam room	19	31.67%
Park	5	8.33%
Nolan's office	2	3.33%
MRI room	2	3.33%
CT room	2	3.33%
House's conference room	2	3.33%
Bus stop	1	1.67%
Cuddy's office	1	1.67%
Gym	1	1.67%
ER	1	1.67%
Procedure room	1	1.67%
Convenient store	1	1.67%
Operating room	1	1.67%
Lift	1	1.67%
Grand Total	60	100.00%

Table 47 Locations for socio-semiotic process of doctor-patient chat

It can be seen that patient's room is the most doctor-patient talk-intensive pattern-forming creativity hotspot with 20 concgrams (33.33%) across the two types of fields of activity. Exam room is the next doctor-patient talk-friendly with 19 concgrams (31.67%) while the park is third with 5 concgrams (8.33%). In terms of Exploring-arguing, patient's room has double concgram count than exam room for doctor-patient talk, while the reverse happens during Expounding-explaining where exam room has almost double concgram counts than patient's room.

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st inst	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
1	1	know	certain	2	0.223714	1.377487	5.267036	Y	Non-co-cons	Y	Feeling any better	Chase-patient	Patient's room	Doctor-patient talk	exploring-reviewing	7
7	23	alive	burned	2	0.32	1.407036	7.622357	Y	Co-construct	Y	No sane person	Foreman-patient	Patient's room	Doctor-patient talk	exploring-arguing	6
2	20	pants	shirt	2	0.294118	1.404043	7.119518	Y	Co-construct	Y	shirt, black	Foreman-patient	Patient's room	Doctor-patient talk	exploring-arguing	6
5	1	Junior	Steuben	2	0.224719	1.411437	8.992466	Y	Non-co-cons	Y	supply. It	House-13 & patient	Patient's room	Doctor-patient talk	expounding-explaining	4
7	12	bad	news	2	0.373134	1.66855	4.769562	Y	Co-construct	Y	that mean I'll	House-patient	Patient's room	Doctor-patient talk	reporting-chronicling	4
7	4	obviously	stupid	3	0.604839	1.721905	7.415478	Y	Co-construct	Y	I do n't	House-patient	Patient's room	Doctor-patient talk	expounding-explaining	4
5	20	swear	pinky	2	0.38835	1.408794	8.027599	Y	Co-construct	Y	my leg. I swear	House-patient	Patient's room	Doctor-patient talk	recreating-dramatising	3
4	9	good	give	2	0.273973	1.351014	4.483344	Y	Non-co-cons	Y	have three	House-patient	Patient's room	Doctor-patient talk	sharing-sharing experiences	6
4	7	change	face	2	0.18797	1.364716	4.836501	Y	Non-co-cons	Y	And you can	House-patient	Patient's room	Doctor-patient talk	sharing-sharing values	3
3	20	better	than	3	0.343249	1.67174	4.843021	Y	Co-construct	Y	and people who	House-patient	Patient's room	Doctor-patient talk	sharing-sharing values	9
3	12	life	sacred	4	0.589102	1.904342	4.385976	Y	Co-construct	Y	Yeah! I do do	House-patient	Patient's room	Doctor-patient talk	exploring-arguing	9
3	12	every	sacred	2	0.294551	1.364373	4.826548	Y	Co-construct	Y	True. It's a	House-patient	Patient's room	Doctor-patient talk	exploring-arguing	4
3	7	them	Wear	2	0.242718	1.398344	6.477623	Y	Non-co-cons	Y	about it. We	House-patient	Patient's room	Doctor-patient talk	expounding-explaining	4
1	19	enough	vagina	2	0.305344	1.40536	7.319522	Y	Non-co-cons	Y	all right. Of	House-patient	Patient's room	Doctor-patient talk	expounding-explaining	4
1	14	over	MacLangh	2	0.256082	1.40409	7.126131	Y	Non-co-cons	Y	You play	House-patient	Patient's room	Doctor-patient talk	expounding-explaining	4
1	1	die	dignity	2	0.223714	1.365735	4.886498	Y	Co-construct	Y	scared, you'll tu	House-patient	Patient's room	Doctor-patient talk	exploring-arguing	12
7	1	old	self	2	0.408163	1.403265	7.01309	Y	Co-construct	Y	If we're	Patient-13 & Foreman	Patient's room	Doctor-patient talk	expounding-explaining	6
3	12	room	stuck	2	0.294551	1.369713	4.990047	Y	Co-construct	Y	base your whole	Patient-House	Patient's room	Doctor-patient talk	exploring-arguing	6
5	20	mean	think	3	0.582524	1.634699	4.15313	Y	Co-construct	Y	better by her.	Taub-patient	Patient's room	Doctor-patient talk	exploring-explaining	1
4	2	taken	seriously	2	0.274348	1.405476	7.338613	Y	Co-construct	Y	rock for	Taub-patient	Patient's room	Doctor-patient talk	sharing-sharing experiences	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
3	4	rhino	thing	2	0.220751	1.39522	6.218361	Y	Co-construct	Y	Umm… I think	House-Ali	Exam room	Doctor-patient talk	expounding-explaining	4
1	1	danger	against	2	0.223714	1.411275	8.910893	Y	Non-co-cons	Y	of the medicine,	House-patient	Exam room	Doctor-patient talk	recommending-advising	3
8	6	fatigue	sluggishness	2	0.217391	1.405617	7.361944	Y	Co-construct	Y	is true. I've	House-patient	Exam room	Doctor-patient talk	expounding-explaining	5
3	23	psychic	once	2	0.246305	1.410971	8.76846	Y	Non-co-cons	Y	pocket.	House-patient	Exam room	Doctor-patient talk	expounding-explaining	3
3	15	doctor	waste	2	0.336134	1.399291	6.566371	Y	Non-co-cons	Y	foot? You	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
3	12	as	half	2	0.294551	1.398193	6.463978	Y	Co-construct	Y	cares. It's	House-patient	Exam room	Doctor-patient talk	recreating-dramatising	4
3	12	psychiatrist	see	2	0.294551	1.403534	7.048941	Y	Co-construct	Y	you. You're	House-patient	Exam room	Doctor-patient talk	exploring-arguing	4
1	1	affair	having	3	0.33557	1.984418	7.004002	Y	Non-co-cons	Y	have a deeper problem. '	House-patient	Exam room	Doctor-patient talk	expounding-explaining	3
2	9	Casual	sex	2	0.238663	1.399699	6.606344	Y	Non-co-cons	Y	me on. Yeah?	House-patient	Exam room	Doctor-patient talk	reporting-chronicling	6
2	6	As	sorbitol	2	0.229085	1.370699	5.022368	Y	Non-co-cons	Y	Patient: By	House-patient	Exam room	Doctor-patient talk	expounding-explaining	6
2	3	medicine	same	2	0.225989	1.32136	3.928897	Y	Non-co-cons	Y	black…well, I	House-patient	Exam room	Doctor-patient talk	exploring-arguing	6
1	1	definition	kinda	2	0.223714	1.399523	6.588964	Y	Co-construct	Y	have Chronic Fatigue Sy	House-patient	Exam room	Doctor-patient talk	expounding-explaining	3
2	3	black	people	3	0.338983	1.890571	4.191931	Y	Co-construct	Y	drug, okay?	House-patient	Exam room	Doctor-patient talk	exploring-arguing	6
1	19	your	borrowing	2	0.305344	1.320366	3.913529	Y	Non-co-cons	Y	So either your	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
1	9	diabetes	tell	2	0.288184	1.382303	5.469803	Y	Co-construct	Y	you remember.	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
1	9	fun	weekend	2	0.288184	1.402057	6.862121	Y	Co-construct	Y	they'll kill	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
1	3	two	less	2	0.213675	1.391849	5.982613	Y	Non-co-cons	Y	hurts. So you	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
1	3	goldenrod	pale	2	0.213675	1.40825	7.889504	Y	Co-construct	Y	so I brought	House-patient	Exam room	Doctor-patient talk	expounding-explaining	4
7	1	brain	human	2	0.408163	1.388667	5.790698	Y	Co-construct	Y	flicker at the s	Taub-patient	Exam room	Doctor-patient talk	expounding-explaining	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
3	12	evil	people	2	0.294551	1.321653	3.933464	Y	Co-construct	Y	the sidewalk.	House-patient	Park	Doctor-patient talk	exploring-arguing	9
3	12	exist	God	2	0.294551	1.382174	5.463978	Y	Co-construct	Y	think there was a	House-patient	Park	Doctor-patient talk	exploring-arguing	9
3	12	good	instincts	2	0.294551	1.396414	6.311975	Y	Non-co-cons	Y	Sounds like	House-patient	Park	Doctor-patient talk	expounding-explaining	7
3	12	sit	watch	2	0.294551	1.399974	6.633903	Y	Non-co-cons	Y	jogging. You	House-patient	Park	Doctor-patient talk	expounding-explaining	9
3	12	believe	eternity	2	0.294551	1.385733	5.633903	Y	Co-construct	Y	helping me.	Patient-House	Park	Doctor-patient talk	exploring-arguing	9

Table 48 PivotTables of doctor-patient talk – patient's room, exam room and park

Table 46 shows that **patient's room** is a venue which offers relatively more discussion opportunity between doctors and patient (6 concgrams in Exploring-arguing in patient's room versus 3 concgrams in exam room) whereas exam room is relatively more frequent for medical explanations (13 concgrams in Expounding-explaining in exam room versus 7 concgrams in patient's room). It is also worth noting that patients who are required to stay in their patients' rooms and are treated by House and his team are almost always those critically ill patients whom other doctors have failed to diagnose and often have more say or power over the consent-required, life-and-death medical treatments proposed by the doctors. Therefore, it is logical that patient's room has more arguing than explaining in the doctor-patient talk. On the other hand, patients who go to see doctors in the **exam rooms** are those who visit the free clinic and have minor sickness, which reasonably explains why exam room has fewer occurrences of argument but more of explanations. From Table 48, it can be seen that 18 out of 20 concgrams in patient's room are created by doctors targeting patients but only 2 are created by patients targeting doctors. 13 out of 18 concgrams created by doctors targeting patients are created by House, 2 others by Foreman, 2 others by Taub and 1 other by Chase. These figures show that doctors, House in particular, are keen to use pattern-forming creativity before patients while a few patients have seen using pattern-forming creativity targeting doctors. The situation is slightly different when exam room is considered, as 19 out of 19 concgrams in exam room are all created by doctors targeting patients with 18 of them created by House targeting patients and 1 other created by Taub targeting a patient. The fact that patients in the exam rooms have not created any pattern-forming creativity whereas patient's room have sheds light on the difference between the pattern-forming creativity in doctor-patient talk involving admitted patients (in patient's rooms) and clinic patients (in exam rooms).

The number of hospital premises (11 concgrams) is near triple of that of non-hospital locations (4 concgrams), which fits the presupposition that doctor-patient's talk happens within the hospital. Although park is ranked third in the list of locations for doctor-patient talk, all 5 concgrams of **park** originates from a single episode (Season 3 Episode

12 *One Day, One Room*) instead of being scattered across the entire series. In that particular episode, House faces no medical mystery but rather a raped girl who has requested him to be her doctor and to offer her not treatment but talk. It is an unusual episode in *House M.D.* because it is very doctor-patient talk-focused and it is also this episode in which House explicitly admits that he does enjoy engaging in argumentative discourse (which involve socio-semiotic processes such as Exploring-arguing and Expounding-explaining) because "This is the type of conversation I do well" (Season 3 Episode 12 *One Day, One Room*). From Table 48, it can be seen that 4 out of 5 concgrams of pattern-forming creativity are created by House targeting a patient (2 Exploring-arguing and 2 Expounding-explaining) and the remaining 1 concgram is created by the same patient to House (Exploring-arguing). Therefore, it is reasonable to argue that the characters of the series, or at least House, tend to be pattern-formingly creative in the types of discourse they are more capable or confident of handling.

Apart from House, doctors such as Taub, Foreman and Chase have seen adopting pattern-forming creativity targeting patients in patient's room and exam room. Given that the use of creativity is a matter of choice, these doctors must have consciously decided to use pattern-forming creativity with patients in the aforementioned locations in order to achieve certain goals. The dialogue below from Season 6 Episode 15 *Private Lives* contains an instance of pattern-forming creativity created by a patient Frankie targeting Foreman in the presence of Taub, two of House's fellows who have used pattern-forming creativity targeting patients in Table 48. The creative instance underlined has not been picked up by the software ConcGram 1.0 but may shed light on one of the purposes of use of such creativity:

> *[Cut to Frankie's room. Taub and Foreman enter. Joan is sitting in a visitor's chair, reading something on her computer. Frankie is in bed, typing.]*
>
> *......*
>
> *[Joan leaves. Frankie sees both doctors staring at her.]*

Frankie: What? She reads my blog.

Taub: [to Foreman after looking at Frankie's laptop] Personally, <u>I don't think you're condescending at all.</u>

Frankie: That's not what I wrote. When you were taking my history, I told you I went whitewater rafting six months ago, and you said, [snootily] "it was unlikely to be related." I was just giving information. Let's face it. You got a little snarky.

Foreman: You can't convey a tone of voice in writing.

Frankie: I just put what you said. If you don't want people to think you're condescending, maybe you shouldn't say condescending things. [Taub nods]

Indeed, pattern-forming creativity can be used to serve many purposes – either friendly or hostile. In the case of doctor-patient talk, doctors are the experts who are in the active position to request patient's history and administer treatments whereas patients are the help-seekers who are in the passive position to take requests from doctors and be ready to offer the best cooperation whenever they are asked to. Given this prerequisite in the default relationship between doctors and patients, an instance of pattern-forming creativity produced by a doctor may be easily perceived by a patient as if the doctor is more intelligent and more important than they are, hence Frankie's perception of Foreman as being "a little snarky" and "condescending". Going through all the concordance lines created by doctors targeting patients in patient's room, exam room and park, it is safe to claim that such use of pattern-forming creativity has been mostly perceived as "condescending" and rarely as understanding.

6.3.3.2.6. Negotiation

Socio-semiotic process	Count	Percentage
⊟**exploring**		
⊟**exploring-arguing**	195	34.70%
⊟Negotiation	25	4.45%
Cuddy's office	7	1.25%
Hospital corridor	6	1.07%
Patient's room	3	0.53%
Hospital lecture hall	2	0.36%
Stacey's office	1	0.18%
Outside OR	1	0.18%
Wilson's office	1	0.18%
Exam room	1	0.18%
Amber's home	1	0.18%
Hospital lobby	1	0.18%
Outside Cuddy's office	1	0.18%

Table 49 Excerpt of PivotTable for negotiation

Following doctor-patient talk (60 concgrams) is negotiation (40 concgrams, 25 above 1% significance in conversation types) in fifth place. Conversation type 'negotiation' is defined as a dialogue between two characters who appear to possess relatively equal power at the moment of discussion to reach an agreement. An example of negotiation with pattern-forming creativity from Season 5 Episode 12 *Painless* (pattern-forming creativity underlined) is provided below:

[Cut to Cuddy's office. House is sitting on the edge of the desk, running his finger over the wood. Cuddy enters, wearing her coat.]

House: Need to cut off a guy's head. [Cuddy turns to leave.] Got to figure out if his pain's coming from his brain or his body. [She pauses at the door.] A stiff shot of lidocaine below the brain stem should numb him all the way down to his tippy toes.

Cuddy: And hearing me say "no" over the phone wasn't good enough?

House: I'm inconveniencing you because you inconvenienced me.

Cuddy: You know that foster-care official is coming in the morning.

House: If they weren't, there'd be no inconvenience.

Cuddy: Do not try and force me to choose between my child!

House: I'm forcing you to do your job! If you can't also…

Cuddy: Fine, you want to separate a patient's central nervous system from the rest of his body.

House: If the pain stays, it's in his brain. If it vanishes?

Cuddy: And what about options three, four, and five? His respiratory system freezes, or he dies of infection, or he leaks CNS fluid like a fire hydrant, which would make him wish he were dead?

House: You need to scratch option five. He's already there.

Cuddy: You preach objectivity, but as soon as a patient comes in in pain, all you want to do is look under the hood. You don't care if there's a one-in-three chance you'll kill him.

House: If I don't diagnose him, there's a one-in-one chance he'll kill himself.

Cuddy: [Checks her cell phone which is beeping] I gotta go. Do whatever it is you think is right.

Significant percentage of negotiation has been recorded in Exploring-arguing. Table 49 shows an excerpt of PivotTable for conversation type 'negotiation'. Negotiation constitutes to a total of 25 concgrams above 1% significance in conversation types. Among the 25 concgrams (4.45%) of negotiation in 195 concgrams (34.70%) of Exploring-arguing, the top 3 most frequent locations of occurrence are Cuddy's office (7 concgrams, 1.25%), hospital corridor (6 concgrams, 1.07%) and patient's room (3

concgrams, 0.53%). As shown in Table 50, there is a total of 17 locations for negotiation and can be classified into mainly two groups of settings, 4 of which are non-hospital venues such as street, park, convenient store, and Amber's home, as well as 13 others within hospital premises such as hospital corridor, Cuddy's office, patient's room, outside Cuddy's office, Outside OR, ER, hospital lecture hall, Wilson's office, Stacey's office, Foreman's office, exam room, hospital lobby and Nolan's office.

Locations of negotiation	Count	Percentage
Hospital corridor	11	27.50%
Cuddy's office	8	20.00%
Patient's room	3	7.50%
Outside Cuddy's office	2	5.00%
Outside OR	2	5.00%
ER	2	5.00%
Hospital lecture hall	2	5.00%
Wilson's office	1	2.50%
Street	1	2.50%
Park	1	2.50%
Convenient store	1	2.50%
Stacey's office	1	2.50%
Foreman's office	1	2.50%
Exam room	1	2.50%
Amber's home	1	2.50%
Hospital lobby	1	2.50%
Nolan's office	1	2.50%
Grand Total	40	100.00%

Table 50 Locations for socio-semiotic process of negotiation

Hospital corridor is the most popular venue for negotiation-related pattern-forming creativity with 11 concgrams (27.50%), followed by Cuddy's office with 8 concgrams (20.00%) and then patient's room with 3 concgrams (7.50%).

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
2	6	paperwork	pointless	2	0.229885	1.40261	6.929258	Y	Co-construct	Y	1 per hour. She 's	Cuddy-House	Hospital corri	Negotiation	sharing-sharing experiences	6
1	1	mistakes	when	2	0.223714	1.384832	5.588964	Y	Co-construct	Y	Because I 'm a doctor. ;	Cuddy-House	Hospital corri	Negotiation	sharing-sharing experiences	6
1	1	ago	office	2	0.223714	1.384832	5.588964	Y	Co-construct	Y	I was expecting you in n	Cuddy-House	Hospital corri	Negotiation	exploring-arguing	6
1	1	basement	Meth	2	0.223714	1.408337	7.910893	Y	Co-construct	Y	as I know she 's	Foreman-Camerc	Hospital corri	Negotiation	recreating-dramatising	6
1	22	irresponsible	maybe	2	0.339559	1.389157	5.818658	Y	Co-construct	Y	No, I just	House-Cameron	Hospital corri	Negotiation	exploring-arguing	6
3	4	say	freestyling	2	0.220751	1.407882	7.803324	Y	Co-construct	Y	thought. House I	House-Cuddy	Hospital corri	Negotiation	exploring-arguing	9
3	4	Johnny	Suzie	2	0.220751	1.407882	7.803324	Y	Non-co-cons	Y	them now, I	House-Cuddy	Hospital corri	Negotiation	exploring-arguing	9
2	6	so	comforting	2	0.229885	1.356194	4.60733	Y	Non-co-cons	Y	imagine how that	House-Cuddy	Hospital corri	Negotiation	sharing-sharing experiences	6
1	11	go	without	2	0.268817	1.334415	4.147488	Y	Co-construct	Y	me, I defend it.	House-Cuddy	Hospital corri	Negotiation	exploring-arguing	6
1	1	Get	picture	2	0.223714	1.365735	4.866498	Y	Non-co-cons	Y	her throat. Ca n't get a ;	House-team	Hospital corri	Negotiation	recommending-promoting	6
1	1	highly	unlikely	2	0.223714	1.408337	7.910893	Y	Co-construct	Y	She 's 20. Whatever she	House-Wilson	Hospital corri	Negotiation	exploring-arguing	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st insta	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	13	lowe	world	3	0.360144	1.683922	5.169424	Y	Co-construct	Y	1 other in the	Amber-Cuddy & Wilson	Cuddy's office	Negotiation	exploring-arguing	9
1	1	Jagger	philosophe	2	0.223714	1.408337	7.910893	Y	Co-construct	Y	1 you to do your	Cuddy-House	Cuddy's office	Negotiation	exploring-arguing	6
2	6	Lucas	Mr	2	0.229885	1.405511	7.344296	Y	Co-construct	Y	1 10am tomorrow.	Cuddy-Patient's manager	Cuddy's office	Negotiation	exploring-arguing	6
5	12	chance	one	2	0.284091	1.716621	6.810572	Y	Co-construct	Y	1 If I do n't	House-Cuddy	Cuddy's office	Negotiation	exploring-arguing	6
5	12	inconvenienc	inconvenienc	2	0.284091	1.407914	7.810572	Y	Co-construct	Y	1 our lesson?	House-Cuddy	Cuddy's office	Negotiation	exploring-arguing	6
5	12	chance	kill	2	0.284091	1.407914	7.810572	Y	Non-co-cons	Y	1 If I do n't	House-Cuddy	Cuddy's office	Negotiation	exploring-arguing	6
4	9	said	wrongs	2	0.273973	1.396157	6.291299	Y	Non-co-cons	Y	1 all be right. You	House-Cuddy	Cuddy's office	Negotiation	sharing-sharing experiences	6
1	1	patients	letting	2	0.223714	1.399523	6.588964	Y	Non-co-cons	Y	1 you need."	House-Cuddy	Cuddy's office	Negotiation	exploring-arguing	6

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
7	23	mask	monkey	2	0.32	1.410625	8.622357	Y	Co-construct	Y	1 entire body in p	Chase-House	Patient's room	Negotiation	exploring-arguing	6
4	11	department	Psych	2	0.232288	1.396721	6.377126	Y	Co-construct	Y	1 do I even give	Cuddy-House	Patient's room	Negotiation	exploring-arguing	6
4	11	crazy	person	2	0.232288	1.402552	6.922089	Y	Non-co-cons	Y	1 Patient 's a crazy person	Cuddy-House	Patient's room	Negotiation	exploring-arguing	6

Table 51 PivotTables of negotiation-hospital corridor, Cuddy's office and patient's room

Once again, **hospital corridor** has shown to be a highly vibrant venue for various types of conversation and their respective pattern-forming creativity to occur, including chat (20 concgrams), DDX-ing (16 concgrams), negotiation (11 concgrams) and private chat (5 concgrams). Hospital corridor accounts for 27.5% of all creative negotiation and more than half belongs to Exploring-arguing (6 concgrams of 11), which means more than one in every four instances of pattern-forming creativity associated with negotiation happens together with doctors' dynamic movements along hospital corridors and more than half of them are argumentative. From Table 51, it can be seen that 7 out of 11 concgrams of pattern-forming creativity in negotiation in hospital corridor are created by House, including 4 targeting Cuddy, 1 targeting Cameron, 1 targeting his team and the remaining 1 targeting Wilson; the other 4 out of 11 concgrams of pattern-forming creativity include 3 created by Cuddy targeting House and 1 created by Foreman targeting Cameron. The figures show that in terms of negotiation along hospital corridors, the number of concgrams of pattern-forming creativity produced by House and Cuddy targeting one another differs only by 1, which is similar to the results shown in private chat in Cuddy's office.

Cuddy's office on the other hand, is almost entirely a location for argumentative negotiation, as 7 out of 8 concgrams of pattern-forming creativity are under Exploring-arguing. As Cuddy's office is the office of the Dean of Medicine of the entire hospital, the frequency of concgrams also points to the context of discourse which Cuddy is generally involved in the TV drama. Although patient's room is ranked third in the list of locations of negotiation, concgram count shows it is only half as frequent as that of hospital corridor or Cuddy's office. From Table 51, it can be seen that 5 out of 8 concgrams are created by House targeting Cuddy, 2 out of 8 are created by Cuddy targeting House and patient's manager respectively, and the last one is created by Amber targeting Cuddy and Wilson. The figures demonstrate that while House remains dominant in his use of pattern-forming creativity in Cuddy's office and he does not shy away from targeting his creativity to his boss in negotiations, Cuddy has mostly been the target of creativity rather than the creator. Despite that, Cuddy has been a consistent

producer of pattern-forming creativity targeting mostly House in hospital corridor and her office in negotiation as well as in her office in private chat.

Negotiation in **patient's room** further extends Cuddy's consistency in her use of pattern-forming creativity to patient's room. From Table 51, it can be seen that 2 out of 3 concgrams are created by Cuddy targeting House while the remaining one is created by Chase targeting House. House appears to be the only target of pattern-forming creativity in negotiation in this location.

6.3.3.2.7. Employer-employee talk

⊟expounding		
⊟**expounding-explaining**	**138**	**24.56%**
⊟Employer-employee talk	12	2.14%
Hospital lecture hall	2	0.36%
House's office	2	0.36%
House's conference room	2	0.36%
Patient's meeting room	1	0.18%
Sensory deprivation tank room	1	0.18%
Patient's room	1	0.18%
Foreman's office	1	0.18%
Hospital lobby	1	0.18%
Hospital corridor	1	0.18%

Table 52 Excerpt of PivotTable for employer-employee talk

Following negotiation (40 concgrams) is employer-employee talk (33 concgrams, 12 above 1% significance in conversation types) in sixth place. Since almost the entire series is based on employers and employees working in the same hospital, the general definition of employer-employee talk will be overly broad and will be of limited use in this research, therefore, the term 'employer-employee talk' will have to be defined in a much narrower and specific sense.

Conversation type 'employer-employee talk' refers to dialogues between an employer and their employees but unlike 'negotiation', which is mostly conversation of equal power with an aim to reach an agreement, an 'employer-employee talk' is a conversation generally of unequal power. An example of employer-employee talk with pattern-forming creativity from Season 4 Episode 2 *The Right Stuff* (pattern-forming creativity underlined) is provided below:

> *[Cut to House entering the lecture theatre. Fellowship contestants quickly gets back in their seats.]*

House:…[26, 2 and 10 put up their hand. House starts to write on a piece of paper] Okay, here is her address, I want you to break in, <u>find out what she's hiding.</u> [The three of them start to leave, 26 takes the address on the way out, 2 stops next to House]

2 [Female, Russian accent.]: Why don't we just ask the patient for the key?

HOUSE: Well, if we could find out what she's hiding just by asking we'd have to redefine hiding. You want to live in this country, learn the language. [2 leaves.]

Significant percentage of doctor-patient's family talk has been recorded in Expounding-explaining. Table 52 shows an excerpt of PivotTable for conversation type 'employer-employee talk'. Doctor-patient's family talk constitutes to a total of 12 concgrams above 1% significance in conversation types. Among the 12 concgrams (2.14%) of employer-employee talk in 138 concgrams (24.56%) of Expounding-explaining, the most frequent locations of occurrence are House's conference room (2 concgrams, 0.36%), House's office (2 concgrams, 0.36%) and hospital lecture hall (2 concgrams, 0.36%). As shown in Table 53, there is a total of 14 locations for employer-employee talk and 12 out of those 14 are within hospital premises such as hospital lecture hall, hospital corridor, House's conference room, House's office, hospital lobby, Cuddy's office, exam room, procedure room, Foreman's office, sensory deprivation tank room and MRI room, while 2 out of 14 are non-hospital venues such as patient's meeting room and Nolan's office.

Locations of employer-employee talk	Count	Percentage
Hospital lecture hall	6	18.75%
Hospital corridor	5	15.63%
House's office	4	12.50%
House's conference room	4	12.50%
Hospital lobby	2	6.25%
Cuddy's office	2	6.25%
Exam room	2	6.25%
Patient's meeting room	1	3.13%
Procedure room	1	3.13%
Patient's room	1	3.13%
Sensory deprivation tank room	1	3.13%
Nolan's office	1	3.13%
Foreman's office	1	3.13%
MRI room	1	3.13%
Grand Total	32	100.00%

Table 53 Locations for socio-semiotic process of employer-employee talk

It can be seen that patient's room is the most employer-employee talk-intensive pattern-forming creativity hotspot with 6 concgrams (18.75%). Hospital corridor is ranked second with 5 concgrams (15.63%), while House's office and House's conference room share third place with 4 concgrams (12.50%).

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st inst	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid
4	2 hiding	asking		2	0.274348	1.409845	8.338613	Y	Co-construct	Y	1	the key? Well, if	House-2	Hospital lecture hall	Employer-employee talk	expounding-explaining	6
4	2 as	far		2	0.274348	1.36179	4.75365	Y	Non-co-cons	Y	1	- You melt it.	House-contestants	Hospital lecture hall	Employer-employee talk	expounding-explaining	4
4	2 mean	sick		2	0.274348	1.388002	5.75365	Y	Co-construct	Y	1	We need to	House-contestants	Hospital lecture hall	Employer-employee talk	enabling-instructing	5
4	2 Bin	Laden		4	0.548697	1.983525	6.923575	Y	Co-construct	Y	1	As far as you 've	House-contestants	Hospital lecture hall	Employer-employee talk	enabling-instructing	5
4	2 hand	deader		2	0.274348	1.411301	8.923575	Y	Non-co-cons	Y	1	happened to	House-contestants	Hospital lecture hall	Employer-employee talk	enabling-instructing	4
4	7 him	keeping		2	0.18797	1.340674	4.265345	Y	Co-construct	Y	1	you were wrong.	House-Kutner	Hospital lecture hall	Employer-employee talk	exploring-reviewing	4

Season	Episode	Cncgrm1	Cncgrm2	No. of inst	%	t-score	MI	Creative?	Reason?	1st inst	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid
7	21 push	shove		2	0.23753	1.407973	7.824163	Y	Co-construct	Y	1	nights?" I'm	Cuddy-Foreman	Hospital corridor	Employer-employee talk	exploring-arguing	6
4	7 family	Stay		2	0.18797	1.397243	6.380822	Y	Non-co-cons	Y	1	Taub. I do	Cuddy-Taub & House	Hospital corridor	Employer-employee talk	enabling-regulating	4
4	2 structurally	sound		3	0.411523	1.72135	7.338613	Y	Co-construct	Y	1	me 13. I'm not	House-2	Hospital corridor	Employer-employee talk	reporting-chronicling	4
2	14 heart	beats		2	0.343053	1.367801	4.929329	Y	Non-co-cons	Y	1	if her heart 's no	House-Cameron	Hospital corridor	Employer-employee talk	expounding-explaining	6
1	16 worrying	asses		2	0.20429	1.411352	8.949097	Y	Non-co-cons	Y	1	wants to know	House-Chase & Cameron	Hospital corridor	Employer-employee talk	enabling-regulating	5

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
8	9 black	Pawn		2	0.278164	1.411077	8.81645	Y	Non-co-cons	Y	1	you read it,	Adams-Foreman	House's conference room	Employer-employee talk	doing-directing	5
8	20 Interesting	tense		2	0.375235	1.398873	6.526499	Y	Non-co-cons	Y	1	Rendering	House-Foreman	House's conference room	Employer-employee talk	exploring-reviewing	6
8	9 great	micromanag		2	0.278164	1.404803	7.231488	Y	Non-co-cons	Y	1	the temptation to	House-Foreman	House's conference room	Employer-employee talk	expounding-explaining	4
5	17 best	friend		2	0.232288	1.398236	6.467832	Y	Co-construct	Y	1	're jealous that	House-Taub	House's conference room	Employer-employee talk	expounding-explaining	4

Season	Episode	Cncgrm1	Cncgrm2	No. of instance	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	2 poll	pit		2	0.274348	1.405476	7.338613	Y	Non-co-cons	Y	1	fake test, might	House-18	House's office	Employer-employee talk	enabling-instructing	5
2	2 drunken	medium		3	0.411523	1.728484	8.923575	Y	Non-co-cons	Y	1	deterioration is	House-18	House's office	Employer-employee talk	enabling-instructing	6
8	9 moron	say		2	0.278164	1.395392	6.231488	Y	Non-co-cons	Y	1	as a team	House-Foreman	House's office	Employer-employee talk	expounding-explaining	4
6	4 killed	confidence		2	0.326797	1.407228	7.661481	Y	Co-construct	Y	1	I was right in	House-Foreman	House's office	Employer-employee talk	expounding-explaining	6

Table 54 PivotTables of employer-employee talk – hospital lecture hall, hospital corridor and House's conference room

In all 20 concgrams of pattern-forming creativity in employer-employee talk, 10 of them appeared during House's "extended job interview slash reality TV" (Cuddy, Season 4 Episode 5 *Mirror, Mirror*) happening between Season 4 Episode 2 and Episode 9, including 8 concgrams in Episode 2 *The Right Stuff* and 2 concgrams in Episode 7 *Ugly*.

Hospital lecture hall ranks the highest in pattern-forming creativity productivity in employer-employee talk. From Table 54, it can be seen that all 6 out of 6 concgrams of pattern-forming creativity in employer-employee talk are created by House including 1 targeting (fellowship contestant) number 2, 4 targeting fellowship contestants as a group, 1 targeting then- fellowship contestant Kutner.

Hospital corridor is the next most pattern-forming creativity productive location in employer-employee talk with 5 concgrams. From Table 54, it can be seen that 2 out of 5 concgrams of pattern-forming creativity in employer-employee talk are created by Cuddy, one of which targeting Foreman and the other targeting Taub and House; 3 out of 5 concgrams are created by House, 1 of which targeting fellowship contestant number 2, another targeting Cameron and the last targeting Chase and Cameron.

House's conference room shares third place with House's office with 4 concgrams. From Table 54, it can be seen that 3 out of 4 concgrams are created by House, 2 of which targeting Foreman and 1 of which targeting Taub; 1 out of 4 is created by Adams targeting Foreman. It is worth noting that Foreman is the main target of pattern-forming creativity in House's conference room, contributing 3 out of 4 concgrams in Season 8, which is a time when Foreman earns a promotion and becomes the Dean of Medicine of Princeton-Plainsboro Teaching Hospital (PPTH) replacing Cuddy and becoming House's new boss. From Table 54, it can be seen that all 4 out of 4 concgrams of pattern-forming creativity in employer-employee talk in **House's office** are created by House, with 2 targeting fellowship contestant number 18 and 2 targeting Foreman.

The data has not only shown the fact that House is an active producer of pattern-forming creativity in employer-employee talk in hospital lecture hall, but has also shown that such production is mostly happening during his fellowship job interview between

Season 4 Episode 2 and Episode 9. Such pattern is extended to locations such as hospital corridor and House's office. Such abundance of pattern-forming creativity during the extended job interview/reality TV in which House is the boss of 40 fellowship contestants/interviewees has exposed the fact that House seldom adopts pattern-forming creativity in employer-employee talk with his permanent employees at any other time. The extended job interview/reality TV appears to be a special event which has provided unique opportunities for House to generate more pattern-forming creativity in employer-employee talk than any other times. Perhaps the following dialogue between House and Cuddy in Season 4 Episode 9 *Games* has the answer:

> *[PPTH Lecture Hall. Day. House sits at the piano (near the side door) and plays. The door at the back opens and Cuddy enters. She "ahems", getting his attention. He looks back at her and stops playing.]*
>
> *House: Dr. Cuddy. The face that launched a thousand long faces.*
>
> *Cuddy: Get control of your patient. Strap him to the bed if you have to.*
>
> *House: I want to keep all four.*
>
> *Cuddy: [firm] You can have two.*
>
> *House: You don't get negotiation, do you? I say four, you say three, we finally settle on three and a half. Which would be good news for Taub.*
>
> *Cuddy: You don't want four. You don't want three. But if I say three, you get to keep playing your game.*

As the name of the episode and the above dialogue suggest, it is possible that the abundance of House's pattern-forming creativity in employer-employee talk during this period of time is due to the fact that House treats this extended job interview/reality TV as a 'game', and this game has created a difference in the dynamics of the contestants/doctors' interactions. In the same episode, House lies about firing 13 and Kutner in order to force ideas out of the pair of contestants during a DDX. After House

has got a satisfactory idea, he says, "Competition works." (Season 4 Episode 9 *Games*) In the immediate episode after the game ended in Season 4 Episode 9, Taub, Kutner and 13 are hired, and House and Cuddy have the following conversation:

House: …I want to hire forty more fellows.

Cuddy: You already fired the ones you hired?

House: They work better when they're scared.

[Cuddy looks half confused until Taub walks in.]

Taub: You were right. Guy slipped her Ecstasy.

[Cuddy looks up, obviously surprised.]

House: He have any symptoms?

Taub: No. Kutner's starting the patient on hemodialysis and Thirteen's in the lab trying to figure out what the guy put in the drugs. [leaves the clinic]

[Cuddy blinks, still confused. House gestures to Taub to make his point.]

House: See? Clear, simple statement of facts describing their cooperation, with absolutely no attitude or fear. [reaches to grab another patient's file]

Cuddy: Something's gotta be done.

House: Oh yeah.

The above dialogue suggests that fear plays an important aspect of the extended job interview/reality TV/game and has placed House and the contestants/interviewees on two ends of the power continuum. When that event comes to an end, that large difference in power/equality between House and the contestants also disappears, and so does House's House's pattern-forming creativity in employer-employee talk. This however does not imply that House no longer engages in employer-employee talk nor

stops producing pattern-forming creativity, it only means that House's employer-employee talk shows much fewer instance of pattern-forming creativity after the extended job interview/reality TV/game and his pattern-forming creativity with the new employees such as Taub, 13 and Kutner has shifted to other conversation types such as DDX-ing.

6.3.3.2.8. Joke

recreating		
recreating-dramatising	38	6.76%
Joke	19	3.38%
House's conference room	4	0.71%
Cuddy's office	3	0.53%
House's office	2	0.36%
Hospital corridor	2	0.36%
Park	1	0.18%
Hardware store	1	0.18%
Plastic surgeon's office	1	0.18%
Patient's office	1	0.18%
Hotel room	1	0.18%
Procedure room	1	0.18%
Airplane	1	0.18%
House's home	1	0.18%

Table 55 Excerpt of PivotTable for joke

Following employer-employee talk (33 concgrams) is joke (23 concgrams, 19 above 1% significance in conversation types) in seventh place. Conversation type 'joke' refers to dialogues between any two characters that is mainly intended to express humour. An example of joke with pattern-forming creativity from Season 4 Episode 7 *Ugly* (pattern-forming creativity underlined) is provided below:

[House sits across a desk from a middle-aged man in long sleeves, tie.]

Ex-partner: Tell me what you don't like about yourself.

House: Uh... gosh. Uh... there's so many things.

[Taub's ex-partner listens attentively.]

House: Ah... is Dr. Taub available? Because he was very highly recommended....

Ex-partner: Well, he's no longer practicing with us, but I've taken over all his files, so if you tell me what needs work...

House: Do you know why he left?

Ex-partner: Well, he had... personal issues to deal with so if we could just....

House: Oh, my Goodness! Is he okay?

Ex-partner: Oh, yeah. He's fine.

House: 'cause... because my friend had his ears done by Dr. Taub. Should he worry that they may... pop back?

Ex-partner: (smiles gently) No. It wasn't a professional issue. I'm sorry, I really can't go into more detail. Shall we discuss YOUR needs?

[He opens a file.]

House: You know that toe... next to the big toe? Mine's bigger than my big toe. Is there any way to shorten it? Or make my big toe bigger? Like a toe-gmentation? (inquiring) Did he lie, cheat, or steal?

Ex-partner (realizing what House is up to): You're not here for a consultation, are you?

House: What gave me away? Was it my obviously perfect feet?

[House rises, picks up his cane, leaves.]

Significant percentage of joke has been recorded in Recreating-dramatising. Table 55 shows an excerpt of PivotTable for conversation type 'joke'. Joke constitutes to a total of

19 concgrams above 1% significance in conversation types. Among the 19 concgrams (3.38%) of joke in 38 concgrams (6.76%) of Recreating-dramatising, the most frequent locations of occurrence are House's conference room (4 concgrams, 0.71%), Cuddy's office (3 concgrams, 0.53%), House's office (2 concgrams, 0.36%) and hospital corridor (2 concgrams, 0.36%). As shown in Table 56, there is a total of 12 locations for employer-employee talk and 5 out of those 12 are within hospital premises such as Cuddy's office, House's conference room, hospital corridor, House's office and procedure room, while 7 out of 12 are non-hospital venues such as airplane, park, plastic surgeon's office, patient's office, hotel room, hardware store, House's home.

Locations of joke	Count	Percentage
Cuddy's office	5	21.74%
House's conference room	5	21.74%
Hospital corridor	2	8.70%
House's office	2	8.70%
Airplane	2	8.70%
Park	1	4.35%
Plastic surgeon's office	1	4.35%
Patient's office	1	4.35%
Procedure room	1	4.35%
Hotel room	1	4.35%
Hardware store	1	4.35%
House's home	1	4.35%
Grand Total	23	100.00%

Table 56 Locations for socio-semiotic process of joke

It can be seen that Cuddy's office and House's conference room share the most joke-intensive pattern-forming creativity hotspots with 5 concgrams (21.74%). Joke is the only conversation type within the defined significant percentage cut-off which has a higher number of non-hospital venues than hospital premises (7 non-hospital venues versus 5 hospital premises), a level even its other informal conversation types such as chat (18 non-hospital venues versus 18 hospital premises) and private chat (13 non-hospital venues versus 18 hospital premises) have failed to reach.

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	7 little	part	2	0.18797	1.385929	5.643856	Y	Non-co-cons	Y	1	out your	Cuddy-House	Cuddy's office	Joke	exploring-arguing	12
7	4 girl	vibrating	4	0.806452	1.995607	8.830515	Y	Non-co-cons	Y	1	porn on my	House-Cuddy	Cuddy's office	Joke	recreating-dramatising	12
5	12 head	off	2	0.284091	1.371693	5.055684	Y	Co-construct	Y	1	and Carrick. It 's	House-Cuddy	Cuddy's office	Joke	recreating-dramatising	6
4	7 ass	wardrobe	2	0.18797	1.405728	7.380822	Y	Co-construct	Y	1	I want the whole	House-Cuddy	Cuddy's office	Joke	exploring-arguing	12
4	7 movie	Patch	2	0.18797	1.409971	8.380822	Y	Non-co-cons	Y	1	's a joke. See, I	House-Cuddy	Cuddy's office	Joke	recreating-dramatising	7

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	13 One	Thirty	2	0.240096	1.374425	5.151502	Y	Co-construct	Y	1	check out his	House-13	House's conference room	Joke	recreating-dramatising	6
7	4 new	cane	2	0.403226	1.406447	7.508587	Y	Non-co-cons	Y	1	House to I	House-Chase	House's conference room	Joke	recreating-dramatising	9
7	4 shark	tank	2	0.403226	1.408001	7.830515	Y	Co-construct	Y	1	not just place a	House-Chase	House's conference room	Joke	recreating-dramatising	9
4	11 Milk	lemonade	2	0.232288	1.411298	8.922089	Y	Non-co-cons	Y	1	n't mean on this. Seriou	House-Foreman	House's conference room	Joke	recreating-dramatising	7
5	20 maybe	thought	2	0.38835	1.36905	4.968705	Y	Non-co-cons	Y	1	whacking her	House-Taub	House's conference room	Joke	expounding-explaining	9

Table 57 PivotTables of joke- Cuddy's office and House's conference room

It is not surprising that Recreating-dramatising accounts for 7 out of 10 concgrams in joke in Cuddy's office and House's conference room. From Table 57, it can be seen that all 5 out of 5 concgrams of pattern-forming creativity in joke in **Cuddy's office** involve House and Cuddy, including 4 created by House targeting Cuddy and 1 created by Cuddy targeting House. The data shows that House dominates the creation of pattern-forming creativity even in his best friend/boss/Dean of Medicine's office. Overall, Cuddy's office is ranked second in negotiation (8 concgrams), third in private chat (6 concgrams) and first in joke (5 concgrams) in terms of locations of pattern-forming creativity.

In **House's conference room**, 5 out of 5 concgrams are created by House, including 1 targeting 13, 2 targeting Chase, 1 targeting Foreman and 1 targeting Taub. The fact that House's conference room, on various lists of pattern-forming creativity, is ranked first in both DDX-ing (65 concgrams) and joke (5 concgrams) and third in employer-employee talk (4 concgrams) shows that it is not only a venue of all-work-and-no-play, even though the location remains mainly a production house of DXX-ing-related pattern-forming creativity.

6.3.3.2.9. Stating believes

Socio-semiotic process	Count	Percentage
⊟**exploring**		
⊟**exploring-arguing**	195	**34.70%**
⊟Stating believes	11	1.96%
House's office	5	0.89%
Lab	1	0.18%
Hospital cafeteria	1	0.18%
Hospital corridor	1	0.18%
Patient's room	1	0.18%
Hotel corridor	1	0.18%
House's conference room	1	0.18%
⊟**expounding**		
⊟**expounding-explaining**	138	**24.56%**
⊟Stating believes	7	1.25%
Hospital corridor	2	0.36%
Soccer field	1	0.18%
Patient's home	1	0.18%
House's office	1	0.18%
Wilson's office	1	0.18%
Meeting room	1	0.18%

Table 58 Excerpt of PivotTable for stating believes

Following joke (23 concgrams) is stating believes (21 concgrams, 18 above 1% significance in conversation types) in eighth place. Conversation type 'stating believes' takes the literal meaning and refers to one's stating of their philosophical believes. An example of stating believes with pattern-forming creativity from Season 1 Episode 14 *Control* (pattern-forming creativity underlined) is provided below:

[Cut to House looking through his office window. It's raining outside. Wilson walks in.]

House: Beautiful organ donor weather.

Wilson: [in his best 'hands-on-hips' confrontation voice] You lied, didn't you?

House: I never lie.

Wilson: Big mistake.

House: Then you should have voted against putting her on the list.

Wilson: You're my friend.

House: Oh, jeez. Have some backbone. If you think I'm wrong, do something.

Wilson: Wait, you're getting mad at me for sticking up for you?

House: You value our friendship more than your ethical responsibilities.

Wilson: Our friendship is an ethical responsibility……

Significant percentage of stating believes has been recorded in Exploring-arguing and Expounding-explaining. Table 58 shows an excerpt of PivotTable for conversation type 'stating believes'. Stating believes constitutes to a total of 18 concgrams above 1% significance in conversation types. Among the 11 concgrams (1.96%) of stating believes in 195 concgrams (34.70%) of Exploring-arguing, the most frequent location of occurrence is House's office (5 concgrams, 0.89%). Among the 7 concgrams (1.25%) of stating believes in 138 concgrams (24.56%) of Expounding-explaining, the most frequent location of occurrence is hospital corridor (2 concgrams, 0.36%). As shown in Table 59, there is a total of 11 locations for stating believes and can be classified into mainly two groups of settings, 3 of which are non-hospital venues such as hotel corridor, patient's home, and soccer field as well as 8 others within hospital premises such as House's office, hospital corridor, meeting room, patient's room, House's conference room, Wilson's office, hospital cafeteria, and lab.

Locations of stating believes	Count	Percentage
House's office	9	42.86%
Hospital corridor	3	14.29%
Meeting room	1	4.76%
Patient's room	1	4.76%
Hotel corridor	1	4.76%
Patient's home	1	4.76%
House's conference room	1	4.76%
Soccer field	1	4.76%
Wilson's office	1	4.76%
Hospital cafeteria	1	4.76%
Lab	1	4.76%
Grand Total	21	100.00%

Table 59 Locations for socio-semiotic process of stating believes

House's office is the most popular venue for stating believes-related pattern-forming creativity with 9 concgrams (42.86%), followed by hospital corridor with 3 concgrams (14.29%).

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	5	misery	eliminate	2	0.287356	1.409713	8.295641	Y	Non-co-cons Y	1	somewhere. The	House-Brennan	House's office	Stating believes	exploring-arguing	6
3	20	forgive	nothing	2	0.228833	1.383436	5.521993	Y	Non-co-cons Y	1	me numbers?	House-Foreman	House's office	Stating believes	sharing-sharing values	6
1	1	treating	illnesses	2	0.223714	1.406868	7.508964	Y	Co-construct Y		treating patients why we	House-Foreman	House's office	Stating believes	exploring-arguing	6
1	1	Everybody	lies	2	0.223714	1.392178	6.004002	Y	Co-construct Y		Is she a doctor? No, but	House-Foreman	House's office	Stating believes	sharing-sharing values	6
8	6	Screwed	up	12	1.304348	3.63702	4.036813	Y	Non-co-cons Y	2	the angiogram.	House-Taub	House's office	Stating believes	expounding-explaining	7
8	6	one	until	2	0.217391	1.3569	4.624078	Y	Co-construct Y	1	should sacrifice	House-Taub	House's office	Stating believes	exploring-arguing	9
8	6	too	calendar	2	0.217391	1.398452	6.487475	Y	Co-construct Y	1	despised to keep	House-Taub	House's office	Stating believes	exploring-arguing	9
1	3	reality	wrong	2	0.213675	1.369484	4.982613	Y	Co-construct Y	1	I said was true.	House-Wilson	House's office	Stating believes	exploring-arguing	9
1	14	ethical	friendship	2	0.256082	1.40409	7.126131	Y	Co-construct Y	1	ethical	Wilson-House	House's office	Stating believes	sharing-sharing values	9

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
1	19	deal	epidemic	2	0.305344	1.387653	5.734559	Y	Non-co-cons Y	1	do Miss Louganis	House-Cuddy	Hospital corri	Stating believes	exploring-arguing	6
2	14	money	rarely	2	0.343053	1.410898	8.736684	Y	Non-co-cons Y	1	we get stupid	House-Foreman	Hospital corri	Stating believes	expounding-explaining	6
5	20	guilt	love	3	0.582524	1.68485	5.197524	Y	Co-construct Y	1	her a liver.	Taub-House	Hospital corri	Stating believes	expounding-explaining	8

Table 60 PivotTables of stating believes-House's office and hospital corridor

House's office ranks the highest in pattern-forming creativity productivity in chat, private chat and stating believes. From Table 60, it can be seen that out of 9 concgrams of pattern-forming creativity in stating believes, 8 of them are created by House including 3 targeting Foreman, 3 targeting Taub, 1 targeting Wilson and another targeting candidate Brennan; the last one is created by Wilson targeting House. It is not surprising that House dominates the stating believes conversation type in his own office, but it is intriguing to know that House's office has contributed nearly half of all concgrams in this conversation type (42.86%). Coincidentally, House's most favourite pattern-forming creativity targets in his office by frequency, namely Foreman and Taub, are also the two doctors who object to House's philosophy, as demonstrated by the dialogue between House and Foreman from Season 3 Episode 21 *Family* below:

> *House: Because you knew it was right. You knew you were saving his brother.*
>
> *Foreman: [pensively] I know. I don't like that I know. I hate that I can listen to a kid screaming in pain and not even take a moment to question whether I'm doing the right thing. I hate that in order to be like you as a doctor, I have to be like you as a human being. I don't want to turn into you.*

Also the dialogue between Taub and a patient's dad Joe from Season 4 Episode 7 *Ugly*:

> *Taub: Dr. House believes that Kenny has JRA - Juvenile Rheumatoid Arthritis. And we need to start administering steroids.*
>
> *Joe: Will the steroids fix it?*
>
> *Taub: I don't think he has JRA. I think Dr. House is wrong, and that the steroid treatment could be dangerous. I think I can get House thrown off the case, and get Kenny the facial surgery he needs.*

And the dialogue between House and Cuddy from Season 4 Episode 9 *Games*:

> *House: Who would you pick [to fill the two fellowship openings]?*

……

Cuddy: Taub and Kutner. Taub will stand up to you. You won't like him, but you'll respect him. Kutner shares your philosophy of medicine. God knows I don't need two of you, but he will actually help you.

In the first dialogue between House and Foreman, Foreman has made it explicit that he is disgusted by the fact that he has to treat patients the way House does in order to save a patients' life. In the second dialogue between then-fellowship candidate Taub and a patient's dad Joe, Taub boldly tells Joe that he disagrees with House's diagnosis and has a plan to remove his boss from the case of Joe's son Kenny. Such defiance of orders is observed by Cuddy and is mentioned to House in the third dialogue, in which she contrasted two fellowship candidates Taub and Kutner who are of opposing characteristics. That is, while Kutner thinks similarly to House, Taub will reject House's ideas. Judging from the evidence, there is a reason to support the notion that House tends to state his believes through the use of pattern-forming creativity to those who at times disagree with his philosophy, and Foreman and Taub are House's top targets.

Hospital corridor is the next most pattern-forming creativity productive location in stating believes with 3 concgrams, one third of the number in House's office. From Table 60, it can be seen that 2 out of 3 concgrams of pattern-forming creativity in stating believes are created by House targeting Cuddy and Foreman individually. The last one is created by Taub targeting House.

Once again, other than House's best friends Wilson and Cuddy who have each produced a concgram targeting House in House's office and hospital corridor respectively, Foreman and Taub's names also appear in both venues of stating believes. This adds support the above notion about a unique relationship in the pattern-forming creativity occurring between House, Foreman and Taub in the conversation type stating believes at locations such as House's office and hospital corridor. That unique relationship, given the almost one-sided production of pattern-forming creativity by House targeting

Foreman and Taub, could well be House's condescension toward his two most disagreeing employees, similar to that suggested in doctor-patient talk.

6.3.3.2.10. Doctor-patient's family talk

expounding		
expounding-explaining	138	24.56%
Doctor-patient's family talk	13	2.31%
Hospital corridor	5	0.89%
Patient's room	3	0.53%
Operating room	2	0.36%
Hospital lobby	1	0.18%
Quarantine room	1	0.18%
House's office	1	0.18%

Table 61 Excerpt of PivotTable for doctor-patient's family talk

Following stating believes (21 concgrams) is doctor-patient's family talk (18 concgrams, 13 above 1% significance in conversation types) in ninth place. Conversation type 'doctor-patient's family talk' refers to all conversations between one or more doctors and any admitted patient's family members, irrespective of the content. An example of doctor-patient's family talk with pattern-forming creativity from Season 4 Episode 13 *No More Mr. Nice Guy* (pattern-forming creativity underlined) is provided below:

> *[Cut to House and Kutner walking into patient Jeff's room. Deb is Jeff's wife.]*
>
> *House: Good news, bad news. Good news is we know what you have, it's treatable, you're going to live. [Both Deb and Jeff smile.]*
>
> *Jeff: Really?*
>
> *Deb: What's the <u>bad news</u>?*
>
> *House: The cure is a grueling course of pills. It's like one a day for a month.*
>
> *House: Yeah, like that's a challenge.*

Significant percentage of doctor-patient's family talk has been recorded in Expounding-explaining. Table 61 shows an excerpt of PivotTable for conversation type 'doctor-patient's family talk'. Doctor-patient's family talk constitutes to a total of 13 concgrams

above 1% significance in conversation types. Among the 13 concgrams (2.31%) of doctor-patient's family talk in 138 concgrams (24.56%) of Expounding-explaining, the most frequent locations of occurrence are hospital corridor (5 concgrams, 0.89%), patient's room (3 concgrams, 0.53%) and operating room (2 concgrams, 0.36%). As shown in Table 62, there is a total of 7 locations for doctor-patient's family talk and 6 out of those 7 are within hospital premises such as patient's room, hospital corridor, House's office, operating room, hospital lobby and quarantine room, while the final 'location' namely phone call is made from a medical conference venue to the patient's room.

Locations of doctor-patient's family talk	Count	Percentage
Patient's room	6	33.33%
Hospital corridor	5	27.78%
House's office	2	11.11%
Operating room	2	11.11%
Hospital lobby	1	5.56%
Quarantine room	1	5.56%
Phone call	1	5.56%
Grand Total	18	100.00%

Table 62 Locations for socio-semiotic process of doctor-patient's family talk

It can be seen that patient's room is the most doctor-patient's family talk-intensive pattern-forming creativity hotspot with 6 concgrams (33.33%). Hospital corridor is the next doctor-patient's family talk-friendly with 5 concgrams (27.78%) while House's office and operating room share third place with 2 concgrams (11.11%).

Season	Episode	Cncgrm1	Cncgrm2	No.of in	%	t-score	MI	Creativ	Reason?	1st insta	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
2	6	acid	reflux	2	0.229885	1.405511	7.344296	Y	Co-construct	Y	1	's drugs. Look,	Chase-patient's manager	Patient's room	Doctor-patient's family talk	expounding-explaining	6
2	3	juice	talking	2	0.225989	1.389453	5.835787	Y	Non-co-cons	Y	1	n't work	House-Cuddy	Patient's room	Doctor-patient's family talk	reporting-chronicling	6
4	7	care	should	2	0.18797	1.335018	4.158429	Y	Co-construct	Y	1	believe you. A	House-patient's dad	Patient's room	Doctor-patient's family talk	sharing-sharing values	6
4	7	God	Thank	2	0.18797	1.363302	4.795859	Y	Co-construct	Y	1	the same. He	House-patient's dad	Patient's room	Doctor-patient's family talk	sharing-sharing values	3
4	13	bad	news	2	0.240096	1.695954	5.584461	Y	Co-construct	Y	1	you 're going to	House-patient's family	Patient's room	Doctor-patient's family talk	expounding-explaining	4
4	13	nice	toaster	2	0.240096	1.389161	5.818927	Y	Co-construct	Y	1	much more	House-patient's family	Patient's room	Doctor-patient's family talk	expounding-explaining	4

Season	Episode	Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
1	3	enough	cared	2	0.213675	1.406759	2.567576	Y	Non-co-cons	Y	1	is: who stopped	House-patient's family	Hospital corridor	Doctor-patient's family talk	expounding-explaining	6
1	16	your	insincerity	2	0.20429	1.361279	4.739644	Y	Co-construct	Y	1	Oh, please. Saw	House-patient's mum	Hospital corridor	Doctor-patient's family talk	expounding-explaining	6
1	16	diet	exercise	3	0.306435	1.689998	5.364135	Y	Co-construct	Y	1	you 'll be happy	House-patient's mum	Hospital corridor	Doctor-patient's family talk	expounding-explaining	6
3	2	surgery	talking	2	0.252045	1.400968	6.738374	Y	Co-construct	Y	1	ones we cut	House-patient's parents	Hospital corridor	Doctor-patient's family talk	expounding-explaining	4
1	3	met	one	2	0.213675	1.330718	4.082149	Y	Co-construct	Y	1	we have n't met	Patient's father-Home	Hospital corridor	Doctor-patient's family talk	expounding-explaining	6

Season	Episode	Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
8	6	him	cooking	3	0.326087	1.682915	5.139551	Y	Non-co-cons	Y	1	I have no	House-patient's wife	House's office	Doctor-patient's family talk	expounding-explaining	1
8	6	Imaginary	sent	2	0.217391	1.405617	7.361944	Y	Non-co-cons	Y	1	medicine is	House-patient's wife	House's office	Doctor-patient's family talk	recreating-dramatising	1

Season	Episode	Cncgrm1	Cncgrm2	No.of ins	%	t-score	MI	Creative?	Reason?	1st insta	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
3	4	Monkey	red	2	0.220751	1.401551	6.803324	Y	Non-co-cons	Y	1	No, that was	House-patient's parents	Operating room	Doctor-patient's family talk	expounding-explaining	6
3	4	berries	red	2	0.220751	1.407882	7.803324	Y	Non-co-cons	Y	1	of vicodin? What	House-patient's parents	Operating room	Doctor-patient's family talk	expounding-explaining	4

Table 63 PivotTables of doctor-patient's family talk – patient's room, hospital corridor and House's office

Patient's room ranks the highest in pattern-forming creativity productivity in doctor-patient talk and doctor-patient's family talk. From Table 63, it can be seen that out of 6 concgrams of pattern-forming creativity in doctor-patient's family talk, 5 of them are created by House including 1 targeting Cuddy, 2 targeting patient's dad, 2 targeting patient's family; the last one is created by Chase targeting a patient's manager. For a patient's room to be the key location for doctor-patient's family talk or even doctor-patient talk would be a commonsensical presupposition, as it is the venue where doctors would most likely meet the patient and the patient's family. However, data shows that doctors apart from House rarely use pattern-forming creativity targeting patient's family in patient's room, even in the case in which Chase is seen using such creativity, he is not targeting the patient's direct family member but rather his manager. The same can be said about the case along hospital corridor and in operating room, where House contributed to a total of 6 out of 7 concgrams but none by other doctors. These include 4 out of 5 concgrams in **hospital corridor** generated by House targeting patient's family, mum and parents, 2 out of 2 concgrams in **House's office** generated by House targeting patient's wife and 2 out of 2 concgrams in **operating room** generated by House targeting patient's parents.

Probability-wise, it is worth noting that although House is contributing to most of the pattern-forming creativity recorded in doctor-patient talk and doctor-patient's family talk, he is in fact the doctor who spends the least amount of time with patients and their families. This makes his 'time spent with patients and their families' to 'production of pattern-forming creativity' conversion rate much higher than any other doctors. Such characteristic of House is foregrounded in the first episode of the entire series, Season 1 Episode 1 *Pilot: Everybody Lies* (pattern-forming creativity underlined):

> *Foreman: Shouldn't we be speaking to the patient before we start diagnosing?*
>
> *House: Is she a doctor?*
>
> *Foreman: No, but?*

House: Everybody lies.

Cameron: Dr. House doesn't like dealing with patients.

Foreman: Isn't treating patients why we became doctors?

House: No, treating illnesses is why we became doctors, treating patients is what makes most doctors miserable.

Foreman: So you're trying to eliminate the humanity from the practice of medicine.

House: If we don't talk to them <u>they can't lie to us, and we can't lie to them</u>. Humanity is overrated……

And also in Season 1 Episode 3 *Occam's Razor* from a scene picked up by two of the concgrams in doctor-patient's family talk along a hospital corridor (pattern-forming creativity underlined):

House: I'm Dr. House. I'm your son's physician.

Mrs. Merrell: Oh, you're the one we haven't met yet.

Mr. Merrell: <u>You're the one he hasn't met.</u> How can you treat someone without meeting them?

House: It's easy if you don't give a crap about them. That's a good thing. If emotions made you act rationally, then they wouldn't be called emotions, would they? That's why we have this nice division of labor: you hold his hand, I get him better. <u>If I start tucking him in at night, well, that's not fair to you guys, and if you start prescribing medicine, that's not fair to me</u>. So what I want to know is: who stepped on my side of the med? <u>Who cared enough to get stupid enough to give him his cough medicine?</u>

The roles of pattern-forming creativity used by House targeting patient's family in doctor-patient's family talk (10 concgrams) is mostly Expounding-explaining (8 out of 10 concgrams) and infrequently Sharing-sharing values (2 out of 10 concgrams).

6.3.3.2.11.　Giving procedural instructions

enabling		
enabling-instructing	40	7.12%
Giving procedural instructions	9	1.60%
House's conference room	3	0.53%
ER	2	0.36%
Locker room	1	0.18%
Van	1	0.18%
Airplane	1	0.18%
Hospital corridor	1	0.18%

Table 64 Locations for socio-semiotic process of giving procedural instructions

Following doctor-patient's family talk (18 concgrams) is giving procedural instructions (10 concgrams, 9 above 1% significance in conversation types) in tenth place. Conversation type 'giving procedural instructions' takes the literal meaning and refers to dialogues between two characters which are related to giving procedural instructions which may or may not be medical. An example of giving procedural instructions with pattern-forming creativity from Season 4 Episode 15 *House's Head* (pattern-forming creativity underlined) is provided below:

> *[Cut to PPTH emergency room. House is being treated by Cameron after a bus crash and is suffering from concussion. He looks around at all the injured people and sees another short flashback. Taub, Thirteen and Kutner walk up to House.]*
>
> *Taub: You okay?*
>
> *House: Perfect. Uh...Uh...You. [Points to Taub.] Get histories from everyone in here.*
>
> *Wilson: Did you just forget his name?*
>
> *House: No. [To Thirteen] Lesbian. Find out if anybody on that bus was taken to other hospitals.*

13: You just forgot mine.

13: No, 13. I just wanted to call you a lesbian.

13: I'm not a lesbian.

House: I was rounding up, from 50%. [To Kutner] Find my cane and motorcycle. Figure out where I went last night.

Kutner: [Pulls out a pen and opens a file.] Where's your cane and motorcycle? And where'd you go last night?

House: You're going to trust me? I lie about everything. [The three of them leave.]

Significant percentage of giving procedural instructions has been recorded in Enabling-instructing. Table 64 shows an excerpt of PivotTable for conversation type 'giving procedural instructions'. Giving procedural instructions constitutes to a total of 9 concgrams above 1% significance in conversation types. Among the 13 concgrams (2.31%) of giving procedural instructions in 40 concgrams (7.12%) of Enabling-instructing, the most frequent locations of occurrence are House's conference room (3 concgrams, 0.53%) and ER (2 concgrams, 0.36%). As shown in Table 65, there is a total of 7 locations for doctor-patient's family talk and 5 out of 7 are within hospital premises such as House's conference room, ER, morgue, locker room and hospital corridor while 2 out of 7 are non-hospital venues such as in a van and on an airplane.

Locations of giving procedural instructions	Count	Percentage
House's conference room	3	30.00%
ER	2	20.00%
Morgue	1	10.00%
Locker room	1	10.00%
Hospital corridor	1	10.00%
Van	1	10.00%
Airplane	1	10.00%
Grand Total	10	100.00%

Table 65 Locations for socio-semiotic process of giving procedural instructions

It can be seen that House's conference room and ER (Emergency Room) are the most giving procedural instructions-intensive pattern-forming creativity hotspots with 3 (30.00%) and 2 concgrams (20.00%) respectively.

Season	Episode	Cncgrm1	Cncgrm2	No. of in	%	t-score	MI	Creative?	Reason?	1st ins	Concordance lines	Participants	Location	Conversation type	Socio-semiotic pro	Grid Number
8	20 evil		nemesis	2	0.375235	1.410378	8.526499	Y	Non-co-cons	Y	Adams, you	House-Adams & Chase	House's conference room	Giving instructions	enabling-instructing	4
6	18 out		Middle	2	0.404858	1.370759	5.024358	Y	Non-co-cons	Y	Renaissance Fair.	House-team	House's conference room	Giving instructions	enabling-instructing	5
5	17 go		Phineas	2	0.232288	1.330333	4.075515	Y	Non-co-cons	Y	Staph aureus,	House-team	House's conference room	Giving instructions	enabling-instructing	4

Season	Episode	Cncgrm1	Cncgrm2	No. of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines	Participants	Location	Conversation type	Socio-semiotic process	Grid Number
4	15 neck		stiff	2	0.327869	1.403239	7.009673	Y	Co-construct	Y	Everything's	House-patient	ER	Giving procedural instructions	enabling-instructing	4
4	15 cane		motorcycl	2	0.327869	1.403239	7.009673	Y	Co-construct	Y	a lesbian. I was	Kutner-House	ER	Giving procedural instructions	enabling-instructing	5

Table 66 PivotTables of giving procedural instructions -- House's conference room, ER

From Table 66, it can be seen that all 3 out of 3 concgrams of pattern-forming creativity in giving procedural instructions in **House's conference room** involve House and team or a certain members of his team, including 2 created by House targeting the team and 1 created by House targeting Adams and Chase. The data shows that House is the only character who adopts the use of pattern-forming creativity in this venue. Overall, House's conference room, on various lists of pattern-forming creativity, is ranked first in both DDX-ing (65 concgrams), joke (5 concgrams) and giving procedural instructions (3 concgrams) as well as third in employer-employee talk (4 concgrams).

In **ER**, all 2 out of 2 concgrams involve House, including 1 created by House targeting a patient and 1 created by Kutner targeting House. The latter is interesting as Kutner is the creator of an instance of pattern-forming creativity targeting House in giving procedural instructions, a closer look at the instance in the original dialogue unveils the fact that Kutner only dares to be creative after House has instructed him to do so.

> House: ... [To Kutner] Find my cane and motorcycle. Figure out where I went last night.

> Kutner: [Pulls out a pen and opens a file.] Where's your cane and motorcycle? And where'd you go last night?

6.3.3.2.12.   Summary

Conversation type	Types of fields of activity	Expounding-explaining	Enabling-instructing	Sharing-sharing experiences	Sharing-sharing values	Top locations			
DDX-ing	Exploring-arguing	Expounding-explaining	Enabling-instructing		Sharing-sharing values	House's conference room	hospital corridor	House's office	
Chat	Exploring-arguing	Expounding-explaining		Sharing-sharing experiences	Sharing-sharing values	hospital corridor	House's office	Wilson's office	
Private chat	Exploring-arguing	Expounding-explaining		Sharing-sharing experiences	Sharing-sharing values	House's office	Wilson's office	Cuddy's office	
Doctor-patient talk	Exploring-arguing	Expounding-explaining				patient's room	exam room	park	
Negotiation	Exploring-arguing					hospital corridor	Cuddy's office	patient's room	
Employer-employee talk	Expounding-explaining					hospital lecture hall	hospital corridor	House's office	House's conference room
Joke	Recreating-dramatising					Cuddy's office	House's conference room		
Stating believes	Exploring-arguing	Expounding-explaining				House's office	hospital corridor		
Doctor-patient's family talk	Expounding-explaining					patient's room	hospital corridor	House's office	
Giving procedural instructions	Enabling-instructing					House's conference room	ER		operating room

Table 67 Summary of pattern-forming creativity in *House M.D.* by conversation type, types of fields of activity and top locations

The analysis begins with a collection of 562 concgrams of pattern-forming creativity from 67 relatively evenly distributed episodes of *House M.D.* The concgrams are then ranked by socio-semiotic process in descending order of counts and percentages. Each socio-semiotic process is subdivided into different types of fields of activity and each type is then further subdivided into different conversation types. Cut-off values are set to retain concgrams with significant percentage, keeping only types of socio-semiotic process above 5% and conversation types higher than 1%. The summary of pattern-forming creativity in *House M.D.* by conversation type, types of fields of activity and top locations is tabulated in Table 67.

It is found that pattern-forming creativity in DDX-ing is most significant in exploring-arguing, expounding-explaining and enabling-instructing, occurring most frequently in House's conference room, hospital corridor and House's office. Pattern-forming creativity in chat is most significant in Exploring-arguing, Expounding-explaining, Sharing-sharing experiences and Sharing-sharing values, occurring most frequently in hospital corridor, House's office and Wilson's office. Pattern-forming creativity in private chat is most significant in Exploring-arguing, Expounding-explaining, Sharing-sharing experiences and Sharing-sharing values, occurring most frequently in House's office, Wilson's office and Cuddy's office. Pattern-forming creativity in doctor-patient talk is most significant in Exploring-arguing and Expounding-explaining, occurring most frequently in patient's room, exam room and park. Pattern-forming creativity in negotiation is most significant in Exploring-arguing, occurring most frequently in hospital corridor, Cuddy's office and patient's room. Pattern-forming creativity in employer-employee talk is most significant in Expounding-explaining, occurring most frequently in hospital lecture hall, hospital corridor, House's office and House's conference room. Pattern-forming creativity in joke is most significant in Recreating-dramatising, occurring most frequently in Cuddy's office and House's conference room. Pattern-forming creativity in stating believes is most significant in Exploring-arguing and Expounding-explaining, occurring most frequently in House's office and hospital corridor. Pattern-forming creativity in doctor-patient's family talk is most significant in Expounding-

explaining, occurring most frequently in patient's room, hospital corridor, House's office and operating room. Pattern-forming creativity in giving procedural instructions is most significant in Enabling-instructing, occurring most frequently in House's conference room and ER.

Amongst concgrams of pattern-forming creativity with significant percentage, Expounding-explaining is the most common field of activity appearing in 7 out of 10 conversation types, closely followed by Exploring-arguing appearing in 6 out of 10 conversation types. Sharing-sharing experiences and sharing-sharing values appear in conversation type chat and private chat. Enabling-instructing appears in conversation type DDX-ing and giving procedural instructions. Recreating-dramatising appears in conversation type joke. Location-wise, hospital corridor and House's office are the top locations for pattern-forming creativity to occur appearing in 6 out of 10 conversation types, the former serves as a multipurpose venue mainly for work-related discourse between colleagues (e.g. DDX-ing, chat, negotiation, stating believes and employer-employee talk) and with patient's family (e.g. doctor-patient's family talk) while the latter is used for both more intimate conversation types (e.g. private chat, chat and stating believes) and work-related discourse (e.g. DDX-ing, employer-employee talk, doctor-patient's family talk). House's conference room is a venue mainly used for medicinal discourse (e.g. DDX-ing, giving procedural instructions, employer-employee talk) with certain humour factor (e.g. joke). Wilson's office is a location mostly for social conversation types (e.g. chat, private chat) while Cuddy's office can be either a venue for jokes, private chat or negotiation due to the various roles Cuddy plays in various stages of the TV drama. As for patient's room, it remains as a location for discourse between doctors and patients as well as their families (e.g. doctor-patient talk, doctor-patient's family talk and negotiation). Exam room and park are venues where doctor-patient talk-related pattern-forming creativity frequently occurs, and so is hospital lecture hall for employer-employee talk-related ones, ER for giving procedural instructions-related ones and operating room for doctor-patient's family talk-related ones.

Conversation type	Top locations	Participants <creator>-<target>		
DDX-ing	House's conference room	House-team	House-members of his team	Foreman-members of his team
	hospital corridor	House-members of his team		
	House's office	House-team		
Chat	hospital corridor	House-Wilson	House-Cuddy	
	House's office	House-Wilson	House-Cameron	
	Wilson's office	House-Wilson	Wilson-House	
Private chat	House's office	House-Cameron		
	Wilson's office	House-Wilson		
	Cuddy's office	House-Cuddy	Cuddy-House	
Doctor-patient talk	patient's room	House-patient		
	exam room	House-patient		
	park	House-patient		
Negotiation	hospital corridor	House-Cuddy	Cuddy-House	
	Cuddy's office	House-Cuddy		
	patient's room	Cuddy-House		
Employer-employee talk	hospital lecture hall	House-contestants		
	hospital corridor	House-members of his team	Cuddy-Foreman	Cuddy-Taub & House
	House's office	House-18	House-Foreman	
	House's conference room	House-members of his team		
Joke	Cuddy's office	House-Cuddy		
	House's conference room	House-members of his team		
Stating believes	House's office	House-Foreman	House-Taub	
	hospital corridor	House-Cuddy	House-Foreman	
Doctor-patient's family talk	patient's room	House-patient's family members		
	hospital corridor	House-patient's family members		
	House's office	House-patient's wife		
	operating room	House-patient's family members		
Giving procedural instructions	House's conference room	House-members of his team		
	ER	House-patient	Kutner-House	

Table 68 Summary of pattern-forming creativity in *House M.D.* by conversation type, top locations and participants <creator>-<target>

The summary of pattern-forming creativity in *House M.D.* by conversation type, top locations and participants is tabulated in Table 67. Despite the fact that House dominates in the creation of pattern-forming creativity in almost every location in every conversation type, the analysis has captured the relationships between his preferred targets of pattern-forming creativity with respect to these locations and conversation types, demonstrating the importance of field, tenor and mode. House adopts pattern-forming creativity in all 10 conversation types. When medicinal duty is involved, House is pattern-formingly creative towards the same group of targets almost regardless of venues, in DDX-ing, House targets his team or certain members of his team; in doctor-patient talk, House targets his patients; in employer-employee talk, House targets members of his team; in doctor-patient's family talk, House targets patient's family members; in giving procedural instructions, House targets members of his team as well as his patients. When conversation types are more casual or intimate, House shows preference in his targets of pattern-forming creativity with respect to specific conversation types. For example, in joke, House targets Cuddy in her office; in chat, House targets Wilson mostly in their offices and hospital corridor but mainly targets Cameron in his own office and Cuddy along hospital corridor; in private chat, House mainly targets Cameron in his own office, Cuddy in her office, and Wilson in Wilson's office. Given that Cameron has loved House, Wilson is House's best friend and Cuddy is House's boss who eventually becomes his lover, the findings show how House prefers to use pattern-forming creativity with specific people in specific location while having specific types of conversations. More details regarding such preferences in the use of pattern-forming creativity of House targeting other characters will be further investigated in the next section.

6.3.3.3. Pattern-forming creativity created by House targeting other characters

6.3.3.3.1. Introduction

From the findings obtained in the previous section 6.3.3.2, Dr. Gregory House, the main character of the series, has dominated the production of pattern-forming creativity in the entire series, yet the analysis is able to identify the character's personal preferences in the context of situation of each instance of creativity. The following analysis will extend the one from the previous section and make use of CIRCF Grid Number, which represents the level of contact between the interlocutors (see section 6.3.3 Quantitative Analysis of Pattern-forming Creativity for description), to look at the relationship in pattern-forming creativity production between the <creator> and <target> participants. An Excel spreadsheet 'PT Characters' containing PivotTable of <creator>-<target> tabulated against Socio-semiotic process and CIRCF Grid Number will be studied.

As a recap of finding in Table 35, in 562 concgrams of pattern-forming creativity from 'every 3 episodes' (a total of 67 out of 177 episodes) of *House M.D.* ranked in descending order of concgrams by the socio-semiotic processes, 204 concgrams (36.30%) are exploring, 138 concgrams (24.56%) are expounding, 107 concgrams (19.04%) are sharing, 47 concgrams (8.36%) are enabling, 40 concgrams (7.12%) are recreating, 13 concgrams (2.31%) are recommending, 10 concgrams (1.78%) are reporting, and 3 concgrams (0.53%) are doing. Additionally, 146 creator-target participant pairs of pattern-forming creativity are involved.

6.3.3.3.2. House

Count of CIRC Grid Number

Socio-semiotic process	House-team	House-Wilson	House-Cuddy	House-patient	House-Foreman	House-Cameron	House-Taub	House-13	House-Chase	House-contaminants	House-Taub & Kumar	House-patient's parents	House-Child	House-patient's mum	House-nurse	House-Kumar	House-Stacey's hallucination	House-patient's wife	House-patient's dad	House-Noral	House-Matera	House-Lydia	House-Judge	House-Cuddy & Stacey	House-Amb...
exploring	26	17	20	12	10	6	4	3	3	2	1	1	1	3	2	2	1	2	1	1	2	1	1	1	1
expounding	11	14	6	20	7	7	4	4	3	2	4	2	2		1	1								1	1
sharing	3	18	11	4	6	7	2	2	1								2		1		1				
enabling	14	1	1	3	3	3	1	1	3	1				1	1					1					
recreating		1	10	2	2	3	1	2		1				1	1	1		1							
reporting			1	1	1																	1			
recommending	1				2	1																	1		1
doing		1																							
Grand Total	55	51	50	45	31	26	11	11	9	6	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2

	... House-Amber's hallucination	House-Brennan	House-Cameron's hallucination	House-Chase & Cameron	House-Chase & right attendant	House-Cuddy & Taub	House-Cuddy & Wilson	House-Cuddy Foreman & Chase	House-Foreman & Taub	House-interviewee	House-Lucas	House-Luke	House-Mark	House-Matera & Wilson	House-pat engineer	House-patient & Wilson	House-patient's ex-boy friend	House-patient's family	House-patient's husband	House-plastic surgeon	House-Stacey	House-Stacey-Mark	House-Sam and a	House-Wilson & Sam and a	House-Wilson's 2nd ex wife	House-18	House-2	...	Grand Total
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		126
	1					1	1		1		1	1	1	1				1	1	1					1	1	1		105
					1										1								1						61
								1														1							39
	1		1																		1						2		27
																													7
																													5
																													1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2		371

Table 69 PivotTable of pattern-forming creativity created by House in 'every 3 episodes', with socio-semiotic process in row, <creator>-<target> in column

In all 562 concgrams, House is the most pattern-forming creativity-productive character of the series, contributing to the creation of 371 concgrams (66.0%) with 58 creator-target participant pairs involved, as shown in Table 69. House's pattern-forming creativity are primarily Exploring and Expounding, contributing 126 concgrams (34.0%) and 105 concgrams (28.3%) respectively. Sharing is third in terms of his preferred socio-semiotic process with 61 concgrams (16.4%). Enabling is fourth with 39 concgrams (10.5%). Recreating is fifth with 27 concgrams (7.3%), the rest are Reporting with 7 concgrams (1.9%). Recommending with 5 concgrams (1.3%) and Doing with 1 concgram (0.3%).

From the 'PT Characters' Excel spreadsheet, it can be observed that House is most frequently engaged in the production of pattern-forming creativity with his team members, consisting of 55 concgrams (14.8%) of the 371 concgrams. A significant proportion includes 25 concgrams in Exploring-arguing, 13 concgrams in Enabling-instructing and 11 concgrams in Expounding-explaining. From these figures, it becomes apparent that House's interactions with his team offer the highest possible opportunity for pattern-forming creativity production. Exploring-arguing accounts for nearly half of the concgrams, which is more than Enabling-instructing and Expounding-explaining combined.

The CIRCF Grid Number counts show that House produces pattern-forming creativity of collaborative ideas at – using a combination of terms from Carter's (2004) creativity matrix and Poynton's (1985) affective involvement continua – a professional level of affective involvement with high equality of power when engaging in Exploring-arguing pattern-forming creativity (with 23 out of 25 concgrams in CIRCF Grid Number 6). When engaging in Enabling-instructing pattern-forming creativity, the power equality is mainly high and collaborative ideas at the professional level of affective involvement are produced (with 8 out of 13 concgrams in CIRCF Grid Number 6) but there are also occurrences on the medium to low side of equality where the creativity is more collaborative task-oriented (2 out of 13 concgrams in CIRCF Grid Number 5) and

information provisional (3 out of 13 concgrams in CIRCF Grid Number 4) at the professional level of affective involvement. When pattern-forming creativity is Expounding-explaining, affective involvement is at the professional level, power is mainly unequal and tends to be more information provisional (7 out of 11 concgrams in CIRCF Grid Number 4), almost twice as often as they are of high equality in which collaborative ideas are produced (4 out of 11 concgrams in CIRCF Grid Number 6).

When considering individual team members as House's targets of pattern-forming creativity, the counts for Foreman and Cameron-targeted creativity by fields of activity show some similarities, differing in terms of the CIRCF Grid Number counts. The same can be said for Taub, 'Thirteen' and Chase. With Foreman and Cameron in their respective order of appearance, House has produced 9 and 6 occurrences of Exploring-arguing respectively, both 7 occurrences in Expounding-explaining, both 1 occurrence in Sharing-sharing experiences, 5 and 6 occurrences in Sharing-sharing values, 3 and 2 occurrences in Enabling-instructing, 2 and 3 occurrences in Recreating-dramatising, 1 and 0 in Exploring-reviewing and Reporting-chronicling, 0 and 1 in Enabling-regulating and 2 and 0 in Recommending-advising respectively. With Taub, 'Thirteen' (Hadley) and Chase, House has produced 4, 3 and 3 in Exploring-arguing, 4, 3 and 3 in Expounding-explaining, 0, 1 and 1 in Sharing-sharing experiences, 2, 1 and 0 in Sharing-sharing values, 0, 1 and 0 in Enabling-instructing, 0, 1 and 2 in Recreating-dramatising and 1, 0 and 0 in Reporting-chronicling respectively.

When engaging in Exploring-arguing pattern-forming creativity, all occurrences targeting these 5 team members are collaborative idea-focused. House targets Foreman more than twice as often as he targets Cameron at the professional level of affective involvement with high equality of power (with 7 concgrams targeting Foreman versus 3 concgrams targeting Cameron in CIRCF Grid Number 6) and rarely with Taub, 'Thirteen' and Chase, whereas at the socialising level of affective involvement, House targets Taub twice as often as the other 4 doctors (with 4 concgrams targeting Taub versus 2 concgrams targeting Foreman, Cameron, 'Thirteen' and Chase in CIRCF Grid Number 9).

When engaging in Expounding-explaining pattern-forming creativity which is information provision-focused, House prefers to target Foreman and 'Thirteen' at the professional level of affective involvement with low equality of power (with 2 concgrams in CIRCF Grid Number 4), Taub and Chase at the socialising level of affective involvement with low equality of power (with 2 concgrams in CIRCF Grid Number 7). On the other hand, when engaging in Expounding-explaining pattern-forming creativity which is collaborative idea-focused, House prefers to target Foreman at the professional level of affective involvement with high equality of power (with 5 concgrams in CIRCF Grid Number 6) and Cameron at the socialising level of affective involvement with high equality of power (with 4 concgrams in CIRCF Grid Number 9). When engaging in Sharing-sharing values pattern-forming creativity which is collaborative idea-focused, House prefers to target Foreman at the professional level with high equality of power (with 3 concgrams in CIRCF Grid Number 6) and at the socialising level of affective involvement with high equality of power (with 2 concgrams in CIRCF Grid Number 9) and Cameron at the intimate level of affective involvement with high equality of power (with 5 concgrams in CIRCF Grid Number 12). When engaging in Sharing-sharing values pattern-forming creativity which is information provision-focused, House also enjoys targeting Taub at the socialising level with low equality of power.

When engaging in Enabling-instructing pattern-forming creativity which is collaborative idea-focused, House prefers to target Foreman and Cameron at the professional level of affective involvement with high equality of power (with 2 concgrams in CIRCF Grid Number 6). When engaging in Recreating-dramatising pattern-forming creativity which is information provision-focused, House prefers to target Foreman at the professional level of affective involvement with low equality of power (with 2 concgrams in CIRCF Grid Number 7). When engaging in Recreating-dramatising pattern-forming creativity which is collaborative idea-focused, House prefers to target Cameron and Chase at the socialising level of affective involvement with high equality of power (with 2 concgrams in CIRCF Grid Number 9). Finally, when engaging in Recommending-advising pattern-forming creativity which is collaborative idea-focused, House prefers to target Foreman

at the professional level of affective involvement with high equality of power (with 2 concgrams in CIRCF Grid Number 6).

House's team members	No. of occurrence of pattern-forming creativity as House's target in 'every 3 episodes' (occurrences > 5)	No. of episodes appeared in the entire series	Average 'every 3 episodes' occurrences as House's target per episodic appearance
Foreman	31	174	0.178
Cameron	26	130	0.2
Taub	11	96	0.115
'Thirteen' (Hadley)	11	81	0.136
Chase	9	171	0.053

Table 70 Average 'every 3 episodes' occurrences as House's target per episodic appearance as House's team members

When considering individual members on House's team over the period of eight seasons, House's use of pattern-forming creativity has shown his preference in his targets. Ranking by descending order of occurrences with a count above 5, House has targeted Foreman 31 times, Cameron 26 times, Taub 11 times, 'Thirteen' (Hadley) 11 times and Chase 9 times in a total of 67 out of 177 episodes from the 'every 3 episodes' Excel data. Given that Foreman has appeared in 174 episodes, Chase in 171 episodes, Cameron in 130 episodes, Taub in 96 episodes and 'Thirteen' (Hadley) in 81 episodes (IMDb, n.d.), the average 'every 3 episodes' occurrences as House's target per episodic appearance can be calculated, as shown in Table 70. It can be seen that Cameron, despite only ranking third with 130 episodic appearances in the entire series behind Foreman and Chase, has the highest average 'every 3 episodes' occurrences per

appearance of 0.2. Foreman, who ranks first with 174 episodic appearances, has the second highest average 'every 3 episodes' occurrences per appearance of 0.178. 'Thirteen' (Hadley), who ranks fourth with 81 episodic appearances, has the third highest average 'every 3 episodes' occurrences per appearance of 0.136. Taub, who ranks third with 96 episodic appearances, is ranked fourth in the average 'every 3 episodes' occurrences per appearance with a value of 0.178. Chase, despite ranking second with 171 episodic appearances in the entire series, is merely targeted by House on an average 'every 3 episodes' occurrences per appearance of 0.053 times, the lowest value amongst the five team members. Such disproportion of pattern-forming creativity occurrences to episodic appearances indicates House's preferences in his use of pattern-forming creativity when targeting different team members.

Wilson and Cuddy are shown to be the top individual targets of House's pattern-forming creativity, differing by only 1 concgrams at 51 (13.7%) and 50 (13.5%) of the 371 concgrams respectively. Despite both being House's closest friends, the fields of activity and tenor involved in such creativity with the duo, however, are different. House's pattern-forming creativity targeting Wilson includes 17 concgrams in Exploring-arguing, 14 concgrams in Expounding-explaining, 12 concgrams in Sharing-sharing experiences, 6 concgrams in Sharing-sharing values and 1 Recreating-dramatising. House's pattern-forming creativity targeting Cuddy includes 20 concgrams in Exploring-arguing, 10 concgrams in Recreating-dramatising, 8 concgrams in Sharing-sharing experiences, 6 concgrams in Expounding-explaining, and 3 concgrams in Sharing-sharing values. The above figures show that House's creative interactions with Wilson are mainly about Exploring-arguing, Expounding-explaining and Sharing-sharing experiences, whereas with Cuddy, House creative interactions are more about Exploring-arguing and Recreating-dramatising, even more so than with Wilson. This difference, of course, has every bit to do with the difference in their professional roles and social roles, given that professionally, Wilson too is the head of a department whose boss is also Cuddy while socially, Wilson is House's best friend whereas Cuddy is House's friend who later becomes his lover.

With Wilson, the CIRCF Grid Number counts show that House mainly produces collaborative ideas at a socialising level of affective involvement with high equality of power when engaging in Exploring-arguing pattern-forming creativity (with 12 out of 17 concgrams in CIRCF Grid Number 6), with a few exceptions that are at the professional (with 3 out of 17 concgrams in CIRCF Grid Number 6) and intimate level (with 2 out of 17 concgrams in CIRCF Grid Number 12) instead. When engaging in Expounding-explaining pattern-forming creativity, half of the occurrences are at the socialising level of affective involvement with high equality of power and collaborative ideas are produced (with 7 out of 14 concgrams in CIRCF Grid Number 9), while the other half of the occurrences ranges from professional to intimate level of affective involvement and are information provision with low equality of power and collaborative idea-focused with high equality of power (with 7 out of 14 concgrams in CIRCF Grid Number 4, 6, 7, 10 and 12). When engaging in Sharing-sharing experiences pattern-forming creativity, most of the occurrences involve collaborative ideas with high equality of power (with 7 + 3 out of 12 concgrams in CIRCF Grid Number 9 and 12), including more than half of the occurrences at the intimate level of affective involvement (with 7 out of 12 concgrams in CIRCF Grid Number 12), and a quarter of the occurrences at the socialising level of affective involvement (with 3 out of 12 concgrams in CIRCF Grid Number 9). When engaging in Sharing-sharing values pattern-forming creativity, almost all occurrences are of high equality of power at an intimate level of affective involvement and are collaborative idea-oriented (with 5 out of 6 concgrams in CIRCF Grid Number 12).

With Cuddy, the CIRCF Grid Number counts show that in Exploring-arguing pattern-forming creativity involving collaborative ideas with high equality of power, House targets her as often at the professional level of affective involvement as he targets Wilson at the socialising level of affective involvement at 12 concgrams, and conversely, targets her as often at the socialising level of affective involvement as he targets Wilson at the professional level of affective involvement at 3 concgrams. However, at the intimate level of affective involvement, House targets Cuddy 2.5 times more often than he targets Wilson (5 concgrams targeting Cuddy versus 2 concgrams targeting Wilson in

CIRCF Grid Number 12). When engaging in Expounding-explaining pattern-forming creativity, half of the occurrences are at the socialising level of affective involvement with high equality of power and collaborative ideas are produced (with 3 out of 6 concgrams in CIRCF Grid Number 9). It is worth noting that there are more than twice as many occurrences of Expounding-explaining targeting Wilson (14 concgrams) than Cuddy (6 concgrams), which shows that Cuddy is not House's main target in turns of Expounding-explaining pattern-forming creativity.

Similarly, when comparing the occurrences of Sharing-sharing experiences and Sharing-sharing values pattern-forming creativity by House targeting Wilson (Sharing-sharing experiences: 12 concgrams; Sharing-sharing values: 6 concgrams) and targeting Cuddy (Sharing-sharing experiences: 8 concgrams; Sharing-sharing values: 3 concgrams), Cuddy is numerically less of a target than Wilson for House in Sharing. With Cuddy, the CIRCF Grid Number counts show that, with high equality of power, House produces collaborative ideas mostly at an intimate level (with 6 out of 8 concgrams in CIRCF Grid Number 12) and occasionally at a professional level of affective involvement (with 2 out of 8 concgrams in CIRCF Grid Number 6) when engaging in Sharing-sharing experiences pattern-forming creativity. When engaging in Sharing-sharing values pattern-forming creativity, all occurrences targeting Cuddy are collaborative idea-focused with high equality of power at the socialising and intimate level of affective involvement (with 2 out of 3 concgrams in CIRCF Grid Number 9 and 1 out of 3 concgrams in CIRCF Grid Number 12). House targets Cuddy the most amongst all characters when engaging in Recreating-dramatising pattern-forming creativity at 10 concgrams, including those collaborative idea-oriented with high equality of power at both transactional (with 2 out of 10 concgrams in CIRCF Grid Number 3) and intimate level of affective involvement (with 3 out of 10 concgrams in CIRCF Grid Number 12), as well as some information provision-oriented ones with low equality of power at socialising level of affective involvement (with 3 out of 10 concgrams in CIRCF Grid Number 7). Occasionally, House's pattern-forming creativity with Cuddy occurs when a third party is present, such as Stacey (Exploring-arguing: 1 concgram in CIRCF Grid Number 6, Reporting-chronicling: 1

concgram in CIRCF Grid Number 4), Wilson (Sharing-sharing values: 1 concgram in CIRCF Grid Number 9), Taub (Expounding-explaining: 1 concgram in CIRCF Grid Number 6) or flight attendant (Expounding-explaining: 1 concgram in CIRCF Grid Number 6), but the concgrams are not frequent enough to show any distinctive patterns.

House's closest friends	No. of occurrence of pattern-forming creativity as House's target in 'every 3 episodes' (occurrences > 5)	No. of episodes appeared in the entire series	Average 'every 3 episodes' occurrences as House's target per episodic appearance
Wilson	51	174	**0.293**
Cuddy	50	153	**0.327**

Table 71 Average 'every 3 episodes' occurrences as House's target per episodic appearance as House's closest friends

When considering the number of occurrences of pattern-forming creativity of House targeting Wilson and Cuddy individually over the period of eight seasons, a noticeable difference in House's creative attitude towards the two targets can be observed. Given that Wilson has appeared in 174 episodes and Cuddy in 153 episodes in a total of 67 out of 177 episodes from the 'every 3 episodes' Excel data (IMDb, n.d.), the average 'every 3 episodes' occurrences as House's target per episodic appearance can be calculated, as shown in Table 71. It can be seen that Cuddy, despite ranking behind Wilson by 21 episodic appearances in the entire series, has a higher average 'every 3 episodes' occurrences per appearance of 0.327 than Wilson's 0.293. This implies that House's use of pattern-forming creativity targeting Cuddy is in fact more frequent than targeting Wilson on a per episodic appearance basis.

House's pattern-forming creativity targeting his patients is shown to be abundant from the 'PT Characters' Excel spreadsheet, contributing 45 concgrams (12.1%) of the 371 concgrams, including a noticeable 20 concgrams in Expounding-explaining and 11 concgrams in Exploring-arguing, the former near double as often as the latter. The CIRCF Grid Number counts show that when engaging in Expounding-explaining pattern-forming creativity, House produces more than half the occurrences that are information provision-focused with low equality of power at a professional level of affective involvement (with 11 out of 20 concgrams in CIRCF Grid Number 4) as well as a quarter of occurrences that are collaborative idea-focused with high equality of power at the transactional (with 3 out of 20 concgrams in CIRCF Grid Number 3) and professional level of affective involvement (with 2 out of 20 concgrams in CIRCF Grid Number 6). When engaging in Exploring-arguing pattern-forming creativity, most of the occurrences are collaborative idea-oriented with high equality of power (with 5 + 3 + 1 out of 11 concgrams in CIRCF Grid Number 6, 9, 12), including nearly half of the occurrences at the professional level of affective involvement (with 5 out of 11 concgrams in CIRCF Grid Number 6) and some occurrences at the socialising level of affective involvement (with 3 out of 11 concgrams in CIRCF Grid Number 9); there are also some occurrences are information provision-focused with low equality of power at the professional level of affective involvement (with 2 out of 11 concgrams in CIRCF Grid Number 4). When engaging in Recreating-dramatising pattern-forming creativity, a couple of occurrences are collaborated idea-oriented with high level of equality at the transactional level of affective involvement (with 2 out of 3 concgrams in CIRCF Grid Number 3).

6.3.3.3. Summary

CIRCF	Information provision (Low equality of power)	Collaborative task	Collaborative idea (High equality of power)
Transactional (low affective involvement)	1	2	3 (Cuddy: Recreating-dramatising) (Patients: Expounding-explaining, Recreating-dramatising)
Professional	4 (Team: Enabling-instructing, Expounding-explaining) (Foreman: Expounding-explaining, Recreating-dramatising) (Thirteen: Expounding-explaining) (Patients: Expounding-explaining)	5 (Team: Enabling-instructing)	6 (Team: Exploring-arguing, Enabling-instructing, Expounding-explaining) (Cameron: Exploring-arguing, Enabling-instructing) (Foreman: Exploring-arguing, Expounding-explaining, Sharing-sharing values, Enabling-instructing, Recommending-advising) (Chase: Recreating-dramatising) (Cuddy: Exploring-arguing) (Patients: Expounding-explaining, Exploring-arguing)
Socialising	7 (Taub: Expounding-explaining, Sharing-sharing values) (Chase: Expounding-explaining) (Cuddy: Recreating-dramatising)	8	9 (Team: Exploring-arguing) (Cameron: Expounding-explaining, Exploring-arguing, Recreating-dramatising) (Foreman: Exploring-arguing, Sharing-sharing values) (Thirteen: Exploring-arguing) (Taub: Exploring-arguing) (Chase: Exploring-arguing) (Wilson: Exploring-arguing, Expounding-explaining) (Cuddy: Expounding-explaining) (Patients: Exploring-arguing)
Intimate (high affective involvement)	10	11	12 (Cameron: Sharing-sharing values) (Wilson: Sharing-sharing experiences, Sharing-sharing values) (Cuddy: Exploring-arguing, Sharing-sharing experiences, Recreating-dramatising)

Table 72 House's pattern-forming creativity target CIRCF analysis summary

Table 72 is a table summary of House's pattern-forming creativity using CIRCF as the analytical framework. Overall, it can be concluded that House has clear preferences in his use of pattern-forming creativity. In terms of power, House prefers pattern-forming creativity that is collaborative idea-oriented with high equality of power over information provision-focused with low equality of power and rarely engages in collaborative task-oriented pattern-forming creativity with medium equality of power.

In terms of affective involvement, House prefers pattern-forming creativity at the socialising and professional level of affective involvement, as it is relatively more Exploring-arguing and Expounding-explaining-intensive. Less preferred is the intimate level of affective involvement, which is relatively more Sharing-sharing experiences and Sharing-sharing values-intensive. It can also be said that House seldom engages in pattern-forming creativity at a transactional level of affective involvement. At the socialising level of affective involvement involving collaborative idea with high equality of power, House's use of pattern-forming creativity is shown to be Exploring-arguing prominent, targeting his patients, Cuddy, Wilson, the team and individual team members. At the professional level of affective involvement, only Enabling-instructing appears along the power continuum; when the pattern-forming creativity is information provision-focused at low equality of power, the fields of activity involved is generally Expounding-explaining.

In terms of individual characters, ranked by descending order of the average 'every 3 episode' pattern-forming creativity occurrences per episodic appearance, House's targets are Cuddy, Wilson, Cameron, Foreman, Thirteen, Taub and Chase. Cuddy is House's top target in Exploring-arguing and Recreating-dramatising pattern-forming creativity. She is the only character that has appeared in all levels of affective involvement of House's collaborative idea-oriented pattern-forming creativity with high equality of power, as well as the only character to be targeted at a transactional level of affective involvement. As House's best friend, Wilson is House's second most preferred targets of pattern-forming creativity, particularly those of Exploring-arguing,

Expounding-explaining and Sharing-sharing experiences fields of activity. Wilson is not generally involved in pattern-forming creativity that is information provision with low equality of power and collaborative task-oriented with medium equality of power, instead he is most targeted by House in pattern-forming creativity that is collaborative idea-focused with high equality of power at the socialising and intimate level of affective involvement. Wilson is also the only male character to be involved in House's pattern-forming creativity at the intimate level of affective involvement. Apart from House's closest friends such as Cuddy and Wilson, Cameron is the other only character to be targeted in House's pattern-forming creativity at intimate level of affective involvement, proving to be a character with whom House shares a special interpersonal or even intimate relationship. Foreman has shown to be the character targeted by House in the highest number of fields of activity in any CIRCF Grids, covering Exploring-arguing, Expounding-explaining, Sharing-sharing values, Enabling-instructing, Recommending-advising and Recreating-dramatising at the professional level of affective involvement. While 'Thirteen' (Hadley), Taub and Chase have similar number of occurrences in House's pattern-forming creativity, 'Thirteen' is mostly targeted at the professional and socialising level of affective involvement while House has shown a lack of interest in targeting Taub at the professional level of affective involvement. Given that Chase is ranked fourth in episodic appearance of all characters – only less than House (176 episodes), Foreman (174 episodes) and Wilson (174 episodes), the occurrences of Chase in House's pattern-forming creativity is considered unusually low and this points to House's dispreference in targeting Chase in pattern-forming creativity.

In terms of groups of participants, House's team is targeted mainly to produce Enabling-instructing pattern-forming creativity at the professional level of affective involvement across the power continuum, as well as when pattern-forming creativity is of Exploring-arguing and Expounding-explaining type that is collaborative idea-focused, with high equality of power at the socialising level. House targets his patients in the production of Exploring-arguing and Expounding-explaining pattern-forming creativity that is mainly collaborative idea-focused, with high equality of power from a transactional level to a

socialising level of affective involvement; also significant is Expounding-explaining pattern-forming creativity that is information provision-focused, with low equality of power at the professional level of affective involvement. House's patients are the only group of participants to be targeted in House's pattern-forming creativity at transactional level of affective involvement.

Limited by time, the analysis can only cover House's use of pattern-forming creativity targeting other characters, however, it serves as the most representative example for this study as House is the core character who contributes the most to the overall pattern-forming creativity of the TV drama. In the next section, the analysis will proceed to consolidating data of pattern-forming creativity through various forms of graphical representation. Pattern-reforming creativity of the series and characters namely House, Cuddy, Foreman, Cameron and Chase will be illustrated using PivotCharts and CIRCF.

6.3.3.4. Graphical representation of pattern-forming creativity

6.3.3.4.1. General

Based on the CIRCF model, not only can the data be analysed using PivotTables, they can also be graphically presented using PivotCharts. One of the most informative tables or charts to construct is tabulating or charting CIRCF Grid Number against Socio-semiotic process, as it basically contains information about the creativity produced in a given mode with variables in field and tenor.

Count of CIRC Grid Number	CIRC Grid Number													
Socio-semiotic process		1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
⊞ exploring		2		6	3	1	116	2		60			14	204
⊞ expounding		3		9	42	2	34	14	2	25	2		5	138
⊞ sharing				9	1		15	5		39	1		37	107
⊞ enabling		2	1	1	10	11	18		2	1			1	47
⊞ recreating		1		6	2		6	9		12	1		3	40
⊞ recommending				4			5			3			1	13
⊞ reporting					4	1	4	1						10
⊞ doing						2		1						3
Grand Total		8	1	35	62	17	198	31	5	140	4		61	562

Table 73 PivotTable of all pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Table 73 shows a PivotTable of all pattern-forming creativity counts in 'every 3 episodes' Excel sheet, with Socio-semiotic process as rows and CIRCF Grid Number / contact as columns sorted in descending order of pattern-forming creativity count in rows. Similar to Table 35, Table 73 shows that Exploring tops the socio-semiotic process list with 204 concgrams, followed by Expounding at 138 concgrams , Sharing ranks third at 107 concgrams , Enabling at 47 concgrams , Recreating at 40 concgrams , Recommending at 13 concgrams , Reporting at 10 concgrams and Doing at 3 concgrams . The sum of the top three socio-semiotic processes in the table contributes 79.9% (= (204 + 138 + 107) / 562 x 100%) of the total number of concgrams of pattern-forming creativity.
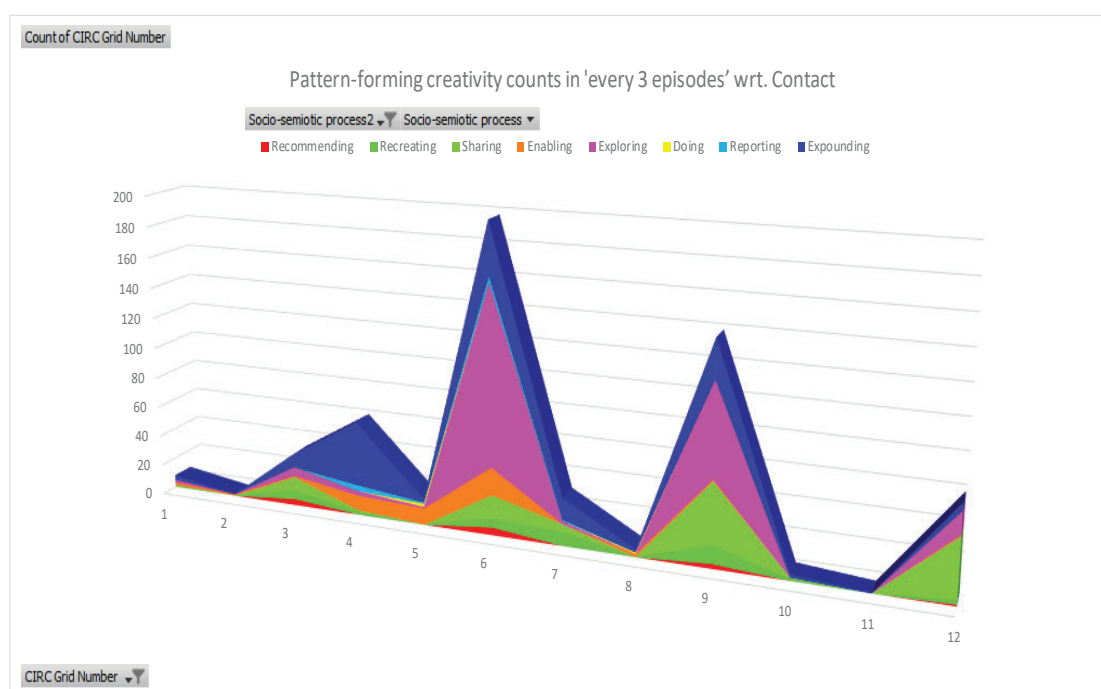
Figure 48 PivotChart of all pattern-forming creativity counts in 'every 3 episodes' in the Contact continuum

Within a total number of concgrams of 562, CIRCF Grid Number 6 accounts for 198 concgrams, CIRCF Grid Number 9 accounts for 140 concgrams, CIRCF Grid Number 4 accounts for 62 concgrams, CIRCF Grid Number 12 accounts for 61 concgrams, CIRCF Grid Number 3 accounts for 35 concgrams, CIRCF Grid Number 7 accounts for 31 concgrams, CIRCF Grid Number 5 accounts for 17 concgrams, CIRCF Grid Number 1 accounts for 8 concgrams, CIRCF Grid Number 8 accounts for 5 concgrams, CIRCF Grid Number 10 accounts for 4 concgrams, CIRCF Grid Number 2 accounts for 1 concgrams and CIRCF Grid Number 11 accounts for 0 concgrams. Figure 48 is a PivotChart of Table 73 showing the distribution of all pattern-forming creativity counts in 'every 3 episodes' Excel sheet in the Contact continuum. The sum of the concgrams from the top three CIRCF Grid Numbers in the table contributes 71.2% (= (198 + 140 + 62) / 562 x 100%) of the total number of concgrams in pattern-forming creativity. These sums show the prominence of certain socio-semiotic processes and CIRCF Grid Number / contact in *House M.D.*, as represented by 'every 3 episodes' Excel sheet.

Figure 49 PivotChart of all pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space

Figure 49 shows a PivotChart of all pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Contact-Socio-semiotic process space, created using data from the PivotTable in Table 73. Visually, Figure 49 shows 7 visually striking peaks (taking the smallest auto-vertical axis unit by Excel as 'obvious', i.e. 20 concgrams, approximately 3.6% of 562 concgrams). Numerically, the highest and the sixth peaks belong to Exploring and Expounding at 116 and 34 occurrences respectively with CIRCF Grid Number 6, representing collaborative idea-oriented pattern-forming creativity with high equality of power and a contact level of 6 on the scale of 12 at a professional level of affective involvement. The second, fourth and seventh peaks belong to Exploring, Sharing and Expounding at 60, 39 and 25 occurrences respectively with CIRCF Grid Number 9, representing collaborative idea-oriented pattern-forming creativity with high

equality of power and a contact level of 9 on the scale of 12 at a socialising level of affective involvement. The third peak belongs to Expounding at 42 occurrences with CIRCF Grid Number 4, representing information provision-oriented pattern-forming creativity with low equality of power and a contact level of 4 on the scale of 12 at a professional level of affective involvement. Finally, the fifth peak belongs to Sharing at 37 occurrences with CIRCF Grid Number 12, representing collaborative idea-oriented pattern-forming creativity with high equality of power and a contact level of 12 on the scale of 12 at an intimate level of affective involvement.

Comparing the various peaks of pattern-forming creativity, the highest peak of Exploring with CIRCF Grid Number 6 is almost twice the occurrences of the second peak of Exploring with CIRCF Grid Number 9. Together the two highest peaks add up to 176 (= 116 + 60) occurrences, which is near equivalent of the sum of the next five peaks at 177 occurrences (= 42 + 39 + 37 + 34 + 25). In other words, Exploring pattern-forming creativity at a professional and socialising level of affective involvement in *House M.D.* accounts for around 50% of the occurrences amongst these peaks; the other 50% is mainly Expounding at the professional and socialising level of affective involvement, and Sharing at the socialising and intimate level of affective involvement; collaborative idea-oriented pattern-forming creativity with high equality of power contributes 135 (= 177 - 42) out of 177 occurrences, which translates into 76.3% of all peak counts.

All pattern-forming creativity			
Affective Involvement	Context type (monologue) (unequal power)	Interation type (dialogue) equal power	
	Low equality / Information provision	Medium equality / Collaborative task	High equality / Collaborative idea
Transactional (low affective involvement)	8	1	35
Professional	62	17	198
Socialising	31	5	140
Intimate (high affective involvement)	4	0	61
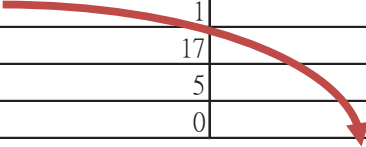
Table 74 Table of all pattern-forming creativity counts in 'every 3 episodes', row Affective Involvement, column Power; trendline of creativity represented by red arrow

Table 74 shows a table of all pattern-forming creativity counts in 'every 3 episodes' Excel sheet with affective involvement as rows and power as columns using the CIRCF matrix / Carter's (2004) creativity matrix. A trendline indicating the bent in the cline of creativity is represented by a red arrow. By assigning a percentage value to the various levels of affective involvement and power, the data in this table can be represented graphically as a 3D-surface chart, which helps visually explore the relationship between affective involvement and power of the pattern-forming creativity in *House M.D.*
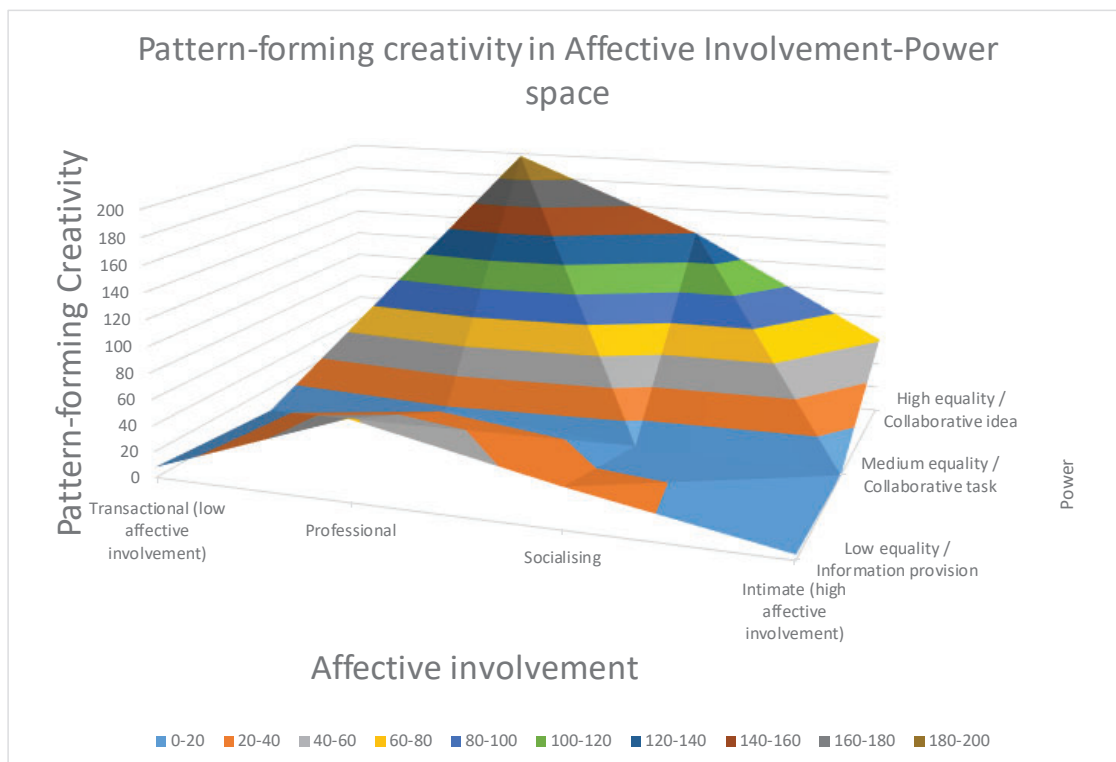
Figure 50 PivotChart of all pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space

Figure 50 illustrates a 3D-surface chart of all pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Affective involvement-Power space, created using data from the PivotTable in Table 74. Visually, Figure 50 shows one gentle slope with its highest point at 62 counts at the professional level of affective involvement and low equality of power. This slope then falls gradually to its lowest at medium equality of power. The 3D-

surface then rises to almost the same height at 61 counts at the intimate level of affective involvement with high equality of power, forming a steep slope that reaches a new high at 140 counts at the socialising level of affective involvement, until it peaks at 198 counts at the professional level of affective involvement.

The 3D-surface chart indicates that the overall pattern-forming creativity in *House M.D.* points to a collaborative idea-oriented, high equality of power environment. The chart also shows many of the occurrences ranging from professional to socialising to intimate level of affective involvement. Pattern-forming creativity that is information provision-oriented with low equality of power is most prominent at professional level of affective involvement. Finally, collaborative task-oriented, medium equality of power yields low counts in pattern-forming creativity across the affective involvement continuum.
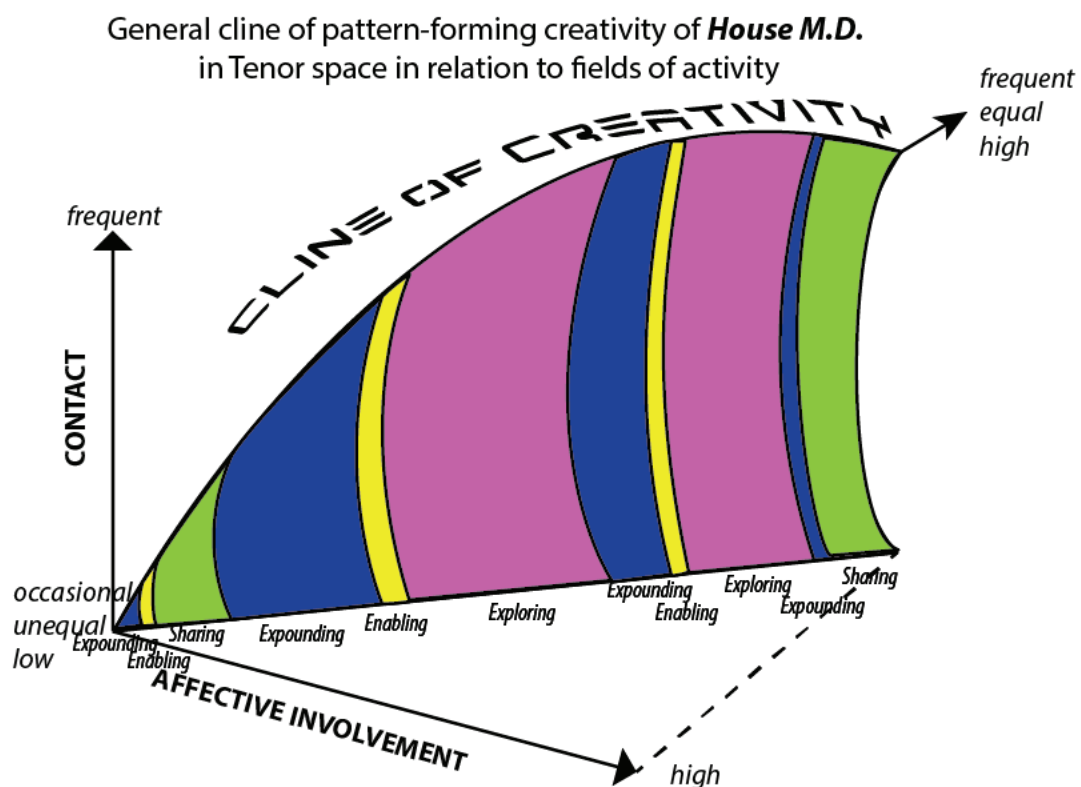
Figure 51 The Creativity-In-Register Cube Framework (CIRCF) of all pattern-forming creativity of *House M.D.* in Tenor space (affective involvement, power and contact) and socio-semiotic processes

Figure 51 illustrates a generalised and simplified three-dimensional graphical representation of all pattern-forming creativity in 'every 3 episodes' Excel sheet of *House M.D.* using the Creativity-In-Register Cube Framework (CIRCF) model. In this figure, it can be seen that pattern-forming creativity generally increases with power, affective involvement and contact. This general trend is illustrated by the cline of creativity – a red arrow shown in Table 74 which is drawn based on the average counts of pattern-forming creativity in each CIRCF Grid. In this case, the trendline for the cline of creativity bends and leans towards high power, especially when it is near one-third and two-thirds along the affective involvement continuum, where the counts of pattern-forming creativity are the highest and therefore have the strongest 'gravity' or pull. The socio-semiotic processes are banded and coloured according to the same colours used in Matthiessen's (2009; 2015b) registerial cartography. The socio-semiotic process bands in Figure 51 show a general trend of alternation between Expounding, Exploring and Sharing with intermittent bands of Enabling. Exploring and Expounding are most concentrated when equality of power is high while Sharing is most dense at either ends of the affective involvement continuum, that is when pattern-forming creativity is at the low / transactional level of affective involvement and high / intimate level of affective involvement.

6.3.3.4.2. House

Count of CIRC Grid Number	CIRC Grid Number												
Socio-semiotic process	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
⊞ exploring	2		4	3		70	1		37			9	126
⊞ expounding	2		6	37	1	26	9	1	17	2		4	105
⊞ sharing			5	1		9	5		16	1		24	61
⊞ enabling	2			9	9	17		1	1				39
⊞ recreating	1		6	2		2	6		7			3	27
⊞ reporting				4		3							7
⊞ recommending			1			3			1				5
⊞ doing								1					1
Grand Total	7		22	56	10	130	21	3	79	3		40	371

Table 75 PivotTable of House's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Table 73 shows a PivotTable of House's pattern-forming creativity counts in 'every 3 episodes' Excel sheet with Socio-semiotic process as rows and CIRCF Grid Number/contact as columns, sorted in descending order of pattern-forming creativity count in rows. Similar to Table 69, Table 73 shows that Exploring tops the socio-semiotic process list with 126 concgrams, followed by Expounding at 105 concgrams , Sharing ranks third at 61 concgrams , Enabling at 39 concgrams , Recreating at 27 concgrams , Reporting at 7 concgrams , Recommending at 5 concgrams , and Doing at 1 concgrams . The sum of the top three socio-semiotic processes in the table contributes 78.7% (= (126 + 105 + 61) / 371 x 100%) of the total number of concgrams of House's pattern-forming creativity. Also worth noting that House's pattern-forming creativity accounts for 66.0% (= 371 / 562 x 100%) of the total number of pattern-forming creativity in 'every 3 episodes' Excel sheet.
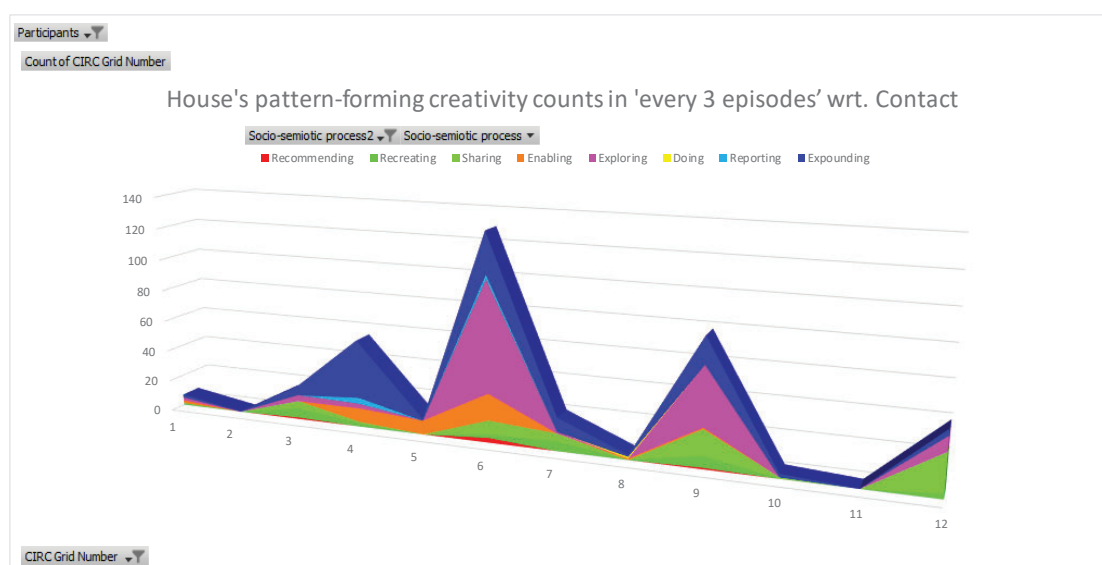
Figure 52 PivotChart of House's pattern-forming creativity counts in 'every 3 episodes' in the Contact continuum

Among this total number of concgrams of 371, CIRCF Grid Number 6 accounts for 130 concgrams, CIRCF Grid Number 9 accounts for 79 concgrams, CIRCF Grid Number 4

accounts for 56 concgrams, CIRCF Grid Number 12 accounts for 40 concgrams, CIRCF Grid Number 3 accounts for 22 concgrams, CIRCF Grid Number 7 accounts for 21 concgrams, CIRCF Grid Number 5 accounts for 10 concgrams, CIRCF Grid Number 1 accounts for 7 concgrams, CIRCF Grid Number 8 accounts for 3 concgrams, CIRCF Grid Number 10 accounts for 3 concgrams and CIRCF Grid Number 2 and 11 accounts for 0 concgrams. Figure 52 is a PivotChart of Table 75 showing the distribution of House's pattern-forming creativity counts in 'every 3 episodes' Excel sheet in the Contact continuum. The sum of the concgrams from the top three CIRCF Grid Numbers in the table contributes 71.4% (= (130 + 79 + 56) / 371 x 100%) of the total number of concgrams in pattern-forming creativity. Shape-wise, the chart of all pattern-forming creativity and that of House's pattern-forming creativity are highly similar, with the peaks at CIRCF Grid Numbers 4, 6, 9 and 12 and the troughs at CIRCF Grid Number 1, 2, 8, 10 and 11.
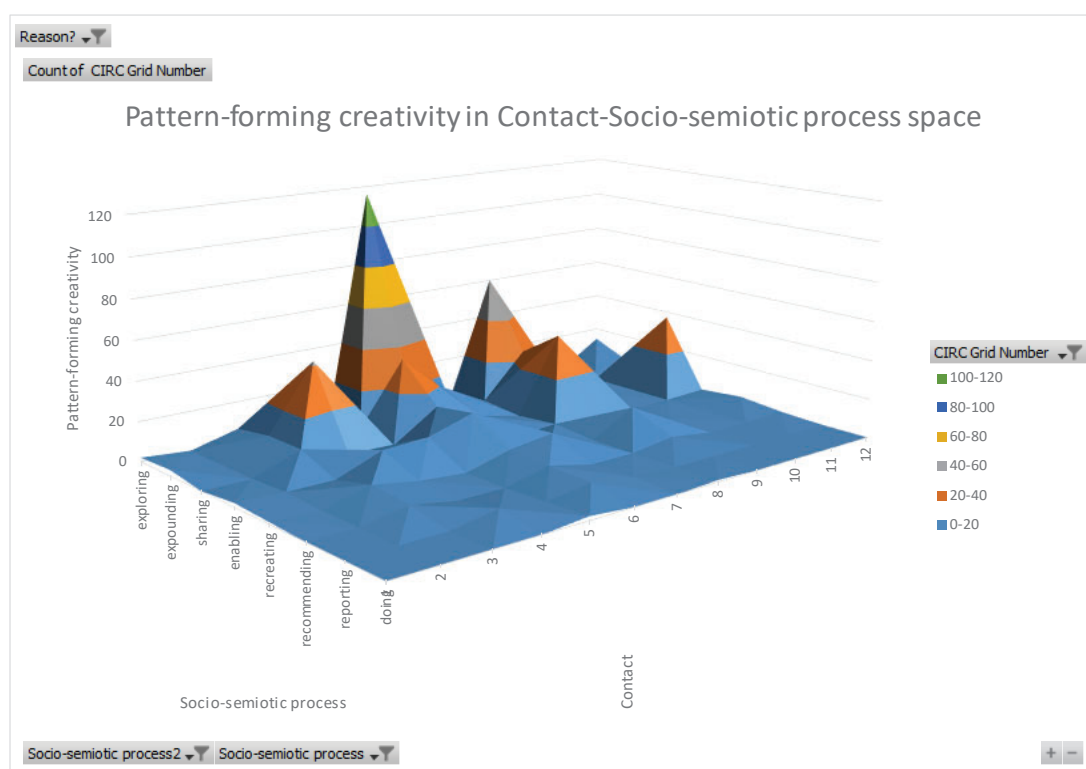

Figure 53 PivotChart of House's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space

Figure 53 shows a PivotChart of House's pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Contact-Socio-semiotic process space, created using data from the PivotTable in Table 75. Visually, Figure 53 shows much resemblance with Figure 49. It consists of 8 obvious peaks (taking the smallest auto-vertical axis unit by Excel as 'obvious', i.e. 10 concgrams, approximately 2.7% of 371 concgrams).

Numerically, the highest, fourth and sixth peaks belong to Exploring, Expounding and Enabling at 70, 26 and 17 occurrences respectively with CIRCF Grid Number 6, representing collaborative idea-oriented pattern-forming creativity with high equality of power, and a contact level of 6 on the scale of 12 at a professional level of affective involvement. The second, seventh and eighth peaks belong to Exploring, Expounding and Sharing at 37, 17 and 16 occurrences respectively with CIRCF Grid Number 9, representing collaborative idea-oriented pattern-forming creativity with high equality of power, and a contact level of 9 on the scale of 12 at a socialising level of affective involvement. The third peak belongs to Expounding at 37 occurrences with CIRCF Grid Number 4, representing information provision-oriented pattern-forming creativity with low equality of power, and a contact level of 4 on the scale of 12 at a professional level of affective involvement. Finally, the fifth peak belongs to Sharing at 24 occurrences with CIRCF Grid Number 12, representing collaborative idea-oriented pattern-forming creativity with high equality of power, and a contact level of 12 on the scale of 12 at an intimate level of affective involvement.

Comparing the various peaks of pattern-forming creativity, the highest peak (Exploring with CIRCF Grid Number 6) is almost twice the occurrences of the second peak (Exploring with CIRCF Grid Number 9) and the third peak (Expounding with CIRCF Grid Number 4). Together the two highest peaks add up to 107 (= 70 + 37) occurrences, which means Exploring pattern-forming creativity at a professional and socialising level of affective involvement in *House M.D.* accounts for around 43.9% (= 107 / 244 x 100%) of the occurrences amongst these peaks, or 28.8% (= 107 / 371 x 100%) in all House's

pattern-forming creativity. 6 out of 8 peaks belong to Exploring and Expounding, contributing 187 out of 244 concgrams, or 76.6% of all 8 peak counts.

House's pattern-forming creativity			
Affective Involvement	Context type (monologue) (unequal power)	Interation type (dialogue) equal power)	
	Low equality / Information provision	Medium equality / Collaborative task	High equality / Collaborative idea
Transactional (low affective involvement)	7	0	22
Professional	56	10	130
Socialising	21	3	79
Intimate (high affective involvement)	3	0	40
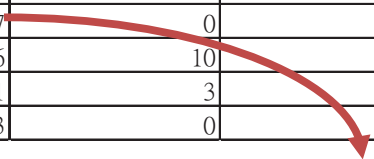
Table 76 Table of House's pattern-forming creativity counts in 'every 3 episodes', row Affective Involvement, column Power; trendline of creativity represented by red arrow

Table 76 shows a table of House's pattern-forming creativity counts in 'every 3 episodes' Excel sheet with affective involvement as rows and power as columns using the CIRCF matrix / Carter's (2004) creativity matrix. Like Table 74, a red arrow bends in a similar manner indicating the 'gravity' or pull created by the creativity counts.

Figure 54 PivotChart of House's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space

Figure 54 illustrates a 3D-surface chart of House's pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Affective involvement-Power space, created using data from the PivotTable in Table 76. Visually, the 3D-surface chart of Figure 54 is highly similar to that of Figure 50.

Figure 54 shows one gradual slope with its highest point at 56 counts at the professional level of affective involvement with low equality of power. The slope then falls to its lowest with medium equality of power. The 3D-surface then rises to 79 counts at the intimate level of affective involvement with high equality of power, forming a steep slope that reaches a new high at 79 counts at the socialising level of affective involvement with high equality of power, until it peaks at 130 counts at the professional level of affective involvement but with high equality of power.

The 3D-surface chart indicates that House's pattern-forming creativity has shaped the overall creativity in the series, producing nearly an exact chart by 3D surface of a lower

magnitude. Figure 54 shows that House's pattern-forming creativity tends to be collaborative idea-oriented, high equality of power environment with majority of the occurrences ranging from professional to socialising to intimate level of affective involvement. Pattern-forming creativity that is information provision-oriented with low equality of power is most prominent at professional level of affective involvement. Finally, collaborative task-oriented, medium equality of power yields low counts in pattern-forming creativity across the affective involvement continuum.

6.3.3.4.3. Wilson, Cuddy, Foreman, Cameron and Chase

Main characters	No. of occurrence of pattern-forming creativity created by a character in 'every 3 episodes'	No. of episodes appeared in the entire series	Average 'every 3 episodes' occurrences created by a character per episodic appearance
House	371	176	**2.132**
Foreman	31	174	**0.178**
Wilson	30	174	**0.172**
Cuddy	21	153	**0.137**
Chase	23	171	**0.135**
Cameron	9	130	**0.069**

Table 77 Average 'every 3 episodes' occurrences created by each character per episodic appearance

House's use of pattern-forming creativity has shown to have formed the backbone of the overall pattern-forming creativity of the entire series, but how does it compare with

pattern-forming creativity produced by other supporting characters in the medical dramedy? In order to unveil the underlying preferences in the main characters' production of pattern-forming creativity, five supporting characters (with the exception of House, who is the main character) having the highest number of appearance in the series have been selected for further analysis in this section, namely Wilson (174 episodes), Cuddy (153 episodes), Foreman (174 episodes), Chase (171 episodes) and Cameron (130 episodes).

Ranking by descending order of occurrences of pattern-forming creativity created by each of the selected characters, House has created 371 occurrences, Foreman 31 occurrences, Wilson 30 occurrences, Chase 23 occurrences, Cuddy 21 occurrences and Cameron 9 occurrences in a total of 67 out of 177 episodes from the 'every 3 episodes' Excel data. Given that House has appeared in 176 episodes, Foreman has appeared in 174 episodes, Wilson in 174 episodes, Cuddy in 153 episodes, Chase in 171 episodes and Cameron in 130 episodes (IMDb, n.d.), the average 'every 3 episodes' occurrences created by each character per episodic appearance can be calculated, as shown in Table 77. Unsurprisingly, House as the main character has the highest average 'every 3 episodes' occurrences created per episodic appearance at a value of 2.132. The character with the next highest average value is Foreman at 0.178 'every 3 episodes' occurrences per episodic appearance, followed by Wilson at 0.172. Chase on the other hand, despite having a higher episodic appearance in the series and a higher number of pattern-forming creativity created in 'every 3 episodes' than Cuddy, has a marginally lower average value than her. Cameron ranks last on the list of selected characters with an average value of 0.069, which is almost half of the value of Chase and Cuddy. The above averages indicate that, apart from House who is the most pattern-forming creative character, Foreman and Wilson are tight contenders for the second most pattern-formingly creative characters, while Cuddy and Chase produce approximately the same in third place. Lastly, Cameron is shown to be the least active creator of pattern-forming creativity amongst the selected characters.

Count of CIRC Grid Number   CIRC Grid Number

Socio-semiotic process	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
sharing									9			3	12
exploring						1			8			2	11
expounding						1	2					1	4
recreating							1		1				2
enabling								1					1
reporting													
recommending													
doing													
Grand Total						2	3	1	18			6	30

Table 78 PivotTable of Wilson's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Count of CIRC Grid Number   CIRC Grid Number

Socio-semiotic process	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
exploring						8			2		1		11
sharing						2			1		2		5
enabling				1							1		2
expounding				1					1				2
recreating							1						1
recommending													
reporting													
doing													
Grand Total				2		10	1		4		4		21

Table 79 PivotTable of Cuddy's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Count of CIRC Grid Number   CIRC Grid Number

Socio-semiotic process	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
exploring					1	13			3				17
sharing						1			4				5
expounding			1	1					2				4
recreating						2				1			3
reporting							1						1
recommending			1										1
enabling													
doing													
Grand Total			2	1	1	16	1		9	1			31

Table 80 PivotTable of Foreman's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Count of CIRC Grid Number	CIRC Grid Number													
Socio-semiotic process		1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
⊞ sharing					1					3				4
⊞ exploring							2			1		1		4
⊞ recreating							1							1
⊞ recommending														
⊞ enabling														
⊞ reporting														
⊞ doing														
⊞ expounding														
Grand Total					1		3			4		1		9

Table 81 PivotTable of Cameron's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Count of CIRC Grid Number	CIRC Grid Number													
Socio-semiotic process		1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
⊞ exploring							8	1		2			1	12
⊞ expounding					1		1	2		1				5
⊞ sharing										3				3
⊞ recreating										1				1
⊞ doing						1								1
⊞ enabling							1							1
⊞ reporting														
⊞ recommending														
Grand Total					1	1	10	3		7			1	23

Table 82 PivotTable of Chase's pattern-forming creativity counts in 'every 3 episodes', row Socio-semiotic process, column Contact

Table 78 to Table 82 are PivotTable of, respectively, Wilson, Cuddy, Foreman, Chase and Cameron's pattern-forming creativity counts in 'every 3 episodes' Excel sheet, with Socio-semiotic process as rows and CIRCF Grid Number/contact as columns, sorted in descending order of pattern-forming creativity count in rows. From these tables, it can be seen that different characters adopt pattern-forming creativity in different ways.

Regardless of the targets of pattern-forming creativity, Wilson prefers to initiate pattern-forming creativity of Sharing (12 of 30 concgrams) and Exploring (11 of 30 concgrams), as well as those of high equality of power at a socialising (18 of 30 concgrams) and intimate level (6 of 30 concgrams) of affective involvement, as shown in Table 78. Cuddy prefers to produce pattern-forming creativity of Exploring (11 of 21 concgrams) and Sharing (5 of 21 concgrams), as well as those of high equality of power

at a professional level of affective involvement (10 of 21 concgrams), as shown in Table 79. Foreman focuses on pattern-forming creativity of Exploring (17 of 31 concgrams), mainly those of high equality of power at a professional (16 of 31 concgrams) and socialising level (9 of 31 concgrams) of affective involvement, as shown in Table 80. Cameron tends to produce pattern-forming creativity of Exploring (4 of 9 concgrams) and Sharing (4 of 9 concgrams), often those of high equality of power at a professional (3 of 9 concgrams) and socialising level (4 of 9 concgrams) of affective involvement, as shown in Table 81. Finally, Chase focuses on pattern-forming creativity of Exploring (12 of 23 concgrams), as well as those of high equality of power at a professional (10 of 23 concgrams) and socialising level (7 of 23 concgrams) of affective involvement, as shown in Table 82.
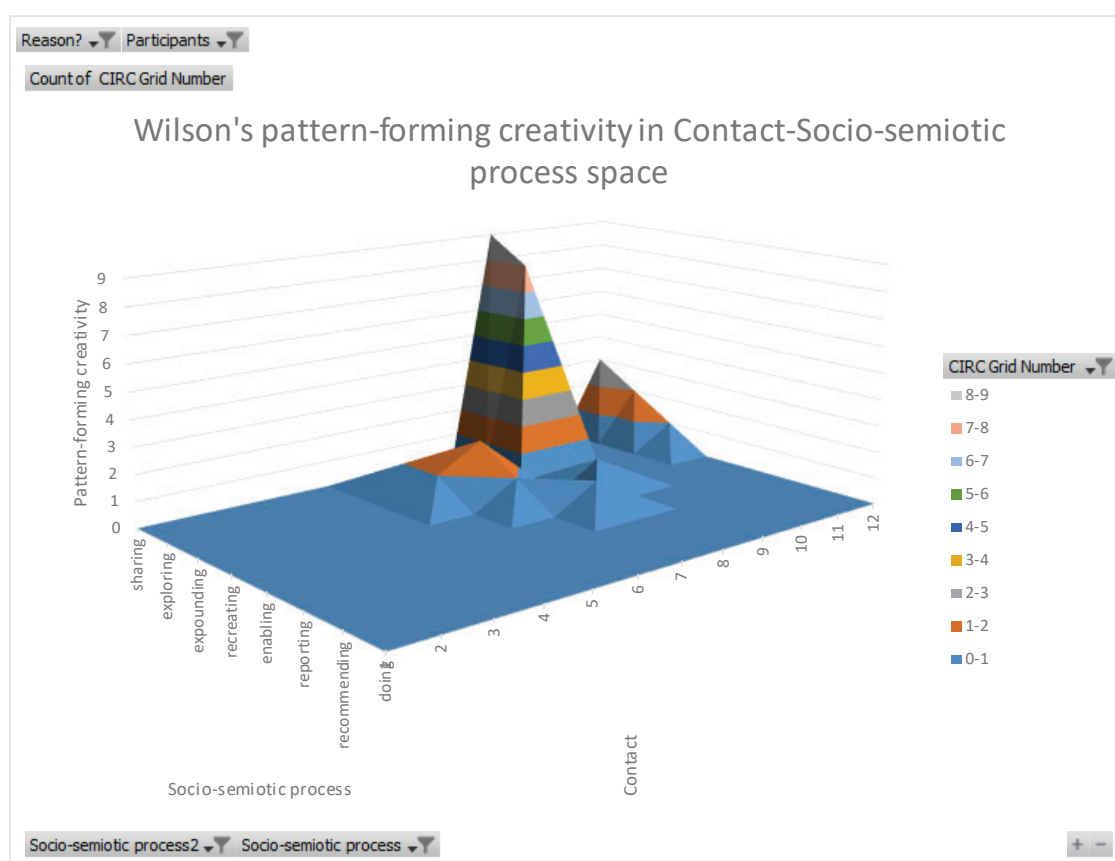
Figure 55 PivotChart of Wilson's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space
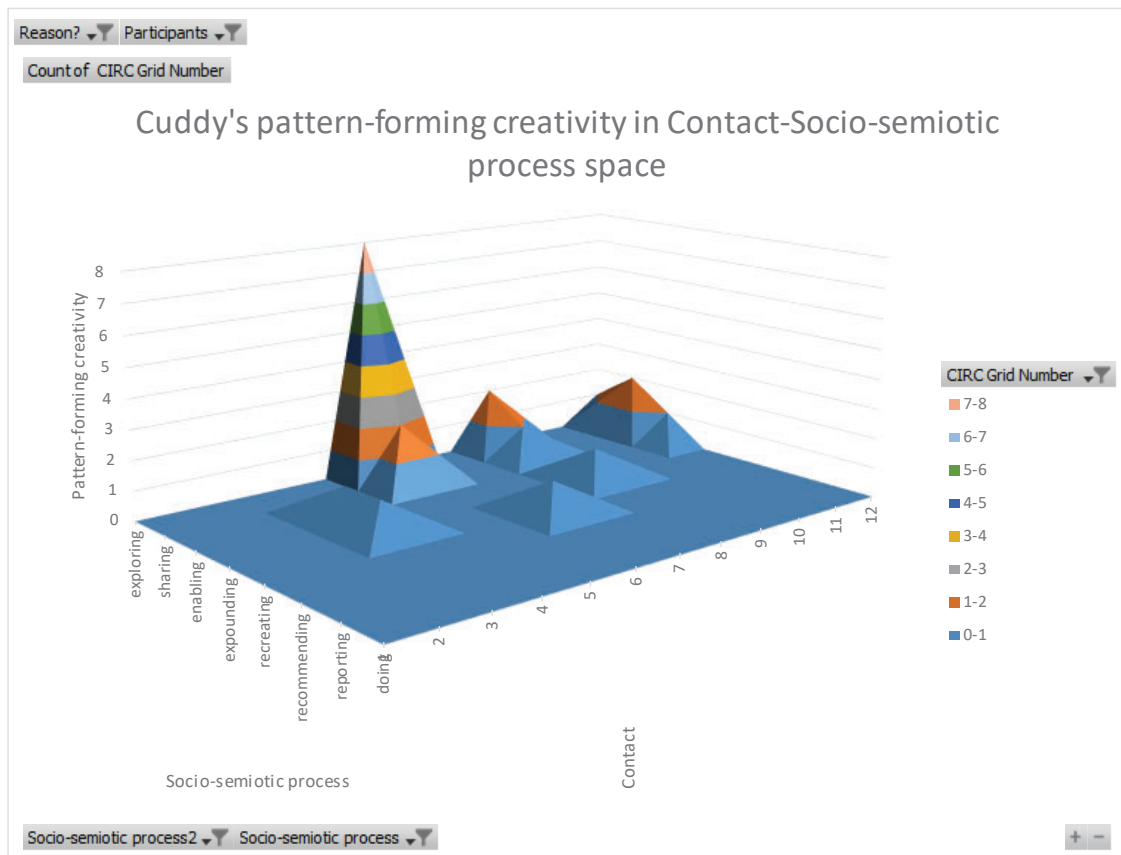
Figure 56 PivotChart of Cuddy's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space
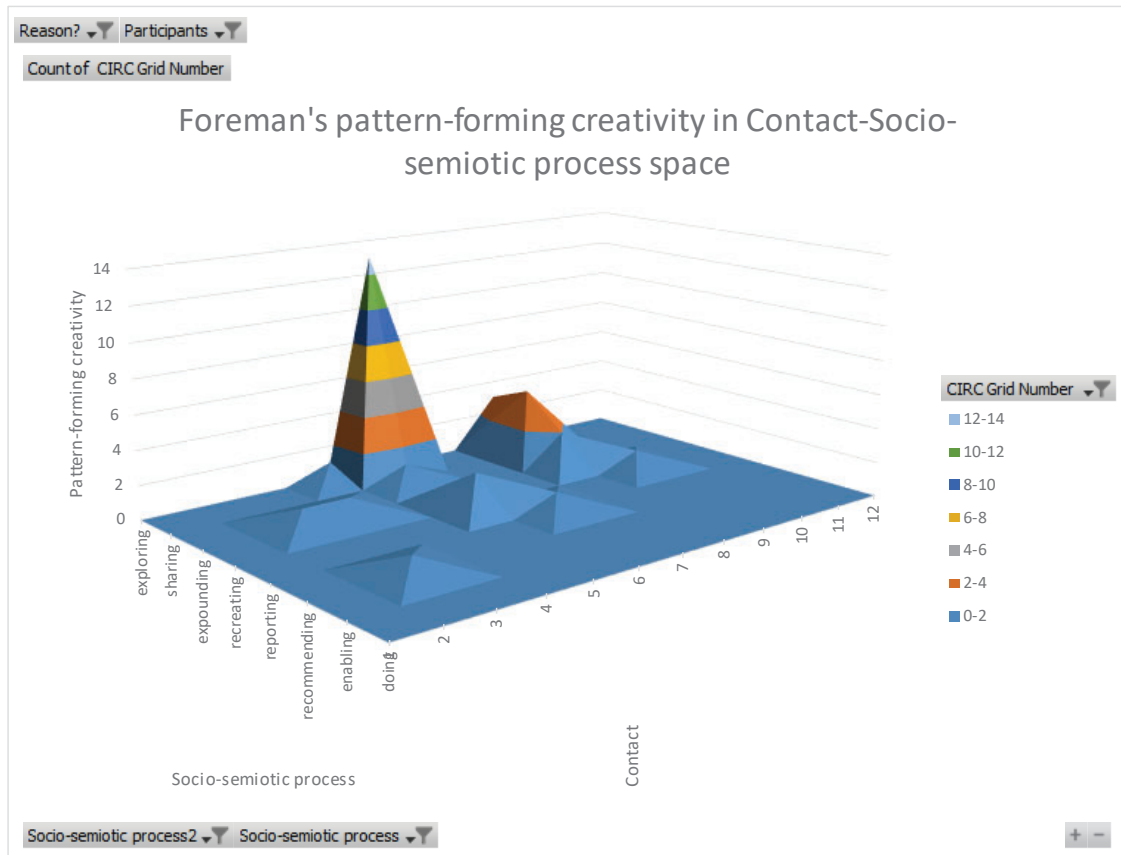
Figure 57 PivotChart of Foreman's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space
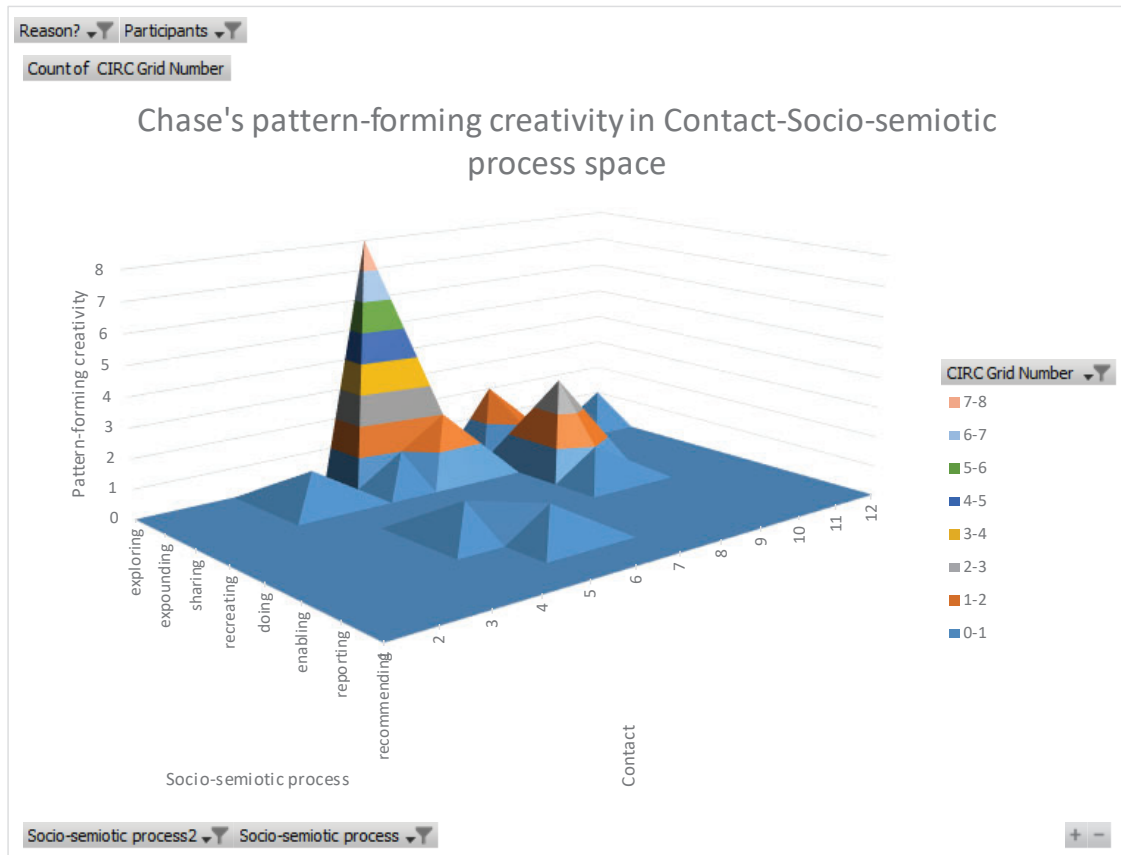
Figure 58 PivotChart of Chase's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space
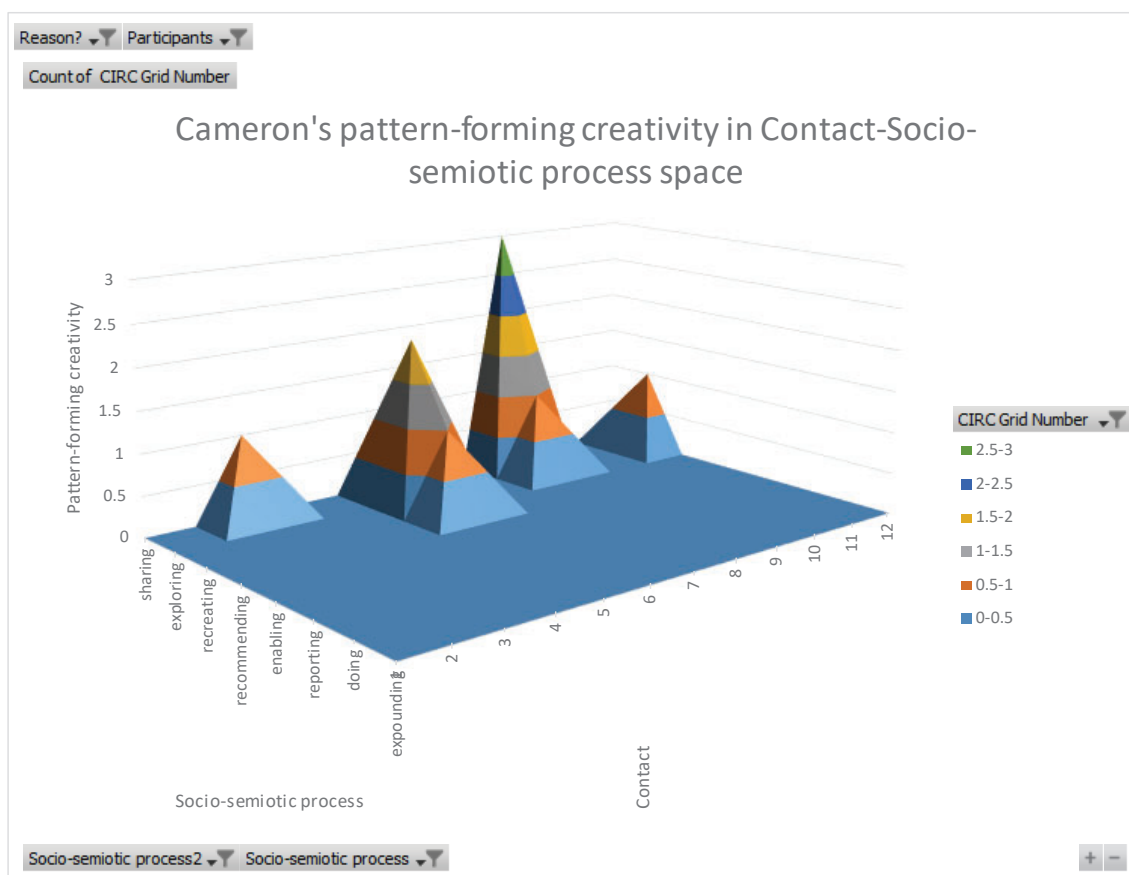
Figure 59 PivotChart of Cameron's pattern-forming creativity counts in 'every 3 episodes' in Contact-Socio-semiotic process space

Figure 55 to Figure 59 show PivotTable of, respectively, Wilson, Cuddy, Foreman, Chase and Cameron's pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Contact-Socio-semiotic process space, created using data from the PivotTable Table 78 to Table 82. Visually, Figure 56 (Cuddy), Figure 57 (Foreman) and Figure 58 (Chase) are similar in terms of having only one distinctive peak at Exploring and contact level / CIRCF Grid Number 6. These PivotCharts consist of a number of low rises of different magnitude, which implies that Cuddy, Foreman and Chase focuses mainly on producing pattern-forming creativity of Exploring with high equality of power at the professional level of affective involvement, and contact level 6 on the scale of 12. Figure 55 (Wilson) and Figure 59 (Cameron) both have the highest, most distinctive peak at Sharing and

contact level / CIRCF Grid Number 9, which implies that Wilson and Cameron both play a key role in creating Sharing-related pattern-forming creativity with high equality of power at the socialising level of affective involvement, and contact level 9 on the scale of 12. In addition, Figure 55 (Wilson)'s highest peak extends from Sharing to Exploring at contact level / CIRCF Grid Number 9, which implies that Wilson is also keen on engaging in Exploring-related pattern-forming creativity with high equality of power at the socialising level of affective involvement, and contact level 9 on the scale of 12.
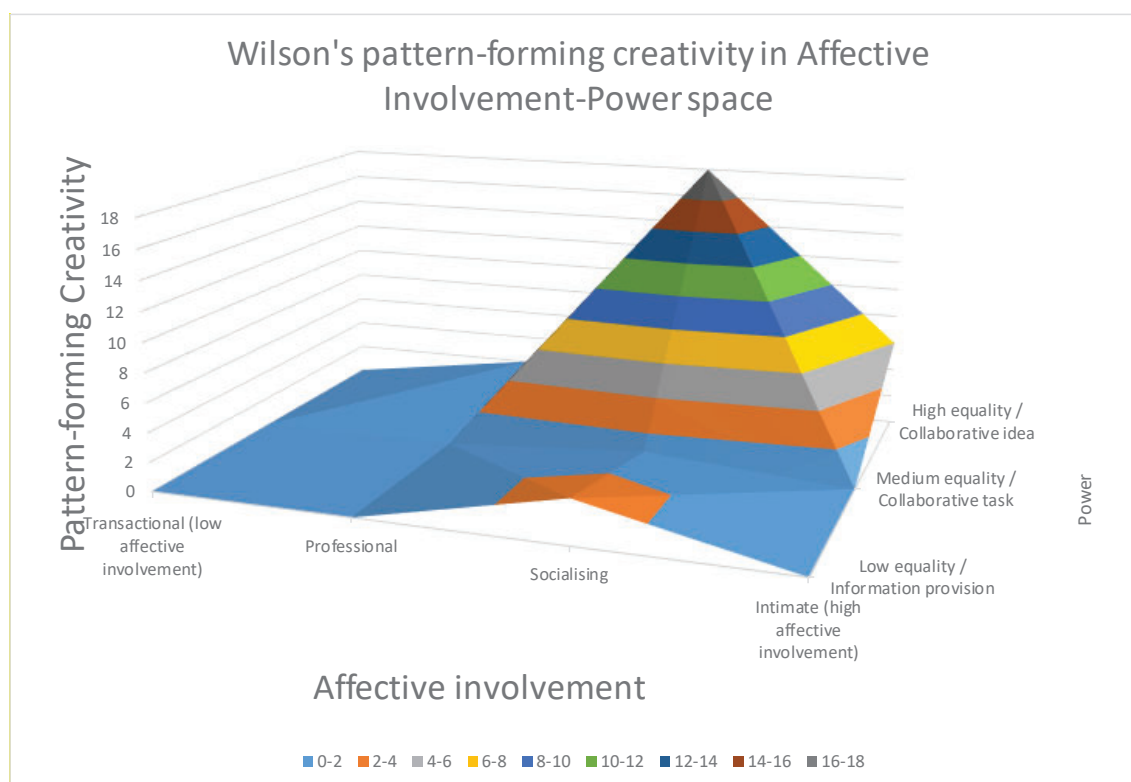
Figure 60 PivotChart of Wilson's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space
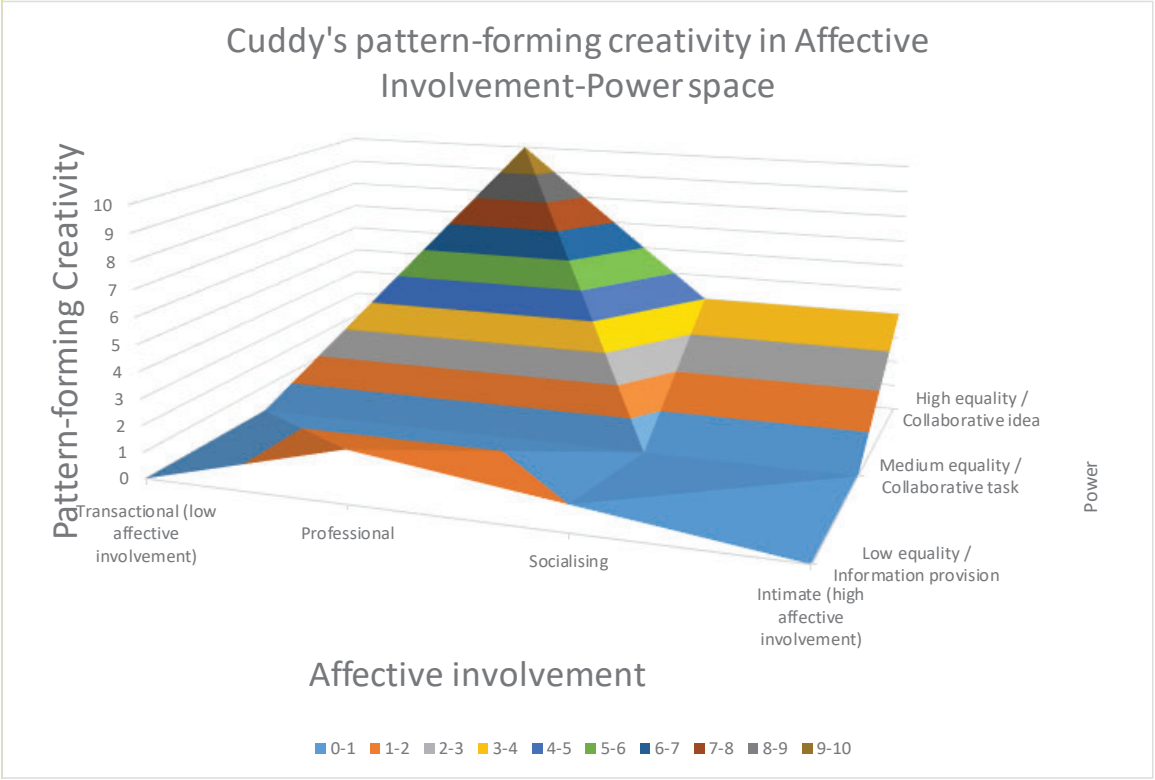
Figure 61 PivotChart of Cuddy's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space
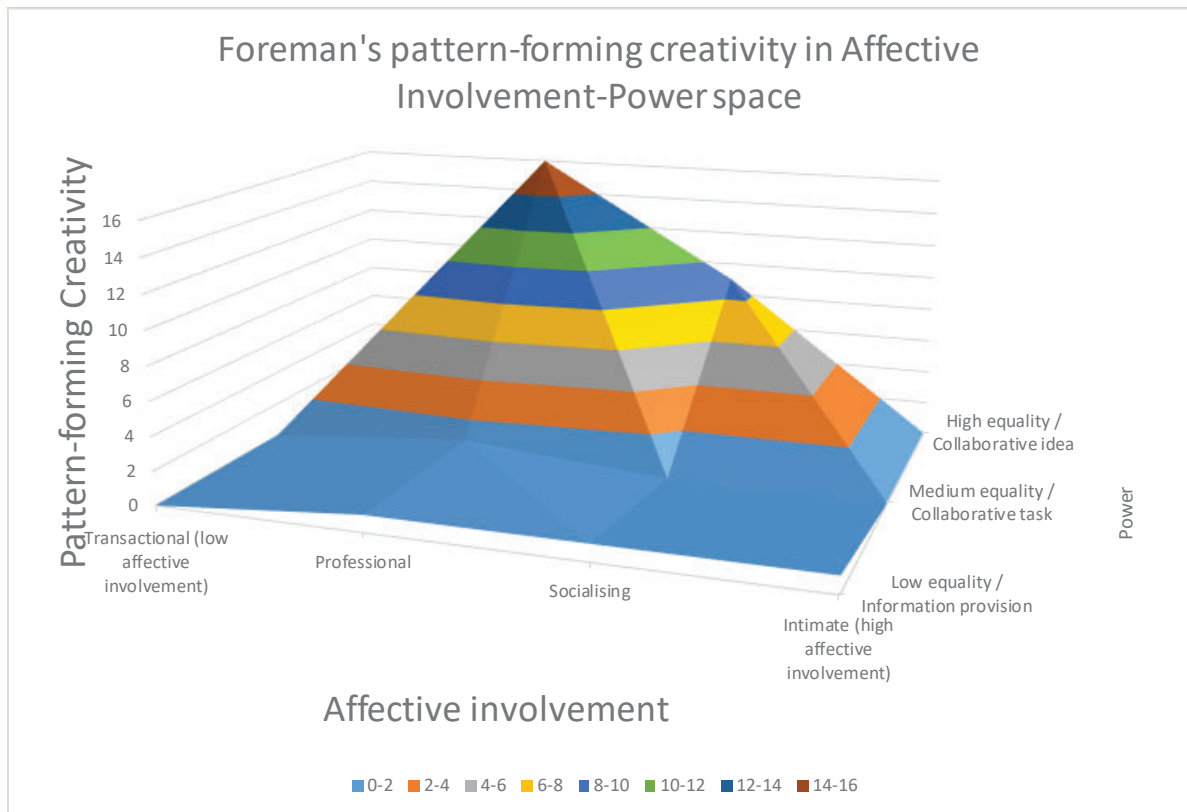
Figure 62 PivotChart of Foreman's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space
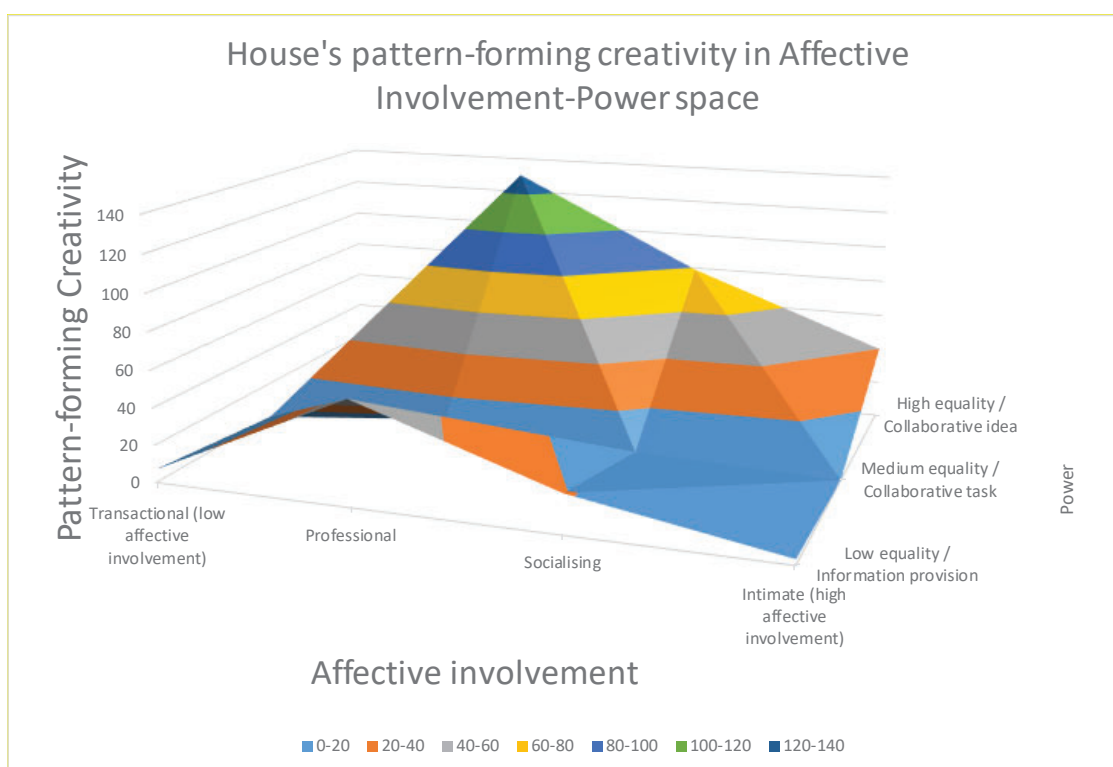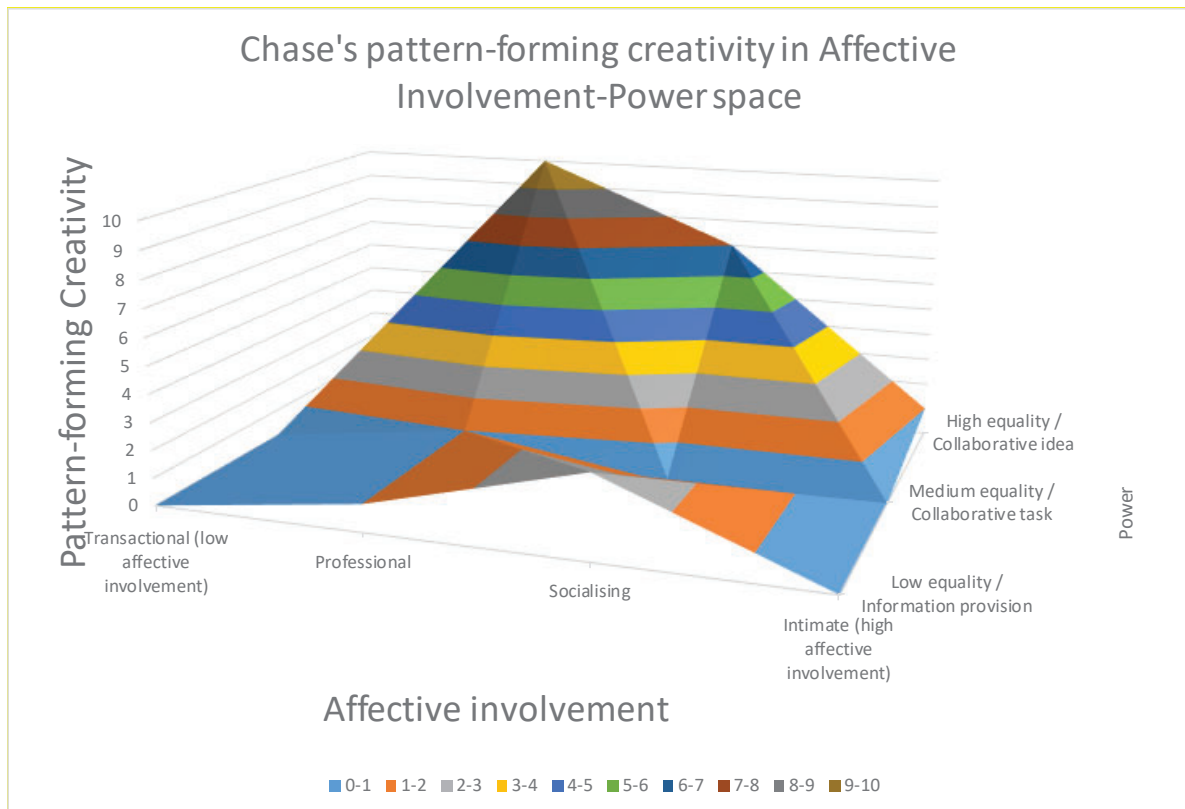
Figure 63 PivotChart of Chase's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space
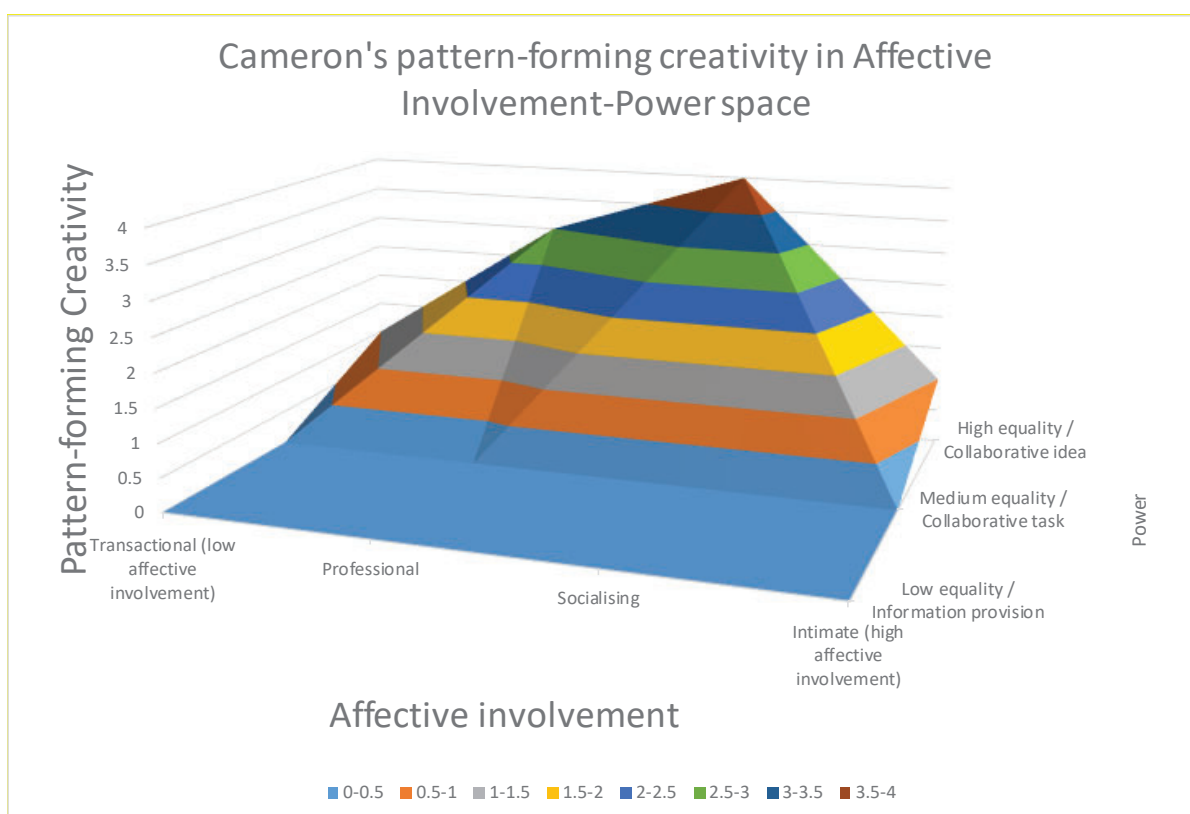
Figure 64 PivotChart of Cameron's pattern-forming creativity counts in 'every 3 episodes' in Affective Involvement-Power space

Figure 60 to Figure 64 illustrate a 3D-surface chart of, respectively, Wilson, Cuddy, Foreman, Chase and Cameron's pattern-forming creativity counts in 'every 3 episodes' Excel sheet in Affective involvement-Power space. Visually, the 3D-surface chart of Figure 61 (Cuddy), Figure 62 (Foreman) and Figure 63 (Chase) show much resemblance with Figure 54 (House), while Figure 60 (Wilson) and Figure 64 (Cameron) also show similarities. First of all, Figure 54 (House), Figure 61 (Cuddy), Figure 62 (Foreman) and Figure 63 (Chase) all show similar a minor rise at low equality of power along the affective involvement continuum, which then forms a gradual slope at its lowest point along the affective involvement continuum at medium equality of power, forming a valley. All these Pivotcharts then show a sharp rise from the valley to high equality of power with the highest peak at the professional level of affective involvement forming

similar steep slopes. On the other hand, Figure 60 (Wilson) and Figure 64 (Cameron) are similar because both charts have a relatively flat surface at 0 pattern-forming creativity count from low to medium equality of power across the affective involvement continuum, and then rise sharply to the highest point from medium to high equality of power at the socialising level of affective involvement. The obvious difference between the two would be the absence of involvement of pattern-forming creativity at the professional level of affective involvement for Figure 60 (Wilson) but the presence in Figure 64 (Cameron).

6.3.3.4.4. Summary

The graphical representation of pattern-forming creativity such as PivotCharts and the CIRCF model has demonstrated the usefulness in drawing key information and filtering out less important ones. Visualisation of complex, multi-point data has shown advantages in enhancing comprehension through comparisons (Schonlau & Peters, 2012). In this case, using graphs such as PivotCharts and CIRCF allow quick comparisons of the characters' behaviour in their pattern-forming creativity production from multiple perspectives – i.e. from single register variable Field (fields of activity), Tenor (contact, power, affective involvement), Mode (spoken, written or scripted spoken in the case of *House M.D.*), as well as from multi-dimensional perspectives – i.e. from permutations of any of the register variables or their sub-variables. It also reveals how each character affects the overall creativity pattern in the entire series. For examples, the quantitative analysis has shown that House plays a fundamental role in the overall creativity construction of the entire series, that Cuddy, Foreman and Chase are similar to House in using pattern-forming creativity but different in magnitude, focusing mainly on Exploring with high equality of power at the professional level of affective involvement and contact level 6 on the scale of 12. The analysis has also shown how Wilson and Cameron are similar pair of characters in their pattern-forming creativity production, particularly that in Sharing with high equality of power at the socialising level of affective involvement and contact level 9 on the scale of 12. As House's best friend, Wilson enjoys engaging in Exploring-related pattern-forming creativity with high equality of power at the socialising level of affective involvement and contact level 9 on the scale of 12.

In the next section, a qualitative analysis will be carried out on pattern-forming creativity using the Analytical Framework for Creativity in Multimodal Texts (AFCMT)

through the SFMDA approach. Specific questions will be asked and answered through the analysis of two distinctive examples from the TV series.

6.3.4. Qualitative Analysis of Pattern-forming Creativity

6.3.4.1. Introduction

While quantitative analysis has demonstrated that the production of pattern-forming creativity varies with characters, with multiple dimensions of possibilities from different permutations of Field, Tenor, Mode and their sub-variables, a review of the concordance lines of all instances of pattern-forming creativity in 'every 3 episodes' Excel sheet reveals a common goal for the use – to make or prove a point. Therefore, putting it in an SFL sense, the semantic function of the pattern-forming creativity in a clause in *House M.D.* is essentially a proposition, mainly involving in the exchange of information, rather than a proposal that involves the exchange of goods-&-services (Halliday & Matthiessen, [1985] 2014).

The questions to be asked about pattern-forming creativity are similar to those in section 5.2.2 Qualitative Analysis of Pattern-reforming Creativity:

1) What triggers pattern-forming creativity in general?
2) What IEEE type of pattern-forming creativity is it in AFCMT?
3) How are interpersonal meanings construed by pattern-forming creativity in these situations?

Similar to the qualitative analysis of pattern-reforming creativity, the qualitative analysis for pattern-forming creativity will also focus on the same three aspects: SPEECH FUNCTION – by adapting Halliday and Matthiessen's ([1985] 2014) approach to analyse the correlations between power (tenor values) and semantic strategies used by House's production of pattern-forming creativity; MOOD – to analyse lexicogrammatical structures of the discourses in the interpersonal systems; and multimodality – by adopting Bednarek's (2010) multimodal analysis of mise-en-scène and related elements

including settings, props, costumes, codes of dress, movement, spatial relations, placement of objects and sound.

Two examples have been selected and are based on the aforementioned observation from the quantitative data. Power continues to be important in the qualitative analysis of pattern-forming creativity as this will make a good comparison with the same analysis on the pattern-reforming counterpart. However, as quantitative analysis in section 6.3.3.3 Pattern-forming creativity created by House targeting other characters and 6.3.3.4 Graphical representation of pattern-forming creativity have shown that pattern-forming creativity tends to appear most frequently when there is a high equality of power between the characters of the TV drama, this qualitative analysis differs from that in section 5.2.2 in terms of the inclusion of two tenor values – contact and affective involvement.

The selected examples involve conversations between House and supporting characters who are both new to House (such as Foreman in example 4) and familiar with House (such as Cameron and Chase in example 4 and Cuddy in example 5) at the time the respective episodes were aired. This allows contact and affective involvement to be measurable while keeping the effect of power on pattern-forming creativity in the picture. Example 4 is taken from a 54-second partial scene in Season 1 Episode 1 *Pilot: Everybody Lies* between 05:33 and 06:27, hereafter referred as the 'Treating patients' scene, in which House has huge power difference over three other doctors in his team, namely Cameron, Chase and Foreman. Example 5 is the 'Little part' scene taken from a 57-second partial scene in Season 4 Episode 7 *Ugly* between 04:10 and 05:07, in which Cuddy has a higher power than House in terms of job ranking, but House and Cuddy are also friends since med schools (Season 6 Episode 7 *Known Unknowns*), which may be translated to high contact and high affective involvement.

6.3.4.2. Example 4 'Treating patients' scene
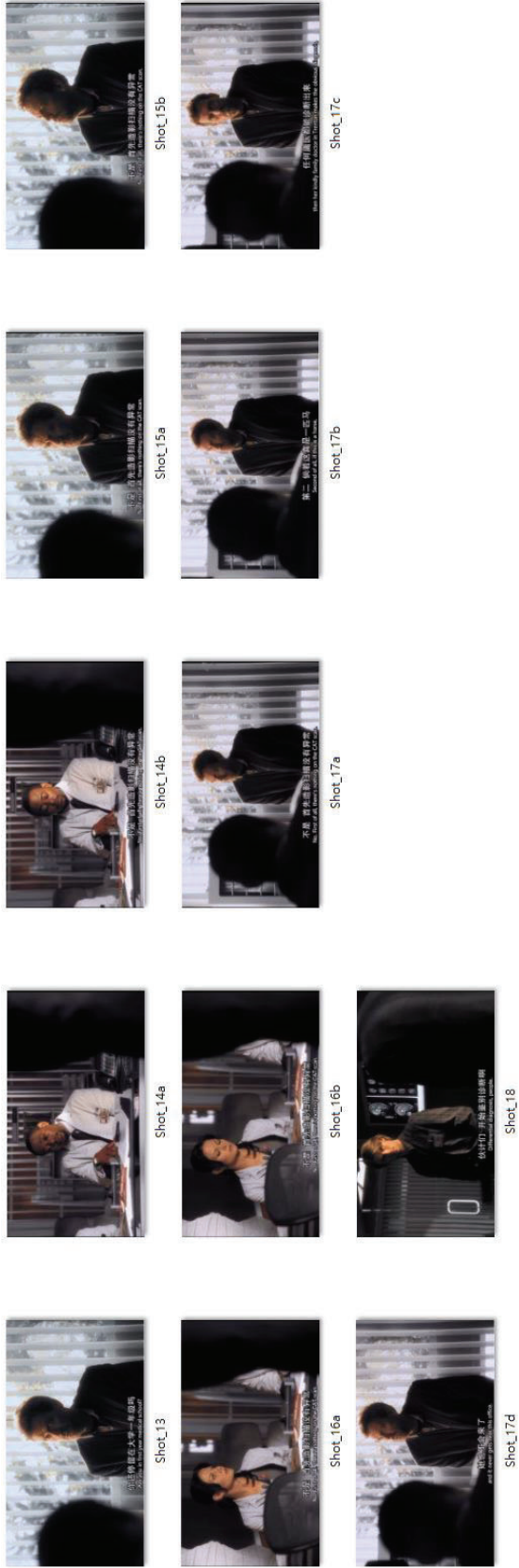
Figure 65 Screenshots of a part of 'Treating patients' scene, Season 1 Episode 1 *Pilot: Everybody Lies*, 05:33 – 06:27, 0 minute 54 seconds

Shot No.	Script
	[Cut to House looking through an MRI of Rebecca's head.]
0a to 0b	1. *Foreman: It 's a lesion.*

0b to 2a	2.	*House: And the big green thing in the middle of the bigger blue thing on a map is an island. I was hoping for something a bit more creative.*
2b to 2c	3.	*Foreman: Should n't we be speaking to the patient before we start diagnosing?*
3a to 3b	4.	*House: Is she a doctor?*
4	5.	*Foreman: No, but...*
4 to 5	6.	*House: Everybody lies.*
6a to 6b	7.	*Cameron: Dr. House does n't like dealing with patients.*
6b to 6c	8.	*Foreman: Is n't treating patients why we became doctors?*
7a to 7c	9.	*House: No, treating illnesses is why we became doctors, treating patients is what makes most doctors miserable.*
7c to 9a	10.	*Foreman: So you 're trying to eliminate the humanity from the practice of medicine.*
9a to 11	11.	*House: If we do n't talk to them they ca n't lie to us, and we ca n't lie to them. Humanity is overrated. I do n't think it 's a tumor.*
11 to 12b	12.	*Foreman: First year of medical school if you hear hoof beats you think 'horses' not 'zebras'?*
13 to 18	13.	*House: Are you in first year of medical school? No. First of all, there 's nothing on the CAT scan. Second of all, if this is a horse then the kindly family doctor in Trenton makes the obvious diagnosis and it never gets near this office...*

Table 83 Transcript of a part of 'Treating patients' scene, Season 1 Episode 1 *Pilot: Everybody Lies*, 05:33 – 06:27, 0 minute 54 seconds

Table 83 shows a 54-second transcript of the 'Treating patients' partial scene in Season 1 Episode 1 *Pilot: Everybody Lies* with a selection of salient frames (Figure 65) to be discussed. Before the start of the analysis, here is a short description of the background of this episode prior to the 'Treating patients' partial scene.

The episode begins with a 29-year old female kindergarten teacher suddenly losing the ability to speak while teaching and then suffered from a seizure. A month had past since the seizure and Wilson attempted to persuade House to take the case. He told House that the patient is his cousin and she has been suffering from progressive deterioration of mental status. Protein markers of the three most prevalent brain cancers were tested negative, and unresponsive to radiation treatment. House suspects that Wilson is lying about the patient being his cousin but takes the case anyway because Wilson said that the "three overqualified doctors" working for House are "getting bored". These three doctor are Chase, Cameron and Foreman. Chase was the hired in 2002 in House's team (Season 8 Episode 20 *Post Mortem*), followed by Cameron who was hired about six month prior to this episode and Foreman is a new hired doctor.

6.3.4.2.1. Tenor relationships and interpersonal metafunction

Shot No.	Script
	Phase 1
	[Cut to House looking through an MRI of Rebecca's head.]
0a to 0b	1. *Foreman:* It 's a lesion.
0b to 2a	2. *House:* And the big green thing in the middle of the bigger blue thing on a map is an island. I was hoping for something a bit more creative.
2b to 2c	3. *Foreman:* Should n't we be speaking to the patient before we start diagnosing?
3a to 3b	4. *House:* Is she a doctor?
4	5. *Foreman:* No, [ø: 'she isn't] but...
4 to 5	6. *House:* Everybody lies.
6a to 6b	7. *Cameron:* Dr. House does n't like dealing with patients.
6b to 6c	8. *Foreman:* Is n't treating patients why we became doctors?

Legends:
Red: Subject
Orange: Finite Modal
Yellow: Finite only
Turquoise: Predicator only
Bright Green: Finite and Predicator
Pink: Complement
Violet: Adjunct
Blue: Vocatives

7a to 7c	9. House: No, treating illnesses is why we became doctors, treating patients is what makes most doctors miserable.
7c to 9a	10. Foreman: So you're trying to eliminate the humanity from the practice of medicine.
9a to 11	11. House: If we don't talk to them they can't lie to us, and we can't lie to them. Humanity is overrated. I don't think it's a tumor.
11 to 12b	12. Foreman: First year of medical school if you hear hoof beats you think 'horses' not 'zebras'?
13 to 18	13. House: Are you in first year of medical school? No. First of all, there's nothing on the CAT scan. Second of all, if this is a horse then the kindly family doctor in Trenton makes the obvious diagnosis and it never gets near this office...

Table 84 A part of 'Treating patients' scene highlighted with respect to functional elements of the MOOD system

Prior to the analysis, it is worth noting that being the boss of three doctors, House has a higher power granted by his job status than Chase, Cameron and Foreman. Affective involvement and contact are difficult to measure in this example but can be estimated by the amount of time each doctor has been working for House prior to this scene, especially when Foreman is very new to the team whereas Chase has worked for House for around two years and Cameron for about six months.

Table 84 shows a version of the dialogue of the 'Treating patients' partial scene highlighted according to functional elements of the MOOD system. The table contains 1 phase of the conversation in this scene. Phase 1 is a scene in which House states his belief and shares his work philosophy mainly with the new doctor Foreman at his office. The conversation mainly involves the exchange of information between House and Foreman (6 turns each) using two speech functions: statement (give information) and questions (demand information).

Foreman	1	It 's a lesion.
House	2	And the big green thing in the middle of the bigger blue thing on a map is an island. I was hoping for something a bit more creative.
Foreman	3	*Should n't we be speaking to the patient before we start diagnosing?*
House	4	*Is she a doctor?*
Foreman	5	No, [ø: 'she isn't'] but...
House	6	Everybody lies.
Cameron	7	Dr. House does n't like dealing with patients.
Foreman	8	Is n't treating patients why we became doctors?
House	9	No, treating illnesses is why we became doctors, treating patients is what makes most doctors miserable.
Foreman	10	So you 're trying to eliminate the humanity from the practice of medicine.
House	11	*If we do n't talk to them they ca n't lie to us, and we ca n't lie to them. Humanity is overrated. I do n't think it 's a tumor.*
Foreman	12	First year of medical school if you hear hoof beats you think 'horses' not 'zebras'?
House	13	Are you in first year of medical school? No. First of all, there 's nothing on the CAT scan. Second of all, if this is a horse then the kindly family doctor in Trenton makes the obvious diagnosis and it never gets near this office...

Table 85 Interpersonal element progression realising exchange of information

Table 85 illustrates the progression of interpersonal elements in between each turn:
Adjunct "to the patient" (line 3) with Subject "she" (line 4) and ellipted Subject "she"
(line 5); Subject "she" (line 4) as a subset of Subject "Everybody" (line 6); Subject
"Everybody" (line 6) as a superset of "patients" in Complement "dealing with patients"
(line 7); "patients" in Complement "dealing with patients" (line 7) with "patients" in

Subject "treating patients" (line 8); "treating" in Subject "treating patients" (line 8) with "treating" in Subject "treating illnesses" (line 9); Subject "treating patients" (line 8) with Subject "treating patients" (line 9); "patients" in Subject "treating patients" (line 9) with "them" in Adjunct "to them", Subject "they" and "them" in Adjunct "to them" (line 11); Adjunct "First year of medical school" (line 12) with "first year of medical school" in Adjunct "in first year of medical school" (line 13); "horses" in Complement "'horses' not 'zebras'" (line 12) with Complement "a horse" (line 13).

The progression of interpersonal elements throughout the discourse, together with the abundance of declaratives, some occurrences of interrogatives and the absence of imperative from House, reveals a high equality of power between the interlocutors in general, especially between House and Foreman. The progression has also revealed that Foreman's words have been reused by House throughout the discourse, particularly words in the Subject, Complement and Adjunct positions, most noticeably in line 9 and 13 where instances of co-constructed pattern-forming creativity are produced immediately after Foreman's turn. Such high frequency of endo-referenced statements by House can be related to an advantage in power, as they give additional information to what has been stated by Foreman. House's advantage in power is further established through his response to Foreman, using a counter-yes/no-interrogative in each line 4 and line 13, and a statement of interruption in line 6. On the other hand, despite the original difference in job positions and thus the difference in power between House and Foreman as expected, Foreman has not seen using modal Finite to convey politeness, his use of yes/no-interrogatives in line 3, 8 and 12 are evidence of verbal challenges to House's work philosophy. Therefore, Foreman in fact does not see House as a boss with a high power difference from him, resulting in the overall 'high equality' of power and low affective involvement in this scene.

Overall, despite the low contact and affective involvement between House and Foreman, the pair do not see a high power difference between one another, allowing the discourse to proceed in a mostly equal opportunity manner. Indeed, House's

pattern-forming creativity has been used to negotiate power and to verbally gain advantage over Foreman, but this is only made possible because House chooses to allow such exchange of information during DDX. This argument is supported by Cuddy, who told House that "You need someone to bounce ideas off of. You need a team." (Season 4 Episode 1 *Alone*) House does not fear the development of conflict in his office, as he believes that "[c]onflict breeds creativity." (Season 5 Episode 15 *Unfaithful*) This example shows that, unlike the situation in pattern-reforming creativity, the driving force behind House's pattern-forming creativity is not the difference in power between creator and target, but rather the equality of power.

From the above analysis, a high equality of power between interlocutors is a likely trigger for House's pattern-forming creativity.

6.3.4.2.2. IEEE type of pattern-forming creativity in AFCMT

In line 9, House creates an instance of co-constructed pattern-forming creativity as a response to Foreman's interrogative in line 8 by reusing and adapting the Subject "treating patients", Finite "isn't" and Complement "why we became doctors", forming "treating illness is why we became doctors, treating patients is what makes most doctors miserable". This instance of pattern-forming creativity is explicit – because the formula of construction is that of a simple declarative statement with Subject, Finite and Complement all reused; and endo-referenced – as the sources of repetition are originated from Foreman's yes/no-interrogative in line 8, which is a directly preceding turn.

In line 11, House produces an instance of pattern-forming creativity which belongs to the non-co-constructed self-repetition type, "if we don't talk to them, they can't lie to us, and we can't lie to them." This instance of pattern-forming creativity is explicit – as the formula of construction of Subject ^ Finite ^ Predicator ^ Adjunct is repeated and endo-referenced – as the source of repetition are recoverable from the preceding text.

In line 13, House picks up the Adjunct "First year of medical school" in Foreman's rhetorical question in line 12 to produce a co-constructed pattern-formingly creative yes/no-interrogative "Are you in first year of medical school?" as response. This instance of pattern-forming creativity is explicit – as the formula of construction is that of a simple yes/no-interrogative with Adjunct and Subject reused; and endo-referenced – as the sources of repetition are originated from Foreman's rhetorical yes/no-interrogative in line 12, which is a directly preceding turn.

These three instances show that a unit of repetition in pattern-forming creativity can be the Subject, Finite, Predicator, Complement, Adjunct or part of the above elements. The pattern-forming creativity itself can be a statement or an interrogative.

6.3.4.2.3. Mise-en-scène

The scene begins with an MRI image of the sagittal view of Rebecca's head (Shot 0a) before the shot took a long focal point to reveal the frontal view of House's face (Shot 0b). When House turns to his left (Shot 0c) House is revealed to be in his office (Shot 1a). His office is full of objects, including the film lightbox on the wall with MRI scans clipped to it, a framed poster on the floor against the wall, a hybrid fan near large windows with vertical day blinds. On the left of the hybrid fan is a cabinet, on which books, a table lamp, an amplifier and a vinyl record player are placed in an orderly manner. Four books are stacked randomly on the floor to the left of the cabinet. To the left of the books is a pot of bamboo plant that is taller than House (Shot 1b). In Shot 8, a rectangular glass desk can be seen in front of Foreman and Cameron placed perpendicular to the wall on the left of House's desk (Shot 16a). Two visitor's chairs are placed in front of House's desk and one for House's himself. On top of the desk, there is a black telephone, several bound stacks of paper, a pen holder and some pens and pencils in it (Shot 10). There is a glass door beside the lightbox on the wall which is connected to the

conference room (Shot 18). Beside this glass door is a glass wall separating House's office and the corridor, which is also covered by day blinds. Having three doctors working for House discussing a medical case in his office construes power and status.

This episode is shot using an orange lens filter and therefore it is difficult to see actual colours of the character's costumes. A stubble-bearded, short curly-haired House wears a dark colour shirt, a pair of dark trousers and an even darker blazer. He walks with a cane on his right hand. Calculating his age from his fictional birthday June 11, 1959 (Season 2 Episode 24 *No Reason*) and the original air date of the episode November 16, 2004 (IMDb, n.d.), House is 45 years old in this episode. All three doctors in House's team wear staff name tag on the left pocket of his blazer. A young blonde-haired Chase is dressed like House, while Foreman and young female Cameron wear a white coat. This dress code may construe seniority to a certain degree, that is the more senior doctors need not wear white coats.

There are limited spatial movements in this scene. House is seen walking with his cane from the lightbox (Shot 1a) to standing in front of the cabinet behind his desk (Shot 9b). Cameron and Foreman are seen moving from standing behind the visitor's chairs (Shot 2a) to sitting down on those chairs (Shot 8). Chase has moved from standing near House's table (Shot 3a) to standing in front of the film lightbox (Shot 18). These spatial movements are highly mobile, suggesting a high degree of freedom for employees at the employer's office, a venue of status and authority. This freedom suggests high equality of power in the tenor relationship between House and his team members.

A suspenseful background music with watch-ticking sounds begins in line 11 when House is saying "I don't think it is a tumor" The music continues past line 13 which marks the end of the debate on work philosophy and into DDX about the patient's illness. The music appears to mark the change of topic as well as to build up the excitements for the DDX. It does not appear to have any correlations with tenor values such as power, contact and affective involvement.

Overall, the ownership of a personal office like House and the absence of one like Chase, Cameron and Foreman create a difference in status and power, yet the three employees have freedom of movement within House's office. Therefore, despite the power possessed by House over his three subordinates, he promotes power equality among his staff. This adds support to the argument that pattern-forming creativity is a major force driving behind House's pattern-reforming creativity production. Interpersonal meanings such as the inequality and equality of power are construed by location and spatial movement respectively in this scene.

6.3.4.2.4. Nonverbal behaviour and acting

Hand, arm and leg gestural movements are noticeable in this example despite having shots captured at eye-level using close-up and medium shots. Apart from House's walking with cane (Shot 1b), Chase and Foreman are seen to have used hand and arm gestures to construe the degree of freedom they enjoy inside House's office. Chase is seen crossing his arms in Shot 7a and hands in trouser pockets in Shot 18, while Foreman is seen crossing his legs with his hands over his right knee cap in Shot 8. These postures construe a high level of comfort from Chase and Foreman, which in turn construe a high equality of power before House. It is worth noting that gestural movements by the creator are absent at the moments of pattern-forming creativity production, indicating that gestural movement is not the main semiotic resource for construing meanings in pattern-forming creativity.

Different from that of pattern-reforming creativity, pattern-forming creativity has a longer duration of production, allowing more time for more than one facial expressions and/or head movement to show. This make correlating a specific motion to the production of pattern-forming creativity more complex and less reliable.

Speech	Facial expression	Head movement	Body movement
No,	Eyes close, eyebrows raise		
treating illnesses is why we became doctors,	Frowns, looks down to the floor	Head tilts downwards	Leans forward
treating patients is			Returns to upright position
what makes most doctors	Eyebrows raises		
Miserable.	(Supposedly) looks at Foreman at eye-level, lips shut tightly	Head raises	

Table 86 Nonverbal behaviour of House for pattern-forming creativity in line 9

Speech	Facial expression	Head movement	Body movement
	Looks down to the floor	Head tilts downwards, slightly to the right	
If we don't talk		Short and quick headshakes	
they can't lie to us,	(Supposedly) looks at Foreman at eye-level	Head raises	
and we can't lie to them.	Looks slightly upwards, presumably at the MRI films	Head turns to right	

Table 87 Nonverbal behaviour of House for pattern-forming creativity in line 11

Speech	Facial expression	Head movement	Body movement
Are you in	Looks at Foreman	Head maintains 45° from central position, three small successive nods matching the words in speech	
first year medical school?		Head maintains 45° from central position,	

Table 88 Nonverbal behaviour of House for pattern-forming creativity in line 13

Using the three instances of pattern-forming creativity in section 6.3.4.2.2 as examples, the nonverbal behaviour has been tabulated against speech in Table 86, Table 87 and Table 88. The multimodal transcription in the tables reveals that there is no visible correlation between pattern-forming creativity and nonverbal behaviour such as facial expression, head movement and body movement. Instead, the nonverbal behaviour often corresponds directly to the content of the speech, such as House's 'lips shut tightly' when House is saying "miserable" in Table 86, or House performing 3 small successive nods while looking at Foreman when he is saying "Are you in".

All in all, interpersonal meanings such as the inequality and equality of power are construed verbally through the use of pattern-forming creativity, and nonverbally through various combinations of facial expression, head movement and body movement. These combinations support but do not define the meaning-making process in pattern-forming creativity.

In the next example, House faces his boss and long time friend Cuddy, with whom he has great disadvantage in power but high contact and high affective involvement.

6.3.4.3. Example 5 'Little part' scene

Shot_0a

Shot_0b

Shot_1c

Shot_1b

Shot_1a

Shot_1d

Shot_1e

Shot_1f

Shot_2

Shot_3a

Shot_3b

Shot_3c

Shot_4a

Shot_4b

Shot_5a

Shot_5b

Shot_5c

Shot_6

Shot_7a

Shot_7b

Shot_7c

Shot_7d

Shot_7e

Shot_7f

Shot_7g

Shot_7h
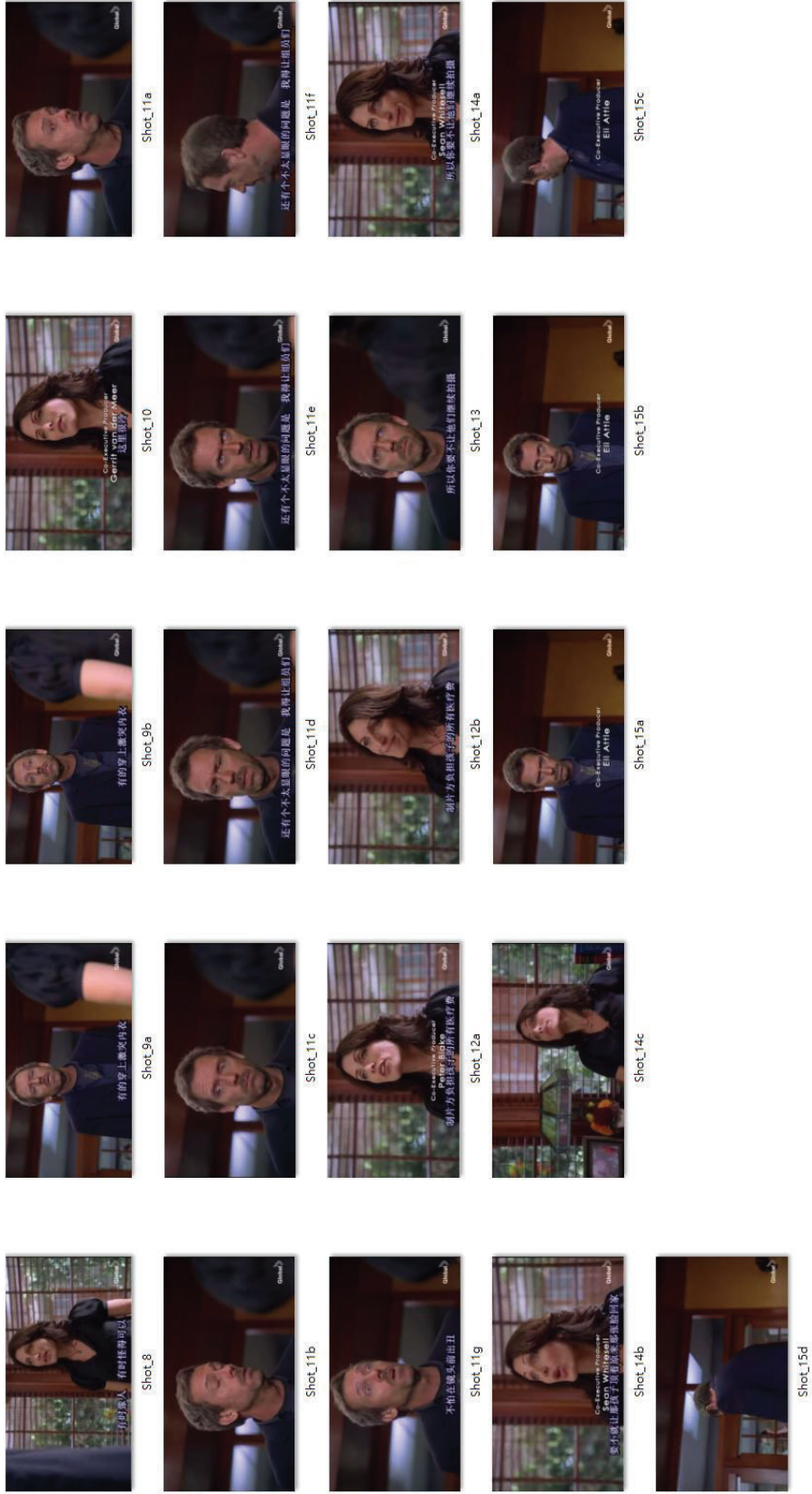
Figure 66 Screenshots of a part of 'Little part' scene, Season 4 Episode 7 *Ugly*, 04:10 – 05:07, 0 minute 57 seconds

Shot No.	Script
	[CUDDY'S OFFICE - House keeps his back to the door. Cuddy goes on the attack.]
0a to 1c	1. CUDDY: You think I LIKE the cameras? (stalks across the room) You think I want the whole world watching you check out my ass and question my wardrobe?
1c to 1f	2. HOUSE: (unrepentant) Would it be better if I checked out your wardrobe and questioned your ass?
2a	3. CUDDY: (behind her desk) A little part of me...
3a to 3b	4. HOUSE: There is no little part of you.
4a to 6	5. CUDDY: (persevering) ...thought that maybe you would see what great PR this could be for the hospital, and not make ME force YOU to act like a human being.
7a to 9b	6. HOUSE: You using force on me is... intriguing. (glances outside her office) On the other hand, cameras make people act. Sometimes like human beings, sometimes just weird, sometimes they wear open-tipped bras.
10 to 11c	7. CUDDY: It's cold in here.
	[House takes a split second to reclaim his brain from his breeches.]
11d to 11g	8. HOUSE: Less obvious point is that I need my team (glances again at the crew) to be unafraid of the metaphorical fart.

| 12a 15d | 9. CUDDY: That production company is covering all the medical costs for this kid. So, either you let them continue filming... or the kid goes home with the same face. |
| | [Cuddy sits, triumphant. House glances back at the crew once more, then, having no suitable rejoinder, beats a swift retreat.] |

Table 89 Transcript of a part of 'Little part' scene, Season 4 Episode 7 *Ugly*, 04:10 – 05:07, 0 minute 57 seconds

Prior to this episode after what happened in example 1, House's "extended job interview / reality TV show" (Cuddy, Season 4 Episode 5 *Mirror, Mirror*) continues with 5 job interviewees but job vacancy has dropped to just one after he hired former CIA doctor Terzi from a case they solved together in Season 4 Episode 6 *Whatever It Takes*.

Table 89 shows a 57-second transcript of the 'Little part' partial scene in Season 4 Episode 7 *Ugly* with a selection of salient frames (Figure 66) to be discussed. Before the start of the analysis, here is a short description of the background of this episode prior to the 'Little part' partial scene.

The episode begins with a documentary film crew filming a teenage patient named Kenny Cyrus with a major facial deformity called frontonasal encephalocele. He was undergoing a facial surgery led by Chase when Kenny suddenly went into an unexplained cardiac arrest. In the same scene prior to the dialog in example 5, Chase explained to Cuddy and House in Cuddy's office while the documentary crew was filming the entire process in black and white. House tricked the film crew to walk out of the office and then he shut the door once they were out, leaving himself and Cuddy in her office.

6.3.4.3.1. Tenor relationships and interpersonal metafunction

Shot No.	Script
	Phase 1
	[CUDDY'S OFFICE – House keeps his back to the door. Cuddy goes on the attack.]
0a to 1c	1. CUDDY: [ø: 'Do'] You think I LIKE the cameras? (stalks across the room) [ø: 'Do'] You think I want the whole world watching you check out my ass and question my wardrobe?
1c to 1f	2. HOUSE: (unrepentant) Would it be better if I checked out your wardrobe and questioned your ass?
2a	3. CUDDY: (behind her desk) A little part of me...
3a to 3b	4. HOUSE: There is no little part of you.
4a to 6	5. CUDDY: (persevering) ...thought that maybe you would see what great PR this could be for the hospital, and not make ME force YOU to act like a human being.

Legends:
Red: Subject
Orange: Finite Modal
Yellow: Finite only
Turquoise: Predicator only
Bright Green: Finite and Predicator
Pink: Complement
Violet: Adjunct
Blue: Vocatives

7a to 9b	6.	HOUSE: You using force on me is... intriguing. (glances outside her office) On the other hand, cameras make people act. Sometimes like human beings, sometimes just weird, sometimes they wear open-tipped bras.
10 to 11c	7.	CUDDY: It's cold in here.
		[House takes a split second to reclaim his brain from his breeches.]
11d to 11g	8.	HOUSE: Less obvious point is that I need my team (glances again at the crew) to be unafraid of the metaphorical fart.
12a 15d	9.	CUDDY: That production company is covering all the medical costs for this kid. So, either you let them continue filming... or the kid goes home with the same face.
		[Cuddy sits, triumphant. House glances back at the crew once more, then, having no suitable rejoinder, beats a swift retreat.]

Table 90 A part of 'Little part' scene highlighted with respect to functional elements of the MOOD system

Prior to the analysis, it is worth noting that despite having his paychecks signed by Cuddy (Season 1 Episode 1 *Pilot: Everybody Lies*) and working for Cuddy, House does not fear from negotiating with Cuddy, as reflected by his claim "I spent half my life negotiating with that woman." (Season 5 Episode 3 *Adverse Events*). House's power granted by his job position may be lower than Cuddy's, but his friendship with Cuddy over the years means very high in the contact continuum, and his affective involvement with Cuddy is higher than any normal boss-employee relationship.

Table 90 shows a version of the dialogue of the 'Little part' partial scene highlighted according to functional elements of the MOOD system. The table contains 1 phase of the conversation in this scene. Phase 1 is a scene in which House negotiates with Cuddy in her office for not having the documentary crew filming Kenny's case. Cuddy begins by asking House two yes/no-interrogative rhetorical questions with interpersonal projection (Halliday & Matthiessen, [1985] 2014, p. 700) and Mood element "[ø: 'Do'] You think", while House responded with a yes/no-interrogative rhetorical question. He picks up on the Rhemes "check out my ass" and "question my wardrobe", swapped the Predicators around and created the first instance of co-constructed repetition pattern-forming creativity, also in the form of yes/no-interrogative but using modal Finite ^ Subject "Would it". Since all three interrogatives are rhetorical questions, they are intended to act as statements to express an opinion or to make a point, rather than to demand for information (Burton, 2007). They function as arguments "with which an audience can readily identify with, and which are predicated on the values and commonsense understandings shared by a speaker and his/her audience" (Augoustinos, Lecouteur, & Soyland, 2002, p. 135).

The remaining turns are clauses of indicative: declarative statements used in the exchange of information by both Cuddy and House. The exchange of information is realised by House and Cuddy reacting to each other's lines.

Cuddy	3	A little part of me...
House	4	There is no little part of you.
Cuddy	5	...thought that maybe you would see what great PR this could be for the hospital, and not make ME force YOU to act like a human being.
House	6	*You using force on me is... intriguing. (glances outside her office) On the other hand, cameras make people act. Sometimes like human beings, sometimes just weird, sometimes they wear open-tipped bras.*
Cuddy	7	It's cold in here.
House	8	Less obvious point is that I need my team (glances again at the crew) to be unafraid of the metaphorical fart.
Cuddy	9	That production company is covering all the medical costs for this kid. So, either you let them continue filming... or the kid goes home with the same face.

Table 91 Interpersonal element progression realising exchange of information

Table 91 illustrates the progression of interpersonal elements in between each turn: Subject "A little part of me" (line 3) with Complement "no little part of you" (line 4); Predicator ^ Complement "ME force YOU" (line 5) with Subject "You using force on me" (line 6); Predicator ^ Complement ^ Adjunct "make ME force YOU to act like a human being" (line 5) with Subject ^ Predicator ^ Complement ^ Adjunct "cameras make people act. Sometimes like human beings," (line 6); Adjunct "Sometimes like human" with "sometimes just weird" (line 6); Subject ^ Predicator ^ Complement "they wear open-tipped bras" (line 6) with Subject "Less obvious point" (line 8); Subject "I" (line 8) with Subject "you" (line 9); Complement "the metaphorical fart" (line 8) with Complement "them" (line 9).

Overall, this example adds support to the argument that the driving force behind House's pattern-forming creativity is the equality in power between himself as the

creator and Cuddy as his target. Pattern-forming creativity functions as a proposition to make or prove a point. Because of the use of declarative statements and repetition of MOOD system elements in between each turn, example 5 does not show a huge power difference between the interlocutors as seen in example 1; however, it is rather similar to the situation in example 2 in which the advantage of power is negotiated through exchange of information. As mentioned earlier in this section, the power inequality between House and Cuddy is likely narrowed by their high contact and high affective involvement, therefore, even though Cuddy has used rhetorical questions and forceful attitude markers such as "make ME force YOU", "to act like a human being", House has been able to issue 'comebacks' repeating and building upon her rhetorical questions and use of words in order to argue his point. The difference in power between Cuddy and House still exists, but is construed to a higher degree through nonverbal behaviour and acting rather than verbal.

From the above analysis, a high equality of power between interlocutors is a likely trigger for House's pattern-forming creativity.

6.3.4.3.2. IEEE type of pattern-forming creativity in AFCMT

In line 2, House creates an instance of pattern-forming creativity from Cuddy's clauses in line 1 by implicitly swapping the Predicators around from the Rhemes "check out my ass" and "question my wardrobe", forming a yes/no-interrogative "Would it be better if I checked out your wardrobe and questioned your ass?" This instance of pattern-forming creativity is implicit – because the formula of construction, that is the swapping of words, has not been explicitly mentioned; and endo-referenced – as the sources of repetition are originated from Cuddy's yes/no-interrogatives in line 1, which is a directly preceding turn.

In line 4, House creates the second instance of pattern-forming creativity "There is no little part of you" from Cuddy's unfinished sentence in line 3, negating the Subject "A

little part of me" from the Theme to form part of the Rheme "is no little part of you". This instance of pattern-forming creativity is explicit – as the formula of construction is that of a simple declarative statement with Subject reused; and endo-referenced – as the source of repetition is originated from Cuddy's immediately preceding turn.

In line 6, House creates the third instance of pattern-forming creativity "You using force on me is…intriguing…cameras make people act. Sometimes like human beings, sometimes just weird, sometimes they wear open-tipped bras." from Cuddy's clause "not make ME force You to act like a human being" in line 5. The formula of construction for this instance of pattern-forming creativity happens in two steps. Step one is House referring to part of the Rheme "ME force YOU" and turning it into the Subject of his first clause "You using force on me". Step two is House referring to the overall clause structure "sb / sth make somebody act like somebody / sth", using "cameras" as Subject, "people" as Complement, adding modal Adjunct of usuality "sometimes" before repeating "like human beings" from Cuddy, and then further extending Cuddy's use of Adjunct by repeating "sometimes" twice more in "sometimes just weird, sometimes they wear open-tipped bras". This instance of pattern-forming creativity is explicit – as the formula of construction, i.e. the sentence structure, remains unchanged; and endo-referenced – as the source of repetition is originated from Cuddy's immediately preceding turn.

These three instances show that a unit of repetition in pattern-forming creativity can be the Subject, Predicator, Complement, Adjunct or part of the above elements. The pattern-forming creativity itself can be a statement or an interrogative.

6.3.4.3.3. Mise-en-scène

This part of the scene happens inside a well-lit office of the Dean of Medicine with Cuddy and House being the only interlocutors in the selected dialogue. The documentary film crew can be seen through the glass on the office doors but they are not involved in this conversation. The lighting outside the windows behind Cuddy's desk suggests that this scene happens during the day (Shot 2). Cuddy's office uses wooden framed fresh doors that is double pre-hung with multiple glass panels. The doors open inwards as suggested by the door closers. Beside the door is a sofa set with a corner table in between the pieces. There is a book, a table lamp and a plant on the corner table (Shot 0a). Several certificates and paintings can be seen on the copper-coloured wall (Shot 1b). Behind Cuddy's desk is a cabinet on which she placed table lamps, picture frame, flowers and books (Shot 14c). These decorations appear to be placed in front of the window blinds for the windows separating Cuddy's desk and the exterior of the hospital, as suggested by the plants and other doors which are visible through the windows (Shot 6). It should be noted that none of the props listed above are of significant importance for the conversation in this part of the scene. Even when Cuddy is seen sitting down in Shot 14c, her desk and chair are not visible in the frame.

A stubble-bearded, curly-haired House wears a dark purple T-shirt with visible print under an American blue buttoned shirt, a pair of dark trousers and a cool black blazer. He walks with a cane on his right hand. Calculating his age from his fictional birthday June 11, 1959 (Season 4 Episode 7 *Ugly*) and the original air date of the episode November 13, 2007 (IMDb, n.d.), House is 48 years old in this episode. Cuddy's fictional birthday is unknown, but she mentions that she is going to be 43 in Season 7 Episode 8 *Small Sacrifices* which was aired on November 22, 2010 and that by the time Cuddy went to the college with House (Season 6 Episode 6 *Brave Heart*) in Michigan, House was "already a legend" (Season 2 Episode 3 *Humpty Dumpty*), her birth year can be calculated to be late 1967 or early 1968, making her 42 years old in this example. Cuddy has long wavy hair, wears a pendant and a pair of hoop earrings, black V-neck blouse, a red skirt with a black belt. She clips her staff name tag on her belt in front slightly towards the left.

There are limited spatial movements in this scene. House is seen walking with his cane from the doors towards Cuddy's desk (Shot 1d) and returning to the doors after the negotiation ended (Shot 15d). Cuddy, on the other hand, is seen moving into House's private space in Shot 0a and 0b before walking to her seat behind her desk where she does her negotiation with House. The first part of Cuddy's movement into House's private space conveys a degree of intimacy, contact and power. It conveys intimacy and contact because it is not her norm to be talking to any employees within their private space. The fact that she is doing so with House reflects the high level of intimacy and contact through years of friendship with each other. Power is construed through body language and will be discussed in the next section. The second part of movement to her seat conveys power, because speaking to her employee in her own Dean of Medicine's office from behind her desk – an area permitted to no one but her, is a statement of authority, hence the construal of power.

There is an absence of background music in this part of the scene, providing evidence that background music is not a key semiotic resource for construing pattern-forming creativity.

The mise-en-scène suggests that Cuddy has higher power over House and House has not attempted to breach her power from this aspect. Rather, as the previous two sections suggests, House has made use of his high contact and affective involvement, as well as verbal pattern-forming creativity and nonverbal behaviour with Cuddy to achieve power equality in his negotiation. Therefore, interpersonal meaning such as the inequality of power is construed by location and spatial movement respectively in this scene.

6.3.4.3.4. Nonverbal behaviour and acting

Hand and arm gestural movements are near absent in this scene. This part of the scene is mostly shot using close-up shots, medium-close up shots, medium shots and

combinations of the above with over-the-shoulder shots. House is taller than Cuddy, which is likely the reason for the difference in the height of the shots. Shots of House's face are filmed from Cuddy's upper arm level while shots of Cuddy's face are filmed at Cuddy's eye level, thus eliminating most of the hand and arm movements from below the shoulders.

As mentioned in the previous section, in Shot 0a and 0b, Cuddy's body language construes her power over House. From standing face to face in parallel with House in Shot 0a to standing even closer to House at 45° angle with left shoulder leaned slightly forward and head slightly raised while talking to him, Cuddy has sent out a signal of challenge which is a gesture of construing power. Towards the end of the negotiation in Shot 14c, while House remains standing, Cuddy ends her speech with raised eyebrows and chin, large eyes looking at House while sitting down on her chair, resting her back on the backrest and (judging from the tiny backward tilt of her head and slight rotation of the body to her right while she is on the chair) crossing her legs. This conveys a high level of confidence and power, or "triumphant" using the wording from the fanscript. However, the power construed by Cuddy does not overlap with the production of pattern-forming creativity.

The nonverbal behaviour appears in the three instances of pattern-forming creativity are tabulated below.

Speech	Facial expression	Head movement	Body movement
	Downturned mouth corners, eyebrows raise		
Would it be better if I checked out your wardrobe	Frowns, looks down to the floor	Head tilts downwards	
and	Looks at Cuddy	Head raises	
questioned	Chin raises slightly upwards	Head turns slightly to the right	
your	Eyebrows raise		
ass?			

Table 92 Nonverbal behaviour of House for pattern-forming creativity in line 2

Speech	Facial expression	Head movement	Body movement
There is	Frowns, eyes squint	Head turns to his right and tilts backwards	
no	Big eye stare at Cuddy	Head turns to look at Cuddy and shakes two times	
little part of you	Frowns at Cuddy	Head turns and holds slightly to the left	

Table 93 Nonverbal behaviour of House for pattern-forming creativity in line 4

Speech	Facial expression	Head movement	Body movement
You	Eyes look upwards to ceiling	Head tilts slightly towards the right	
using force on me is…	Left eyebrow raises	Turns to face Cuddy, Soft nod	
intriguing.	Big eye stare, eyebrows raise quickly and returns to normal position, eyes close	Head returns to normal position	
On the other hand, cameras		Turn to his right to look behind him	Upper body rotates to his right by 45°
make people act.	Looks at Cuddy	Turns from right, maintains 45° from central position	
Sometimes like human beings,			
sometimes just weird,			
sometimes they wear open-tipped	Eyes focused on Cuddy's chest	Head tilts slightly backwards	
bras.	Eyes focused on Cuddy's chest, eyebrows raise	Head turns slightly to his right	

Table 94 Nonverbal behaviour of House for pattern-forming creativity in line 6

The multimodal transcription in Table 92, Table 93 and Table 94 of this example provide evidence to support the argument in example 4 that there is no visible correlation

between pattern-forming creativity and nonverbal behaviour such as facial expression, head movement and body movement. The nonverbal behaviour during the production of pattern-forming creativity matches the content of instances in parts rather than the instances as a whole. For example, House looks at Cuddy when House is saying "make people act" in Table 94 with the purpose to include Cuddy into the reference of "people", or House turns his head to look at Cuddy and shakes his head twice when he is saying "no" in "There is no little part of you." In Table 93. However, when considering all nonverbal movements in any individual table from example 4 or example 5, there is not one particular movement that can be a reliable representative of that instance of pattern-forming creativity.

All in all, interpersonal meanings such as the inequality and equality of power are construed verbally through the use of pattern-forming creativity, and nonverbally through various combinations of facial expression, head movement and body movement. These combinations support but do not define the meaning-making process in pattern-forming creativity.

6.3.4.4. Summary

Based on the observations from the concordance lines of all instances of pattern-forming creativity in 'every 3 episodes' Excel sheet, this qualitative analysis has taken one main observation as the point of departure: the use of pattern-forming creativity in making or proving a point, which is essentially a proposition, mainly involving in the exchange of information (Halliday & Matthiessen, [1985] 2014).

The three main questions asked at the beginning of section 6.3.4.1 are reprinted as follows:

1) What triggers pattern-forming creativity in general?
2) What IEEE type of pattern-reforming creativity is it in AFCMT?

3) How are interpersonal meanings construed by pattern-forming creativity in these situations?

Question 1 is answered through both quantitative and qualitative analysis. From the quantitative analysis of pattern-forming creativity, it can be observed that House's conference room, hospital corridor, House's office, Wilson's office and Cuddy's office are among the top three locations for DDX-ing, chat and private chat – the most pattern-forming creativity-prominent registers in this TV drama. Through the qualitative analysis of the two examples 'Treating patients' (which is DDX-ing in House's office), and 'Little part' (which is private chatting and joking in Cuddy's office), it is found that House's pattern-forming creativity may not be verbally triggered, but rather by the high equality of power between interlocutors. Such equality of power can be granted by the more powerful creator, such as engaging in conversation types which require a high level of participation (e.g. DDX-ing, Chat or Private Chat) at corresponding locations which offer high degree of freedom (e.g. House's conference room, House's office, Wilson's office, Cuddy's office), or achieved by sharing a high level of contact and affective involvement with the target.

The answers to question 2 differ from one instance to the next, and despite the fact that the instances in the two examples appear to be explicit and endo-referenced, it is not difficult to find instances of implicit and (or) exo-referenced in *House M.D.* Having said that, judging from the repetitive nature of pattern-forming creativity, and the use of pattern-forming creativity as a mean for making or proving a point through the exchange of information, it is reasonable to presume and infer that the screenwriters would have less preferred to have majority of these instances high on the CCC. Therefore, explicit and endo-referenced pattern-forming creativity may be the most suitable for most TV viewers.

Qualitative analysis has also shown that a unit of repetition in pattern-forming creativity can be the Subject, Finite, Predicator, Complement, Adjunct or part of the above elements and that the pattern-forming creativity itself can be an interrogative or a

statement (or imperative. Extracted pattern-forming creativity data have showed the use of pattern-forming creativity as imperative, such as the following example from Season 3 Episode 4 *Lines in the Sand*

> *House: Forget the chalk.*

> *Cameron: You just said it was about the chalk.*

> *House: Yes, and then I said, "forget the chalk", you must be very confused.*)

The answer to question 3 points towards the same tenor value as that of pattern-reforming creativity – power. However, while the inequality of power correlates with pattern-reforming creativity, the equality of power correlates with pattern-forming creativity. Qualitative analysis has revealed that interpersonal meanings such as the inequality and equality of power are construed by location (e.g. House's office and Cuddy's office) and spatial movement at the location. Such findings corroborate those obtained from quantitative analysis. The inequality and equality of power are also construed verbally through the use of pattern-forming creativity, and nonverbally through various combinations of facial expression, head movement and body movement. In other words, these combinations of facial expression, head and body movement adds support to the meaning-making process but are not limited to the production of pattern-forming creativity. Also, there is no evidence of any particular combination that defines pattern-forming creativity.

Summarising all two examples and the functions of the pattern-forming creativity, example 4 has demonstrated the granting of equality of power – that is House's granting of permission and freedom to his employees to challenge himself in exchange for good diagnostic ideas; example 5 has demonstrated the negation for inequality of power – that is House's use of high level of contact and affective involvement to negate the power distance between him and Cuddy.

The synergy of quantitative and qualitative analysis has helped to establish a negative correlation between the equality of power (tenor) and House's production of pattern-

forming creativity. From the SFMDA perspective, it has been shown that nonverbal behaviour such as facial expression, head movements and spatial movements are used to construe power in *House M.D.*; however, no particular type of nonverbal behaviour or combination of types of nonverbal behaviour signifies any moments of pattern-reforming creativity production. Like in pattern-reforming creativity, it has also been shown that there is no strong evidence for a correlation between the production of pattern-reforming creativity and mise-en-scène elements such as costumes, lighting, placement of objects or sound.

6.4. Chapter summary

This chapter has described the steps and criteria for the extraction of pattern-forming creativity from HMDC using ConcGram 1.0, including the creation of a 2-word concgram list (6.1.1.1), the calculation of the internal span for concgram (6.1.1.2), the creation of an exclusion list (6.1.1.3), the selection of search criteria in the final step in creating a 2-word concgram list (6.1.1.4), the creation of *t*-score / MI value lists for 2-word concgrams (6.1.1.5), the manual extraction of pattern-forming creativity which includes the classification of pattern-forming creativity types (6.1.1.6), and the calculation of two new MI value and *t*-score cut-offs for HMDC as opposed to using the default cut-offs set by ConcGram 1.0 (6.1.1.7).

The chapter has also performed a cut-off analysis to evaluate the effectiveness of the new custom MI value and *t*-score cut-offs for HMDC in improving the efficiency for the pattern-forming creativity extraction (6.2). This cut-off analysis has found that the use of MI and *t*-score cut-offs has effectively doubled the percentage yield of pattern-forming creativity in the concgram lists. Statistical figures obtained from 3 separate concgram list analysis consisting of 18, 34 and 67 episodes have been compared and results have shown consistency in the percentage yield of pattern-forming creativity through the use of custom *t*-score and MI cut-offs. Analysis has also shown that *t*-score and MI maximum range will likely improve efficiency further while retaining a reasonable hit rate in the extraction of pattern-forming creativity when used iteratively.

Prior to the analysis of pattern-forming creativity, a synergetic framework named Creativity-In-Register Cube Framework (CIRCF) has been proposed (6.3.1). It combines Carter's creativity matrix (6.3.1.1), Poynton's three continua of tenor (6.3.1.2) and Matthiessen's registerial cartography (6.3.1.3) to create a multi-dimensional semiotic spatial description and representation of creativity from a SFL perspective (6.3.2). The CIRCF forms the basis of quantitative analysis of pattern-forming creativity and is used in multiple ways. First of all, it is used in the elicitation of semiotic resources from HMDC and video content at the moments of pattern-forming creativity (6.3.3.1). Second of all,

it has facilitated the analysis of pattern-forming creativity through various combinations or permutations of domains, providing a framework for the establishment of correlation between pattern-forming creativity and Register, Field values, Tenor values or Mode values. This has been demonstrated (in 6.3.3.2) by comparing the frequency counts of pattern-forming creativity by conversation type (Register), socio-semiotic process (Field) and location (Field), and (in 6.3.3.3) by contrasting the counts of House's pattern-forming creativity targeting other characters using all register variables in CIRCF. Finally, it offers a way to illustrate the result obtained from the analysis through a three-dimensional graphical representation, which may include the cline of creativity (6.3.3.4).

Qualitative analysis of two selected examples (6.3.4.2, 6.3.4.3) using the Analytical Framework for Creativity in Multimodal Texts (AFCMT) through the SFMDA approach reveals that House's production of pattern-forming creativity has a negative correlation with power and is likely triggered by the equality of power between the creator and the target. Both analyses have proven that the inequality and equality of power are construed by location and spatial movement at the location, as well as verbally through the use of pattern-forming creativity, and nonverbally through various combinations of facial expression, head movement and body movement. On the other hand, both analyses have shown that hand / arm gesture is unlikely to be a key semiotic resource to the delivery of pattern-forming creativity. Also, there is no strong evidence for a correlation between the production of pattern-forming creativity and mise-en-scène elements in *House M.D.* such as set design, lighting, space, costume or auditory soundtrack.

Finally, prior to the concluding chapter of this thesis, this chapter will end with a quote from McElhaney (2009), which in every point corroborates the findings in this current chapter:

> "While not citing Minnelli's work, David Bordwell has drawn attention to the general decline in this type of complex ensemble staging in contemporary cinema (especially American). We are now living in a period of "intensified

continuity," dominated by rapid cutting, free-ranging camera movements, and extensive use of close-ups. The nature of how performances are filmed, edited, and ultimately experienced has shifted: The face becomes the ultimate bearer of meaning, with gesture and bodily movements increasingly restricted through the alternation of "stand and deliver" scenes (in which the actors are confined to largely fixed positions) with "walk and talk" scenes (in which a moving camera rapidly follows actors as they "spit out exposition on the fly") (Bordwell: 25). While Bordwell does not note this, the shift in terms of how actors are filmed that he is describing has been part of an ongoing process over the last three decades" *(p. 328)*

7. Chapter 7 -- Conclusion

"Read less, more TV." – House (Season 1 Episode 14 Control)

7.1. Limitations

Prior to concluding this thesis, it is important to recognise and admit the limitations of this study. The main limitations are listed below:

On the accuracy of fan scripts

1. Despite repeated spell checks and corrections, the fan scripts of *House M.D.* cannot be guaranteed to be 100% accurate. The accuracy issue might slightly affect the outcome of pattern-reforming creativity extraction and thus the numerical calculations such as frequency counts and percentages. However, Bednarek (2010, p. 70) argues for the benefits of fan transcripts by saying that "they are much more accurate than the subtitles", and quotes Quaglio (2008), "fairly accurate and very detailed, including several features that scripts are not likely to present: hesitators, pauses, repeats, and contractions". In addition, this longitudinal study of creativity in *House M.D.* over a period of four years has provided numerous opportunities for error corrections, so as to bring the negative effect of any discrepancy down to its minimal.

On defining creativity

2. Limited linguistic forms are selected for this study. Linguistic creativity can be found in other forms drawing on figures of speech, such as puns, metaphors, hyperbole, idioms, proverbs, and literary techniques such understatement, humour, satire, irony and sarcasm (Carter, 2004). Richardson (2010) has noted the abundance of sarcasm in *House M.D.* while House himself admits, "I'm big on metaphors"

(Season 5, Episode 15 *Unfaithful*). However, these forms are not included in the scope of this study.

3. Carter's (2004) hypothesis regarding creativity in everyday common talk does not attempt to categorise linguistic creativity by their linguistic forms, as some forms are not restricted by lexicogrammatical patterns. Examples are pun (in humour), irony and sarcasm, which are realised by prosody and not by their lexicogrammatical forms. Another example is "the good reception" which has been analysed in section 5.2.2.3.2. This instance of pattern-reforming creativity is not picked up by the computer using the current extraction criteria because it is pattern-reforming in the semantic perspective but not in the lexical perspective.

On HMDC as an unannotated corpus

4. HDMC is an unannotated, monomodal linguistic corpus, which means the analysis of pattern-reforming and pattern-forming creativity relies fully on the accuracy of the computer-assisted and manual extraction process. It is also not possible to extract every single instance of linguistic creativity, which is true with or without the help of a fully-automated computer programme. The benefit is that, "[b]ecause of the time-consuming nature of annotation" (Bednarek, 2010, p. 141), using such an unannotated corpus with computer-assisted extraction of linguistic creativity has saved valuable time while maintaining a reasonable yield from the extraction.

On the extraction of pattern-reforming creativity

5. The extraction of pattern-reforming creativity such as neologisms, portmanteaus and slang is limited by the presence and absence of the same word in HMDC and COCA respectively (i.e. RC. Freq. = 0). Pattern-reforming creativity counts will likely be increased if an increase in RC. Freq. is permitted. However, RC. Freq. > 0 has not been adopted due to time constraint.

6. The result from the extraction of pattern-reforming creativity proposed in this study is affected by the reference corpus's size, range, diversity of subjects and disciplines, to name a few. COCA has helped to save time in the extraction process

but an incorporation of a medical dictionary could assist the removal of non-creative medical terms and shorten the extraction time even more. This incorporation of medical dictionary has not been performed as a free downloadable copy of medical dictionary has not been made available on the internet.

7. The search for neologisms should, in the ideal scenario, involve the comparison of the monitor corpus COCA with HMDC on a year-by-year basis. The idea is eventually replaced with a simpler comparison of the entire COCA with HMDC as a whole. The time-consuming manual extraction of pattern-forming creativity is the main reason behind this decision.

8. This study covers only several creative linguistic forms, namely neologism, portmanteaus and slang of pattern-reforming creativity. These forms are relatively more lexicogrammatically distinguishable and are thus translatable into computer-recognisable extraction criteria for WordSmith Tools. However, computer-extractable creative linguistic forms are not limited to the ones covered in this study and are open to possibilities of future research. The multimodal discourse analysis demonstrated in this study aims to showcase a number of simple yet powerful methods using basic tools available on Microsoft Excel. It is hope that future researchers of multimodality will see benefits in the use of ubiquitous spreadsheet tools and not be deterred by the lack of computer programming knowledge. Future research on the pattern-forming creativity, the pattern-reforming counterpart, will provide a fuller picture into the interactions between creative language production, telecinematic performance and telecinematography.

On the extraction of pattern-forming creativity

9. The original goal was to perform manual extraction of pattern-forming creativity to all 177 episodes of *House M.D.* Unfortunately, given that it requires roughly 1.5 days to perform such extraction, only 67 episodes (about 1 in every 3 episodes in the series) have been completed. Although the total number of pattern-forming

creativity yield has fallen to 1/3, the percentages calculated in the quantitative analysis remain reliable and is believed to remain relatively consistent even when all 177 episodes were considered. Thanks to the cut-off analysis of the custom MI and *t*-score cut-offs on the 67 episodes which shows consistency in filtering concgrams of pattern-forming creativity from every 1 in every 10, every 5 and every 3 episodes.

10. The use of an exclusion list has limited the number of concgrams generated in ConcGram 1.0 and thus the number of pattern-forming creativity extracted. However, the benefits of using an exclusion list in saving time greatly outweighs the attainment of all possible concgrams, which would substantially increase the number of concgrams and time for manual extraction.

11. Manual extraction of pattern-forming creativity from the concordance lines of the 67 episodes is a time-consuming, labour-intensive process and is prone to human errors. Such errors have been minimised through the use of CIRCF in both quantitative and qualitative analysis, thanks to its multi-dimensional domain structure which helps the spotting of any unusuality in the data.

On AFCMT

12. AFCMT proposed in this study, which includes IEEE and CCC, is at its initial stage of development and has the potential to be further expanded or built upon. While it is currently able to describe creativity in several forms of multimodal texts and is expected to be usable in several more, it is impossible to claim that it is universally applicable at this stage.

On CIRCF

13. In addition to the limitations CIRCF shares which AFCMT, CIRCF has been proposed as a three-dimensional tenor 'space' having the axes of Contact, Power and Affective Involvement with a Cline of Creativity; however, its flexibility extends beyond the three-dimensional boundary. For example, the frequency count of creativity in Figure 51 can be represented in four-dimensional space as the radius

of a sphere on the Cline of Creativity. Therefore, CIRCF is only limited to a three-dimensional space for convenience.

On SFMDA

14. Instead of adopting the well-known SFMDA frameworks and models by O'Toole (1994), Kress and van Leeuwen ([1996] 2006), or Bateman (2013), this study adopts Bednarek's (2010) MDA strategy and adds the SF approach by Halliday and Matthiessen's ([1985] 2014, p. 34) to the analysis of linguistic creativity in the selected scenes from the interpersonal perspective. Since linguistic creativity is main focus, the terms used in the analyses such as <creator>, <target> and 'CIRCF Grid Number' are created specifically for this study, and therefore, do not follow traditional terminology.

On quantitative analysis and qualitative analysis

15. Lack of time is the major constraint on the quantitative analysis of pattern-forming creativity. Data obtained from the extraction of pattern-forming creativity can be further analysed in terms of the creativity type, such as co-constructed repetition and non-co-constructed self-repetition. Apart from the main character House, pattern-forming creativity created by any key supporting characters targeting one another can also be analysed, or vice versa. For instance, Cuddy-Wilson and Wilson-Cuddy to study the linguistic creativity interactions between two of House's closest friends, or Cameron-Chase and Chase-Cameron to perform a longitudinal study of their use of linguistic creativity across the entire series as their relationship becomes increasingly intimate, moving from colleagues to friends with benefits, to breakup, to marriage and then to divorce. The study of the use of linguistic creativity in doctor-patient talk is also possible. Research in doctor-patient talk is becoming an area of interest (Tay, 2013; Slade, et al., 2015). It would be interesting to perform a comparative study on the use of linguistic creativity in dramatised healthcare and real-life doctor-patient communication.

16. House is the centre of analysis because he is the most frequent creator of linguistic creativity in this TV series, contributing 72.7% of pattern-reforming creativity (5.2.1.2) and 66.0% of the pattern-forming creativity (6.3.3.3.2). This does not imply that other characters in the TV drama play less important roles than House in facilitating the production of linguistic creativity. Although the qualitative analysis is limited to three examples from pattern-reforming creativity and two examples from pattern-forming creativity which are selected based on the research questions, it should be noted that there are many more instances of linguistic creativity worthy of investigation.

7.2. General conclusion

This section compiles the findings and presents them in the form of answers to the research questions, as follows:

1. How can linguistic creativity be recognised by computers? If possible, what filtering criteria are needed for the extraction of such creative language types?
2. Are there any correlations between a specific type of linguistic creativity in the dialogues of *House M.D.* (language text) and the multimodal semiotic resources in the frames (multimodal texts)? If so, how do such linguistically creative patterns in the multimodal space function in the making of meaning?
3. What creative language theories can be developed from a systemic functional perspective?

7.2.1. Answering Research Question 1

RQ1) How can linguistic creativity be recognised by computers? If possible, what filtering criteria are needed for the extraction of such creative language types?

This study has successfully achieved a certain degree of automation in the extraction of instances of linguistic creativity and has provided the filtering criteria necessary for the extraction of specific creative language types.

Firstly, as presented in Chapter 3 – General Method, this study has adopted Carter's (2004) classification of linguistic creativity into pattern-reforming creativity and pattern-forming creativity based on his creativity hypothesis in all common talk. Secondly, this study has focused on certain linguistic forms which are prone to creativity, consisting of neologism, portmanteau and slang from pattern-reforming creativity and verbal repetition from pattern-forming creativity. Thirdly, the selected creativity-prone linguistic forms have been clearly defined to ensure the yield of linguistic creativity from the extraction process can be controlled by the extraction criteria. Lastly, using COCA as

reference corpus (3.3) and HMDC as data corpus (3.4), this study has been able to extract instances of pattern-reforming creativity with p-value = 1 and RC. Freq. = 0 (5.1.3), and pattern-forming creativity with custom MI cut-off 3.766887 and t-score cut-off 1.314885 (6.1.1.7). Although this remains as a computer-assisted extraction rather than a fully automated extraction of linguistic creativity and manual extraction is still necessary, the computer-extracted product contains a much higher linguistic creativity density than the raw data.

7.2.2. Answering Research Question 2

RQ2) Are there any correlations between a specific type of linguistic creativity in the dialogues of *House M.D.* (language text) and the multimodal semiotic resources in the frames (multimodal texts)? If so, how do such linguistically creative patterns in the multimodal space function in the making of meaning?

This study has successfully discovered some correlations between linguistic creativity and certain multimodal semiotic resources in the frame in *House M.D.*

For pattern-reforming creativity, the quantitative analysis has revealed that several multimodal resources are involved in the construal of meanings at the moments of pattern-reforming creativity production, including camera angle, camera movement, visual framing, the creator's stance and posture, proxemics from the camera, and most importantly, the presence of a physical target for creators' gaze, suggesting that tenor may be a key factor leading to the production of pattern-reforming creativity in *House M.D.* (5.2.1.2).

For pattern-forming creativity, the quantitative analysis has shown the relationship between pattern-forming creativity and conversation type (Register), field of activity / socio-semiotic process (Field) and location (Field) (6.3.3.2). It has been revealed that pattern-forming creativity is most commonly found in conversation types DDX-ing, chat and private chat, in Exploring-arguing, Expounding-explaining and Sharing-sharing

experiences and Sharing-sharing values in House's conference room, hospital corridor, House's office, Wilson's office and Cuddy's office. They are mostly found in the forms of portmanteaus, neologistic nouns and slang (Table 7) (5.2.1.1).

The quantitative analysis has also shown the relationship between pattern-forming creativity and fields of activity / socio-semiotic process (Field), contact, affective involvement and power (Tenor) (6.3.3.3). It has been revealed that pattern-forming creativity is most commonly found when there is a high equality of power between the creator and the target, while both affective involvement and contact appear to be secondary.

As to answering the question of how such linguistically creative patterns in the multimodal space function in the making of meaning, it will be appropriate to bring in three other sub-research questions from section 5.2.2 Qualitative Analysis of Pattern-reforming Creativity and 6.3.4 Qualitative Analysis of Pattern-forming Creativity, compiled as follows:

1) What triggers pattern-(re)forming creativity in general?
2) What IEEE type of pattern-(re)forming creativity is it in AFCMT?
3) How are interpersonal meanings construed by pattern-(re)forming creativity in these situations?

For pattern-reforming creativity, qualitative analysis has shown that 1) House's production of pattern-reforming creativity has a positive correlation with power and may be triggered by his fear of losing power or his joy of possessing or demonstrating power. 2) It has revealed that pattern-reforming creativity can be exo-referenced or endo-referenced in *House M.D.*, but the instances that are implicit and endo-referenced in IEEE can cause a 'backtracking' effect on its targets. 3) Both analyses have proven that facial expressions such as eye and eyebrow movements are significant at the moments of pattern-reforming creativity production, and visual framing shots such as close-up, medium, close-up over-the-shoulder and medium over-the-shoulder are the most commonly used shots to capture such facial expressions.

For pattern-forming creativity, qualitative analysis has shown that 1) House's production of pattern-forming creativity has a negative correlation with power and may be triggered by the high equality of power between the creator and target. 2) It has been presumed and inferred that the screenwriters would have preferred a majority of instances of pattern-forming creativity to be explicit and endo-referenced to suit most TV viewers. 3) It has been shown that nonverbal behaviour such as facial expression, head movements and spatial movements are used to construe power in *House M.D.*

7.2.3. Answering Research Question 3

RQ3) What creative language theories can be developed from a systemic functional perspective?

This study has proposed two theoretical frameworks to facilitate the analysis of linguistic creativity: Creativity-In-Register Cube Framework (CIRCF) (6.3.1) and Analytical Framework for Creativity in Multimodal Texts (AFCMT) (4).

CIRCF combines Carter's creativity matrix (6.3.1.1), Poynton's three continua of tenor (6.3.1.2) and Matthiessen's registerial cartography (6.3.1.3) to create a multi-dimensional semiotic spatial description and representation of creativity from a SFL perspective (6.3.2). Its flexibility in terms of usage has been detailed in section 6.4.

AFCMT is inspired by Halliday's (1967) account of information status 'new' versus 'given' and Halliday and Matthiessen's (1999 [2006]) notion of reference. It is based on the notion of Implicit (Assumed) & Explicit (Known), Endo-referenced & Exo-referenced (IEEE). The framework's flexibility lies in the fact that it is as highly compatible with SFL as it is with theories from cognitive science, psychology and computational creativity. Its flexibility in terms of usage has been detailed in section 4.4.

In the next few sections, some behind-the-scenes will be presented in a hopefully entertaining manner.

7.2.4. Final scene Easter egg

Perhaps the most repeated question asked by sceptics of TV drama studies is "Why this TV drama?" Despite admittedly being a very important question, and the way to answer this question is often by reference to how popular, widely recognised, widely watched, or how many Emmy Awards it has won and therefore, how important it can be for the relevant discipline, the same question simply does not receive as much negative reaction if the data source is a piece of literary text such as a book, a poem or a fictional novel. One of the reviewers of a paper I have submitted to the *Journal of Language and Social Psychology* also has had a similar experience, "I should note, I myself have published on TV show discourse, and have had reviewers of my articles push back about why I chose this show versus that show, or this extract versus some other extract." (Undisclosed reviewer, 2017) Some of the reasons for such pushback have been covered in section 2.5 Creative language studies of television drama dialogue, but perhaps the real reason is that "You figure she's a minority, she must be stoned?" (Season 3 Episode 20 *House Training*) Being a 'minority' in the study of an atypical genre like TV drama is seemingly more unaccepted and under-appreciated than most people would have expected.

If any TV drama research sceptics insist on asking "Why this TV drama?", the following speech, a disclaimer (Halliday & Hasan, 1976) and at the same time an explicit exo-referenced pattern-forming creativity, may be the best response:

> *In many ways, the work of a critic is easy. We risk very little, yet enjoy a position over those who offer up their work and their selves to our judgment. We thrive on negative criticism, which is fun to write and to read.*
>
> *But the bitter truth we critics must face is that in the grand scheme of things, the average piece of junk is probably more meaningful than our criticism designating it so. But there are times when a critic truly risks something and that is in the discovery and defense of the new.*

The world is often unkind to new talent, new creations. The new needs friends. (Ratatouille, 2007)

7.2.5. Did You Know?

My favourite section on IMDb.com is the *Did You Know?* section, under which subsections such as Trivia, Goofs, Quotes, Connections and Soundtracks can be found. Adopting such a format in this section, I hope that this study can be explained more fully, both from the endo- and exo- perspectives.

7.2.5.1. Trivia

Reproducibility and *repeatability* are the two cornerstones of scientific process (Collberg & Proebsting, 2016). *Reproducibility* is "running different experiments on a different system, and getting results that verify the claims", while *repeatability* "is carried out after publication, by running different experiments on a different system, and getting results that verify the claims in the original paper" (Collberg & Proebsting, 2016, pp. 3-4). Coming from a Computer Science background, I have been trained to uphold *reproducibility* and *repeatability* in every piece of my work, including this thesis. Recalling one of my Bachelor degree assignments on autopilot flight control system programming, in a situation which "when we make mistakes people die" (Season 1 Episode 1 *Pilot: Everybody Lies*), I truly understand the importance of writing a computer program which can produce results capable of verifying the same claim every single time, regardless of the conditions of the program's execution.

Bateman (2013, p. 642) has the following comment on some of the existing analyses of the moving audiovisual image in narrative film and TV, "Analyses were conducted on weak foundations, resulting in a lack of reproducibility in claimed results and low returns on the high investment of time and energy required. This legacy is still with us today." This study has answered Bateman's (2013, p. 642) comment in several ways.

First of all, this study tackles the point on "weak foundation" by adopting Halliday's (1985) systemic functional linguistic theory. The frameworks of linguistic creativity and creativity in multimodal texts which have been proposed and applied in the analyses, namely CIRCF and AFCMT (including IEEE and CCC), are also built upon SFL. Analyses are conducted on data from HMDC quantitatively through the corpus linguistic approach and then qualitatively through the SFMDA approach.

Secondly, in order to avoid the "lack of reproducibility in claimed results", this thesis is written with e-readability – in an instruction manual-like format to facilitate the replication of this study by another researcher, and e-accessibility – endo-referentially, by using Microsoft Word's *Cross-reference* and *Navigation bar's Headings* to allow quick access to the relevant discussions at a mouse-click when reading this thesis in the e-copy format; exo-referentially, by adding YouTube URLs of relevant video resources, wherever possible without the infringement of copyrights, from my personal YouTube channel to ensure that the resources are personally monitored.

Lastly, to tackle the issue of "low return on high investment of time and energy required", this study suggests two approaches: the first is a low-investment-high-return approach, and the second is a high-investment-high-return approach. The low-investment-high-return is the more preferred option, realised in several parts in this study: 1) the use of freely downloadable fan scripts as data for the corpus (3.4), 2) the annotation-free preparation in the construction of HMDC (3.4), 3) the use of p-value = 1 and RC. Freq. = 0 in the extraction of pattern-reforming creativity (5.1.3), and 4) the use of custom MI and t-score cut-offs in the extraction of pattern-forming creativity (6.1.1.7). The high-investment-high-return approach is less preferred, realised in several parts in this study: 1) the software-assisted removal of all non-dialogue elements from the fan scripts in the construction of HMDC, including fade-ins, scene headings, action sequences, scene transitions, mood brackets, parentheticals, commercial tags and character name tags (3.4), 2) the manual multimodal transcription of the extracted

pattern-reforming creativity instances (5.1.4), and 3) the manual extraction of pattern-forming creativity (6.1.1.6).

Also immensely crucial but significantly unstated in this thesis are the pilot studies and steps taken in testing and ruling out ideas which could have led to high-investment-low-return situations. These pilot studies and steps are time-consuming, failure-prone and highly demanding in planning and organisational skills, but are key to every minor success along the way and the overall completion of this study.

This study could not have been completed without the guidance of Dr. Christian Matthiessen, my supervisor, who has tirelessly and cheerfully offered numerous hours of truly inspiring teaching and valuable insights, enabling me to think outside the box and ask better questions, and Dr. Francisco Veloso, my co-supervisior, whose advices and comments have pushed me to go beyond my limits and search for better answers.

7.2.5.2. Goofs

A paper written by me, Law (2015), titled *House M.D. Corpus Analysis: A Linguistic Intervention of Contemporary American English* has quantitatively revealed

> *"the strengths and weaknesses of using 1-to-3-grams rank difference in comparing HMDC with COCA and COCA Spoken, addressed potential methodological issue of contraction alternatives and acronyms affecting ngram ranking and rank difference, discussed how the language used in House M.D. is related to contemporary spoken American English, and finally shown how House M.D. can be identified as a dramedy far more interpersonal, 1st and 2nd person-addressed and disagreeing than one would encounter in the real world." (p. 247)*

However, because this paper does not fit the title of this thesis nor any parts of the quantitative analyses of linguistic creativity, this paper has not been incorporated into this thesis. Having mentioned that, the finding about *House M.D.* being identified as "far more interpersonal… and disagreeing" has prompted my decision to look at tenor

relationships and interpersonal metafunctions in section 5.2.2 and 6.3.4, despite the weak indication of a possible relationship between tenor and linguistic creativity from this paper.

7.2.5.3. Quotes

Quotes of wisdom have been included at the beginning of every chapter and section 2.2 as a lead-in to the discussions of the chapter. All of them are functioning as persuasive texts to support the study of linguistic creativity and *House M.D.* Each quote has been cited with reference, which is rarely found on the internet. These quotes are reproduced as follows:

> *"Everybody has a creative potential and from the moment you can express this creative potential, you can start changing the world." – Paulo Coelho (2015)*

> *"As with anything creative, change is inevitable." – Enya (2012)*

> *"I'm completely hooked on House, which is odd because normally I don't like medical programmes. ER, Casualty, Grey's Anatomy have all passed me by. But give me Hugh Laurie with a beard, a gammy leg and an American accent and I can't turn it off." – Ian Hislop, British journalist (2006)*

> *"I am going to make you a magical bath. It will have bubbles and eastern spices and blue diamonds and green clovers... transformative powers. But...I must have solitude to focus my creative energies."— House (Season 7 Episode 1 Now What?)*

> *"Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity." – Charles Mingus (1977)*

> *"We need creativity in order to break free from the temporary structures that have been set up by a particular sequence of experience."— Edward de Bono (2003, p. 27)*

*"Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really **do** it, they just **saw** something. It seemed obvious to them after a while. That's because they were able to connect experiences they've had and synthesize new things." – Steve Jobs (1996)*

"Read less, more TV." – House (Season 1 Episode 14 Control)

7.2.5.4. Connections

This thesis has been organised as a series of manuscripts which have been presented at conferences and symposiums and then submitted to various journals and publishers for review. The manuscripts have been listed in the opening section Research output arising from the thesis with the dates of submission included.

7.2.5.5. Soundtracks

As shown in section 5.2.1.2, 6.3.4.2.3 and 6.3.4.3.3, background music or soundtracks are not the key semiotic resources used in at the moment of linguistic creativity production. However, through this longitudinal study of *House M.D.*, it has become strikingly obvious to me that prosodic stress of certain keywords often overlaps with the use of linguistic creativity at the moment of production. Although the study of prosody has not been included in this study, it seems commonsensical to me that if linguistic creativity can be used as a meaning-making device, then prosodic emphasis should appear mostly, if not whenever, linguistic creativity is present. This will be an interesting area for future studies.

8. Appendices

8.1. List of Award-winning or nominated *House M.D.* Episodes

1. Season 1, Episode 1 *Everybody Lies* -- David Shore Nominated Humanitas 2005 Prize 60 Minute Category

2. Season 1, Episode 5 *Damned If You Do* -- Sara B. Cooper Nominated Humanitas 2005 Prize 60 Minute Category

3. Season 1, Episode 21 *Three Stories* -- David Shore Won Primetime Emmy Awards 2005 Outstanding Writing for a Drama Series

4. Season 1, Episode 21 *Three Stories* -- David Shore Won Humanitas 2006 Prize 60 Minute Category

5. Season 1, Episode 21 *Three Stories* -- Paris Barclay Nominated Directors Guild of America, USA 2006 Outstanding Directorial Achievement in Dramatic Series' – Night

6. Season 2, Episode 19 *House vs. God* -- Doris Egan Nominated Humanitas 2007 Prize 60 Minute Category

7. Season 3, Episode 1 *Meaning* -- Gale Tattersall Nominated ASC Award American Society of Cinematographers, USA 2007 Outstanding Achievement in Cinematography in Regular Series

8. Season 2, Episode 2 *Autopsy* -- Lawrence Kaplow Won WGA Award (TV) Writers Guild of America, USA 2006 Episodic Drama

9. Season 2, Episode 2 *Autopsy*; Season 2, Episode 12 *Distractions*; Season 2, Episode 13 *Skin Deep* -- Derek R. Hill, Danielle Berman Nominated Primetime Emmy Awards 2006 Outstanding Art Direction for a Single-Camera Series

10. Season 2 Episode 15 *Clueless* -- Thomas L. Moran Nominated Edgar Allan Poe Awards 2007 Best Television Episode Teleplay

11. Season 2, Episode 20 *Euphoria: Part 1* -- Elan Soltes, Kent Feeler, Matt von Brock, Nick Damico, Encore Hollywood Nominated HPA Awards Hollywood Post Alliance, US 2006 Outstanding Compositing – Television

12. Season 4, Episode 12 *Don't Ever Change* -- Doris Egan & Leonard Dick Nominated WGA Award (TV) Writers Guild of America, USA 2009 Episodic Drama

13. Season 4, Episode 15 *House's Head* -- Gale Tattersall Nominated ASC Award American Society of Cinematographers, USA 2009 Outstanding Achievement in Cinematography in Regular Series

14. Season 4, Episode 15 *House's Head* -- Greg Yaitanes Won Primetime Emmy Awards 2008 Outstanding Directing for a Drama Series

15. Season 5, Episode 5 *Lucky Thirteen* -- Liz Friedman, Sara Hess Nominated Image Awards 2009 Outstanding Writing in a Dramatic Series

16. Season 5, Episode 14 *The Greater Good* -- Sara Hess Nominated Image Awards 2010 Outstanding Writing in a Dramatic Series

17. Season 5, Episode 15 *Unfaithful* -- David Hoselton Nominated Humanitas 2009 Prize 60 Minute Category

18. Season 5, Episode 20 *Simple Explanation* -- Prism Awards 2010 Nominated Prism Award Drama Series - Mental Health

19. Season 5, Episode 22 *House Divided* -- Elan Soltes, Dan Lopez, Jeremy Jozwik, Changsoo Eun, Encore Hollywood Nominated HPA Awards Hollywood Post Alliance, US 2009 Outstanding Compositing – Television

20. Season 6, Episode 1 *Broken* -- Russel Friend, Garrett Lerner, David Foster, David Shore Won WGA Award (TV) Writers Guild of America, USA 2010 Episodic Drama

21. Season 6, Episode 4 *The Tyrant* -- Peter Blake Won Literary Award PEN Center USA West Literary Awards 2010 Teleplay

22. Season 6, Episode 21 *Help Me* -- Russel Friend, Garrett Lerner, Peter Blake Nominated WGA Award (TV) Writers Guild of America, USA 2011 Episodic Drama

23. Season 6, Episode 21 *Help Me* -- Russel Friend, Garrett Lerner, Peter Blake Nominated Humanitas 2009 Prize 60 Minute Category

24. Season 8, Episode 22 *Everybody Dies* -- Written by Eli Attie, David Shore, Peter Blake, Shore Z Productions Nominated Humanitas 2013 Prize 60 Minute Category

8.2. Gorilla Koko and Sign Languages

The seventh example is from a documentary series called *Nature* (1982—) Season 17 Episode 10 *A Conversation With Koko* (1999) [See: (Ahamo, 2015), https://youtu.be/8oh1uhrdc6w?t=29m27s]. The purpose of this example is to show that pattern-reforming creativity can also appear in sign language, and new signs are not necessarily invented by humans. According to the Gorilla Foundation (2017), Koko is a female Gorilla born in the San Francisco Zoo in 1971. In the same year, she met Penny Patterson, then a Stanford graduate student. Patterson continues to work with Koko through her Ph.D. research in psychology at Stanford University and Project Koko is on-going until this day. Through Patterson's help, Koko has acquired the ability to use over 1,000 signs in American Sign Language (ASL) and comprehend approximately 2,000 spoken English words, well enough to adapt them and produce neologism in sign language with new meanings to convey her message.

In one part of the documentary at 30:35, Gorilla Koko is seen creating a new sign for a 'brush'. The dialogue is as follows:

[Patterson takes a brush]

Koko: [ASL] Hair.

Patterson: [spoken English & ASL] Hair, yes, this is for your hair [touching hair on Koko's left paw].

Koko: [ASL] Scratch.

Patterson: [spoken English & ASL] [chuckles] Scratch?

Koko: [ASL] Comb.

Patterson: [spoken English & ASL] Comb?

[Koko takes the brush from Patterson's hand]

Patterson: [spoken English & ASL] It's a scratch comb! That's an interesting –
word for a brush!

Slightly different from the way humans create or construct portmanteau neologisms in English in which two or more words are blended together using parts of each word, Koko compounds signs in order to invent new words to represent meanings which are absent from her vocabulary.

Examples of the Gorillas' Compound Sign Inventions

Koko	Michael
Eye + hat => Mask	Insult + smell => Garlic
Finger + bracelet => Ring	Bean + balls => Peas
Stuck + metal => Magnet	More + cat => Lion
Trouble + surprise => Crazy	Milk + fruit + candy + food
Scratch + comb => Brush	=> Yogurt

Figure 67 Examples of the Gorillas' Compound Sign Inventions

 shows a list of examples of compound signs created by Gorilla Koko and Gorilla Michael, including those mentioned in the documentary such as Eye + hat => Mask, Finger + bracelet => Ring, and Scratch + comb => Brush. In the creation of these instances of pattern-reforming creativity, Gorilla Koko being the creator of her Gorilla Sign Language (GSL) neologism (Nature, 1999) has not made her formula of construction explicit to Patterson, at least not in a way which humans can understand. What Koko does is to make use of the existing ASL signs in her knowledge base which both she and humans can comprehend to create new representation for meanings. Patterson is left to decipher the formula of constructions and the meaning of Koko's creativity using the signs she and Koko both understand. Therefore, Koko's pattern-reforming creativity is implicit and endo-referenced. The following example shown in the documentary at

30:16 happens prior to the "scratch comb" example and has also provided evidence of the effect of the target not understanding the creator's creativity:

Koko: [ASL] Comb-off hair, Comb-off head, Koko?

Patterson: [spoken English & ASL] I don't understand.

Koko: [ASL] Bad.

Patterson: [spoken English & ASL] Oh, sorry.

Koko: [ASL] Fake.

Patterson: [spoken English & ASL] Bad that I don't understand. I'm a little dense, honey.

Koko: [ASL] Don't-care. Shame.

Patterson: [spoken English & ASL, holding Koko's right paw] Shame, it's a shame that I don't understand what you are trying to tell me.

The dialogue shows when creativity is not understood, not only could the target be confused, the creator might also be frustrated, causing uneasiness between the communicators, which is the negative emotion Koko experienced in this example when Patterson fails to understand her meanings.

8.3. MTV and Song

The eighth example is the MTV of an English song *PPAP* (*Pen-Pineapple-Apple-Pen*) by Japanese singer PIKO-TARO. This Guinness World Record holder for the shortest song to enter the Billboard Hot 100 has received over 117 million views to date on his official YouTube channel (Lynch, 2016)[see: (公式ピコ太郎歌唱ビデオチャンネル -PIKOTARO OFFICIAL CHANNEL, 2016), https://www.youtube.com/watch?v=0E00Zuayv9Q]. This excludes all remixes and covers by fans all around the globe shared through other platforms and media channels. This 1-minute-8-second song and MTV has relatively simple lyrics, quoted as follows:

[Intro]

P-P-A-P

[Verse 1]

I have a pen, I have an apple

Uh! Apple pen!

[Verse 2]

I have a pen, I have pineapple

Uh! Pineapple pen!

[Verse 3]

Apple pen, Pineapple pen

Uh! Pen-Pineapple-Apple-Pen

Pen-Pineapple-Apple-Pen

Without considering the name of the song, the first line of lyrics begins with four letters from the English alphabet,

P-P-A-P

The song continues to Verse 1 with the singer singing the following line,

[Verse 1]

I have a pen, I have an apple

At this point, the singer uses hand gestures of holding a pen (i.e. with thumb and index fingers on the right hand facing camera) and an apple (i.e. palm facing upwards with left hand fingers bent, forming a claw) at his eye level as well as English words and downward arrows to signify the imaginary pen and apple he is holding onto. He then rotates his imaginary-pen-and-apple-holding hands by 90 degrees such that both hands and imaginary items are facing each other and then quickly pushes the items towards one another in a jerking motion, stopping in mid-air without actual contact and sings,

Uh!

which is a sound that signifies the contact or even the penetration of the imaginary pen into the imaginary apple. As he rotates his upper body 90 degree to his right he sings,

Apple pen!

which has larger Japanese text in katakana "アッポーペン!" above smaller English text in brackets "(Apple pen!)" shown as subtitle in the video. His upper body returns to his original position after that.

From the presentation of the singer, it is clear that he uses both lyrics and body language to demonstrate the formula of construction, from presenting the sources of construction namely an imaginary pen and an imaginary apple, to the concatenation of the imaginary fruits and forming the new entity consisting of a pen penetrated into an apple called "Apple pen". The "Apple pen" is an instance of pattern-reforming creativity

of which the formula of construction is explicitly presented through a combination of audiovisual semiotic resources, and of which the units of creativity are made known to viewers before they are combined, therefore this instance of pattern-reforming creativity is endo-referenced, meaning references are taken from within the same multimodal text.

Entering Verse 2, the singer sings

[Verse 2]

I have a pen, I have pineapple

This time, the singer uses with his thumb and index fingers on the left hand facing camera to hold another imaginary pen and all five fingers on his right hand to form a claw which shows slightly more palm holding a heavier-than-apple imaginary pineapple at his eye level. English words and downward arrows continue to signify the imaginary pen and pineapple he is holding onto. He then rotates his imaginary-pen-and-pineapple-holding hands by 90 degrees such that both hands and imaginary items are facing each other and then quickly pushes the items towards one another in a jerking motion, stopping in mid-air without actual contact and sings,

Uh!

which is a sound that signifies the penetration of the imaginary pen into the imaginary pineapple. As he rotates his upper body 90 degree to his right once more he sings,

Pineapple pen!

and then his upper body returns to his original position. Larger Japanese text in katakana "パイナッポーペン!" is shown above smaller English text in brackets "(Pineapple pen!)" as subtitle in the video.

Again, the same formula of construction of a new entity "Pineapple pen" has been explicitly presented using singing, visible words, symbols and body language. The

"Pineapple pen" is an instance of pattern-reforming creativity of which the formula of construction is explicitly presented through a synergy of audiovisual semiotic resources, and of which the units of creativity are made known to viewers before they are concatenated, therefore this instance of pattern-reforming creativity is endo-referenced.

In Verse 3, the singer raises his right hand to his eye level gesturing the holding of a 'pen-like' entity and sings,

Apple pen,

then raises his left hand to his eye level gesturing the holding of another 'pen-like' entity and sings,

Pineapple pen

followed by the same 90 degree-hand rotations and the same quick contactless jerking motion at his eye level and halt in mid-air, he sings,

Uh!

to signifying the concatenation of the imaginary "Apple pen" and "Pineapple pen". As he rotates his upper body 90 degree to his right for the third time he sings,

Pen-Pineapple-Apple-Pen

and larger Japanese text in katakana "ペンパイナッポーアッポーペン" is shown above smaller English text in brackets "(Pen-Pineapple-Apple-PenPineappple Pen!)" as subtitle in the video. Note that the English subtitle here has a typographical error and it does not match the lyrics "Pen-Pineapple-Apple-Pen". After several beats and steps, the singer repeats the line,

Pen-Pineapple-Apple-Pen

Visually, the same Japanese and misprinted English subtitle are shown and the singer ends the song with several lyricless extra moves.

This time, as the imaginary "Apple pen" and "Pineapple pen" are held at the "pen" section as gestured by his fingers, the point of contact between these two entities is at the imaginary fruits. This is verified by the fact that the singer maintained his pen-holding gesture when the new "Pen-Pineapple-Apple-Pen" object is created, suggesting that the formula of construction is explicit and units of creativity are endo-referenced.

Figure 68 Pen-Pineapple-Apple-Pen/PIKO-TARO on YouTube

As the description of the YouTube video in explicitly states that "Pen-Pineapple-Apple-Pen" is equivalent to "PPAP", viewers can understand that the first line of lyrics is in fact an acronym of the title of the song by taking the first letter from "Pen-Pineapple-Apple-Pen". Therefore, making "PPAP" yet another explicit, endo-referenced pattern-reforming creativity.

Through a musico-choreographical repetition of the singer's performance, viewers are presented with source elements such as "pen", "apple" and "pineapple", and explicit formula of construction to understand the production of pattern-reforming creativity/objects such as "Apple pen", "Pineapple pen" and eventually "Pen-Pineapple-Apple-Pen" and "PPAP".

Finally, the creative process of the song is explained by the singer Piko-Taro himself at a press conference [see: (Straits Times, 2016), https://www.youtube.com/watch?v=QwoqIsgLS-I] and the meanings construed through his choreography are detailed in a Japanese entertainment show named *Arashi Ni Shiyagare* [(Arashi Ni Shiyagare 嵐にしやがれ, 2016)].

All eight examples are tabulated in as follows:

Types of creativity	Formula of construction	Reference style	
		Exo-referenced	**Endo-referenced**
Pattern-forming	**Implicit**	Direct use / quoting of external resources such as famous lines, quotes, speeches, quotes, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues without explicit citation of the source and explicitly showing the formula of repetition (Assumed). e.g. House re-enacting Casablanca scene	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it without explicitly showing the formula of repetition (Assumed). e.g. House: [Stage whisper] My guy knows a guy who can get you in for $50 bucks. Cuddy: Fine. You tell your guy if I win, you attend

		(referenced to original movie)	the faculty symposium and you wear a tie. House: And if I win, no clinic hours for a week. Cuddy: My guy will call your guy.
	Explicit	Direct use / quoting of external resources such as famous lines, quotes, speeches, quotes, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues by explicit citation of the source by explicitly showing the formula for repetition (Known). e.g. House: Well, like the philosopher Jagger once said, "You can't always get what you want."	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it by explicitly showing the formula of repetition (Known) e.g. House: Well, like the philosopher Jagger once said, "You can't always get what you want." Cuddy: Oh, I looked into that philosopher you quoted, Jagger, and you're right, "you can't always get what you want", but as it turns out "if you try sometimes you get what you need."
Pattern-reforming	**Implicit**	Direct creation of New / neologism without explicit citation / indication of the source and explicitly showing the formula for creation (Assumed). e.g. 'contrafibularity' in Blackadder; naming of characters House and Wilson as a homage to Holmes and Watson.	Direct creation of New / neologism using existing resources without explicitly showing the formula for creation (Assumed) e.g. Gorilla Koko's compound signs invention
	Explicit	Creation of New / neologism by explicit citation / indication of the source and by explicitly showing the formula for	Creation of New / neologism using existing resources and by explicitly showing the formula for creation (Known).

		creation (Known). e.g. Chase: What about MELAS? Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes. House: NILLAS. No. Idiot. Lactate. Levels. Are. Stable. We're missing something.	e.g. PPAP song

Table 95 Analytical Framework for Creativity in Multimodal Texts (AFCMT) with examples

8.4. Graphics and Digital Arts

21st century Russian painter and art theorist Wassily Kandinsky's (Parkstone, 2014) famous quote, "Everything starts with a dot" tells the origin of all creativity. In a broad sense, the concept of creatio and inventio come into play. From the beginning of time, the very first unit or base unit is always created, and everything else is built upon it. A good example will be the creation of a dot which is a single unit (creatio), and repetition of a dot creates a straight line or a curve which is the pattern (inventio). When a line or a curve is considered as a single unit, repetition of a straight line can create parallel lines, a square, a rectangle, a star or other polygrams while repetition of a curve can create a circle, an oval, an oblong, a crescent, any regular or irregular shapes. It is therefore crucial to decide what the base unit is in order to discuss creativity. If the base unit is a single dot, then everything else ranging from a line or a curve to a letter 'P' is an instance of creativity because repetition of the dots forms certain patterns. When considering the base unit as the letter 'P', the curve and straight line which forms the letter 'P' are still creative, but the focus is often placed on patterns formed or reformed using the letter 'P'. Similarly, while the letters 'E', 'Y', 'B', 'A', and 'L' at the level of letter creation remain pattern-reformingly creative, when the letters are considered as base units, the focus is often placed on the pattern-reforming word 'eyeball' as it has broken certain patterns in the English lexicon known by people of Shakespeare's days. The same applies to the pattern-formingly creative phrase 'eyeball to eyeball', word creation and letter creation will remain creative but the focus is on phrase creation – the creative repetition of the word 'eyeball' and the new meaning that the phrase construes, which is to be face to face with someone, especially in an aggressive way.

Graphically, the logo of the Hong Kong Polytechnic University as shown in can be considered as an instance of pattern-forming creativity constructed from units of pattern-reforming creativity.

Figure 69 Logo of the Hong Kong Polytechnic University

Without taking into consideration of the name of the logo, the logo can be perceived as four iterations of a unit of red colour at a 90-degree angle from and without touching one another. The viewer, without reading the description from the official website (The Hong Kong Polytechnic University, 2014) and any previous knowledge in graphic design, may see the unit as an instance of pattern-reforming creativity because something new and unlike any common other is created. Then again, whether it is truly unlike any other will depend on the personal experience of the <target> -- the person who looks at the logo's unit. The unit is constructed from a straight line and a 'U' shape curve of red colour which is perpendicular to it which has a long, fountain pen like tail extending beyond the straight line but not intersecting it. The unit alone is exo-referenced – the source of reference has not been cited in any semiotic sense, which implies that the construction of the unit uses external resources instead of existing or internal ones; and implicit – neither has the formula of its creation been made explicit to the viewers, and therefore it is assumed that the target is able to comprehend the formula used (Assumed).

When the unit repeats four times at a 90-degree angle from and without touching each other forming the logo, the logo becomes an instance of pattern-forming creativity which is endo-referenced – because the logo is formed by repeating the unit which is an existing resource; and implicit – because the formula of repetition has not been made explicit to the viewers, and therefore, similar to the construction of the unit, it is assumed that the target is able to comprehend the formula used (Assumed). The

formation of the logo challenges a target's knowledge of geometry such as the concepts of centre of rotation and degree of rotation. Without these prerequisites of knowledge, the target will most likely not be able to fully appreciate and understand the embedded pattern-forming creativity.

To further illustrate that logos such as the aforementioned indeed does challenge the target to a high degree, let's compare the analysis above with the description of the logo from the University's official website (The Hong Kong Polytechnic University, 2014), quoted as follow:

> *The University logo was developed from the well-established emblem*
> *designed in the early 1970s for the then Hong Kong Polytechnic. The round*
> *shapes at each corner intertwine to symbolize "P" for Polytechnic and "U" for*
> *University. The "T" image that stood for technical excellence in the earlier*
> *logo has been retained while the open perimeter represents increased*
> *interaction between the University and the world.*

It is now apparent that the unit of pattern-reforming creativity is a graphical portmanteau of the letter 'P', 'U' and 'T', which stands for 'Polytechnic', 'University' and 'Technical excellence'. In other words, these words with embedded meanings and the first letters in their spellings have served as the implicit exo-references which form the basis of the unit considered in the analysis.

Some logos follow a different construction pattern from the Hong Kong Polytechnic University logo in the sense that it is not created by pattern-forming a unit of pattern-reforming creativity. Take the logo in as example, again without taking into consideration of the name of the logo, the logo can be perceived as a unit as a whole which has a white drawing pin-like symbol with a white concave curve over a 'T'-shape pin pointing downwards. Less obvious than the logo of the Hong Kong Polytechnic University, this logo is symmetrical and may otherwise be perceived as a pattern-forming creativity of two iterations of a unit, each unit being one of the two halves of

the logo dissected from the vertical centre, repeated through a horizontal flip on the line of symmetry.

Figure 70 The logo of Tesla, Inc.

The target, without any previous knowledge in graphic design, may see either or both of the above interpretation of the unit – a half or a whole, as an instance of pattern-reforming creativity because something new and unlike any common other is created (New), depending on their personal experience. Similar to the logo of the Hong Kong Polytechnic University, the unit alone is exo-referenced – the source of reference has not been cited in any semiotic sense, which implies that the construction of the unit uses external resources instead of existing or internal ones; and implicit – neither has the formula of its creation been made explicit to the viewers, and therefore it is assumed that the target is able to comprehend the formula used (Assumed). However, if the target chooses to view the logo as two symmetrical halves of a unit, then the logo becomes an instance of pattern-forming creativity which is endo-referenced – because the logo is formed by repeating the unit which is an existing resource; and implicit – because the formula of repetition has not been made explicit to the viewers, and therefore, it is assumed that the target is able to comprehend the formula used (Assumed). In this example, the formation of the logo challenges a target's knowledge of geometry such as the concepts of symmetry or more precisely, geometric transformations. Without these prerequisites of knowledge, the target will most likely

not be able to fully appreciate and understand the embedded pattern-forming creativity.

If the above analysis seems self-contradictory to what has been said earlier at the beginning of the analysis that this logo is in fact not created by pattern-forming a unit of pattern-reforming creativity, the following reply tweet by Tesla Inc. founder, CEO Elon Musk as shown in should clarify the confusion:

Peter James Dean @UKPJD   20 Jan
@elonmusk Could you shed some light on what the Tesla logo represents please? So many theories out there, but no-one knows!

Elon Musk ✓
@elonmusk   🐦 Follow

@UKPJD Similar to SpaceX, the T is like a cross section of an electric motor, just as the X is like a rocket trajectory
4:35 AM - 20 Jan 2017

↩ ♺ 108   ♥ 584

Figure 71 Tesla CEO Elon Musk explains the design of Tesla Inc.'s logo

When asked by a Twitter follower about Tesla Inc.'s logo design, Musk (2017) replies that "… the T is like a cross section of an electric motor...".

Lambert (2017) further explains the design rational in his Electrek article stating that,

> "Tesla uses AC induction motors in its vehicles and while the company's
> engineers have, of course, changed the design of the motors, it is still based
> on work done over 100 years ago by Nikola Tesla, which is partly why
> founders Martin Eberhard and Marc Tarpenning named their company after
> him."

Figure 72 Partial cross section of Tesla Model S' AC induction motor

is a snapshot of a video showing a partial cross section of an AC Induction motor of a Tesla Model S electric vehicle (Edison Tech Center, 2014). The figure and the video clearly describe the various parts of the motor, with the top part being aluminium casing which is protecting the steel stator which has slots filled by copper bars. The bright red part is the rotor. Mapping the above information on motor design back to the Tesla Inc. logo design, the concave curve at top of the logo represents a section of the aluminium casing, the 'T'-shape pin represents a section of the steel stator that is in between two copper slots. The copper slots and the rotor are not represented in the logo. The logo is the pattern-reforming unit in this interpretation.

FIG. 1
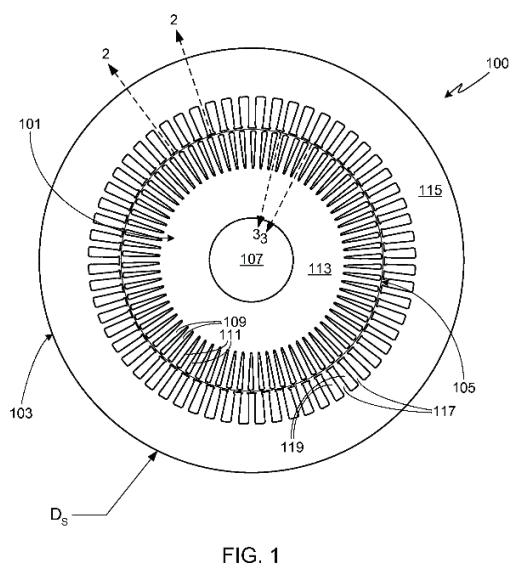
Figure 73 a simplified axial view of a Tesla AC induction motor;
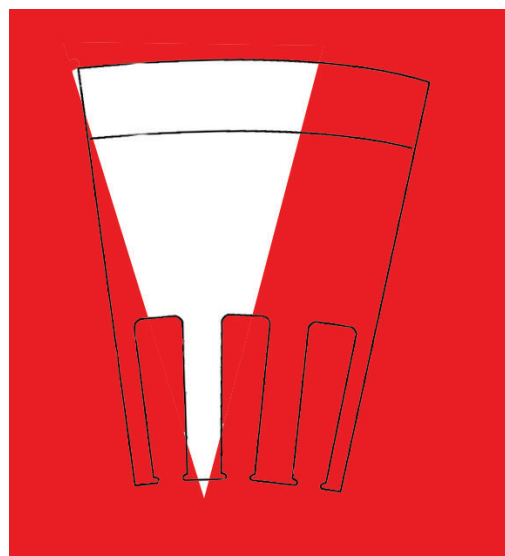
Figure 74 A portion of the stator plate shown in , logo is represented by the unshaded part

The unit/logo is implicit – the formula of its creation has not been made explicit and the target is assumed a level of knowledge to be able to comprehend its construction (Assumed). It is through a combination of information given by Musk (2017), Lambert (2017), Edison Tech Center (2014) and US Patent *Induction motor lamination design US8154167 B2* (Tesla Motors, Inc., 2012) that a target can finally understand the construction of the Tesla Inc. logo, which instead of being an instance of pattern-forming a pattern-reforming creative unit, is in fact a pattern-reforming unit (the unshaded part of) from a much bigger pattern (). The unit/logo is also exo-referenced – it is directly created without explicit citation or indication of the source.

Figure 75 Hotel ICON logo
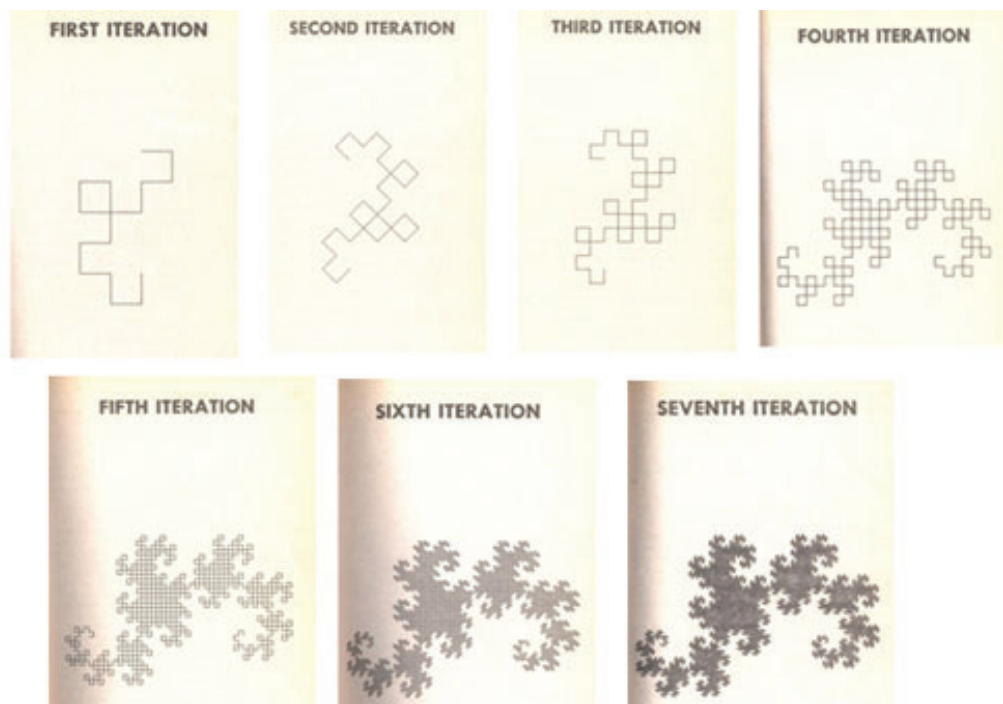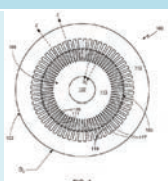
Figure 76 Dragon curve / fractal curve from the novel Jurassic Park

Following the same logic, the Hotel ICON logo shown in   (text excluded) can be perceived as an implicit, endo-referenced instance of pattern-forming creativity of a unit of pattern-reforming creativity that is implicit and exo-referenced, while the dragon curve/fractal curve shown in as seen in the novel *Jurassic Park* can be perceived as an (semi-)explicit (because the number of iterations have been stated but not how the

units are connected), endo-referenced instance of pattern-forming creativity of a unit of pattern-reforming creativity that is implicit and exo-referenced.

In the above examples, while graphic designers are the creators of the patterns, the Hong Kong Polytechnic University (The Hong Kong Polytechnic University, 2014), Tesla Inc. (Musk, 2017; Lambert, 2017) and Hotel ICON (Hotel Online , 2011) give meaning to the patterns. Conversely, the meaning of the fractal curve from *Jurassic Park* is unknown.

The final analysis of all four examples is listed in .

Example	Symbol type	Symbol	Creativity type	Formula of construction	Reference style
	Source		--	--	--
	Unit		pattern-reforming	Implicit	exo-referenced
	Logo		pattern-forming	Implicit	endo-referenced
	Source		--	--	--
	Unit		pattern-reforming	Implicit	exo-referenced
	Logo		pattern-reforming	Implicit	exo-referenced

	Source		--	--	--
	Unit		pattern-reforming	Implicit	exo-referenced
	Logo		pattern-forming	Implicit	endo-referenced
	Source		--	--	--
	Unit	FIRST ITERATION	pattern-reforming	Implicit	exo-referenced
	Logo	SEVENTH ITERATION	pattern-forming	(semi-) explicit	endo-referenced

Table 96 Final analysis of all four symbols

8.5. 'Re-creativity' and Social Media

Undeniably, the social media has been one of the strongest, if not the strongest, driving force in homemade creativity and 're-creativity' among young people. The widespread ownership of computers and mobile devices on a global scale has facilitated the significant growth in the number of videos and images shared on the Internet. In order to demonstrate the flexibility of the AFCMT in analysing multilevel creativity, the following example is taken from the social media from the Hong Kong context.

Figure 77 葡萄 X 淑儀 Song and artwork

The importance of social media to the people of Hong Kong is attributed to the language use and information technology usage. In Hong Kong, Cantonese is the first language of around 90% of the population (Census and Statistics Department, 2012) and it is used in both formal and informal settings in verbal communication. While traditional Chinese characters are the official logographs used in the city (GovHK, 2017), written Cantonese is also commonly used in social media. As for English, it is used as an official language by the executive authorities, legislature and judiciary (GovHK, 2008) and is used by 41% of the population (Census and Statistics Department, 2012). In terms of Information Technology usage, the Household broadband penetration rate and Fibre-to-the-home /

building (FTTH/B) household penetration rate as of November 2016 is 86.4% and 71.8% respectively (OFCA, 2017). Mobile subscriber penetration rate as of November 2016 is 234.7%, which is equivalent to 17,241,608 subscribers (OFCA, 2017).

The term '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina') as shown in has been one of the most influential instances of creativity during the period of 2017 Hong Kong Chief Executive election as it has not only triggered other instances of 're-creativity' from social media, but also attracted attention from local newspapers (Apple Daily, 2016a; ET Net, 2017), web media (Coconuts Hong Kong, 2016) and even the German Consulate General Hong Kong, a diplomatic mission in Hong Kong (German Consulate General Hong Kong, 2016; Apple Daily, 2016b). The term '葡萄乘淑儀 / 葡萄 X 淑儀' was first created and shared on HKGalden.com by netizen cheksiuting 葉瘤花生之友 (cheksiuting, 2016) as the title of his rewritten-lyrics song of which the original song *葡萄成熟時* (2005) is written lyricist Wyman Wong and sung by Hong Kong singer Eason Chan Yick-shun (Rainsun, 2015). The 're-lyrics' song is about Legislative Council (LegCo) member Ms. Regina Ip Lau Suk-yee's campaign in running for the 2017 Hong Kong Chief Executive election. It describes a series of events happened to Ip during this period using lyrics in written Chinese and Cantonese [See: https://www.youtube.com/watch?v=m5GCpHBljCI, (Chow & Cheung, 2016)].

The term '葡萄乘淑儀 / 葡萄 X 淑儀' itself is an instance of pattern-reforming creativity as well as pattern-forming creativity. It is pattern-reformingly creative because when considered as a noun phrase, which is a nickname for Regina Ip, it is a completely new and unique word in the Canto-Chinese lexicon. This neologism is formed from a blend of noun '葡萄' ('grape'), transitive verb 'X' (short form of 'cross' or 'crossover', meaning , which is also a mathematical operator that has the Chinese translation of '乘') and proper noun '淑儀' ('Regina (Ip)'). Each of these three parts originates from different sources and thus carries different meanings. The noun '葡萄' ('grape') is taken from the Chinese version of the expression 'sour grapes' ('吃不到的葡萄是酸的') which is

originated from the Aesop's fables *The Fox and the Grapes (狐狸與葡萄*). The term '葡萄' ('grape') can also act as an adjective and carries the same meaning as the expression ' sour grapes', which is "used to refer to an attitude in which someone adopts a negative attitude to something because they cannot have it themselves" according to Oxford English Dictionaries. The transitive verb 'X' or '乘' is from 'cross' or 'crossover' borrowed from 'crossover' marketing strategy, meaning to "generate new brand or product by uniting with two brands in different areas. " (Ji & Shen, 2013, p. 1364) The proper noun '淑儀' ('Regina (Ip)') is present as she is the main subject of this pattern-reforming creativity. Packing all three meanings together, the neologism represents a term used in shaming LegCo member Regina Ip who, during the period as a candidate of the 2017 Hong Kong Chief Executive election, had shown a negative attitude towards other more popular candidates because she had failed to achieve a comparative level of popularity. This instance of pattern-reforming creativity is implicit – as it has not mentioned explicitly the formula for creation of neologism and the target is assumed to be able to discover it; and exo-referenced – because it is without explicit citation of any internal sources.

This neologism is also a pattern-formingly creative one. This becomes apparent when asked the question why the neologism can only be '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina') and not the reverse '淑儀乘葡萄 /淑儀 X 葡萄' (literal translation: 'Regina crossover grapes'). The answer lies in in the formula of construction of this instance of creativity.
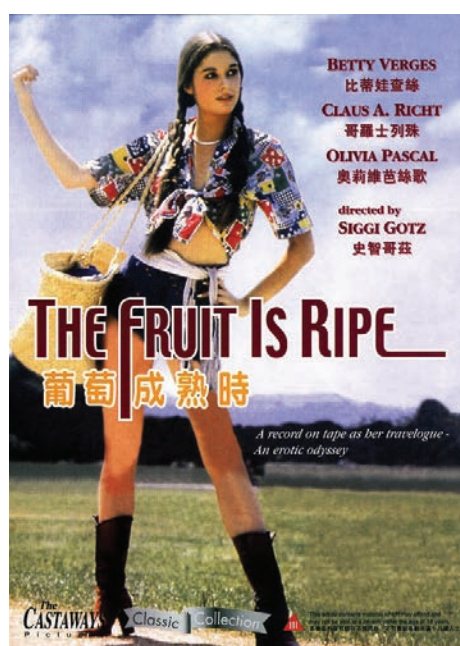
Figure 78 The Fruit Is Ripe (1977) video disc cover with traditional Chinese title

Firstly, the lyrics of the song 葡萄乘淑儀 / 葡萄 X 淑儀 (literal translation: 'grapes crossover Regina') by netizen cheksiuting 葉瘤花生之友 (cheksiuting, 2016) has included the name of the original song 葡萄成熟時 (literal translation: 'the grapes are ripe') and the nickname of the singer 吹神 (referring to Hong Kong singer Eason Chan Yick-shun) in his 're-lyrics', therefore, it is an instance of pattern-forming creativity with a formula of construction that is made explicit and to a source that is exo-referenced. Secondly, the neologism '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina', LSHK Cantonese syllables: pou4 tou4 sing4 suk6 ji4) actually rhymes with the title of a Cantopop love song '葡萄成熟時' (literal translation: 'the grapes are ripe', LSHK Cantonese syllables: pou4 tou4 sing4 suk6 si4) by lyricist Wyman Wong, differing only by the initial sound of the final Chinese character when they are read in Cantonese, showing that even the title is an instance of pattern-forming creativity that is explicit and exo-referenced. Lastly, tracing back yet another level of creativity, lyricist Wyman Wong of the original Cantopop '葡萄成熟時' (literal translation: 'the grapes are ripe') named the song after the Cantonese/ Chinese translation of the English name of a German movie *The Fruit Is Ripe* (1977) (original title in German: *Griechische Feigen*, as

seen in), therefore, creating an instance of implicit and exo-referenced pattern-forming creativity.

Figure 79 Regina Ip via Facebook

Figure 80 Proud Hongkonger via Facebook

shows Regina Ip's campaign banner while shows a piece of 're-creativity' of the original campaign banner from the social media. Depending on the focus and the selection of a creativity unit, the creativity of the two banners can be considered from two perspectives: the creativity of a particular element that a banner contains, and the creativity of the banner as a whole.

consists of one particularly striking instance of pattern-reforming creativity of a blended word (the creativity unit), constructed from the upper part of the Chinese character '贏' (meaning 'win') and the English 'win' with a red heart as the 'dot' of the letter 'i' replacing the lower part of the same Chinese character. The instance is implicit – as it has not made the formula of construction explicit from the target and it is assumed that the target has the knowledge of the written Chinese character '贏' as well as English 'win'; and endo-referenced – as the written Chinese character '贏' and English 'win' are of the same meaning and both of them are present within the same banner with one above the other, in addition, the messages in Chinese and English are both read from

left to right and both the Chinese '贏返香港' and the English texts 'win BACK HONG KONG' have the same meaning.

When the entire banner is considered as a creativity unit, it is an instance of pattern-reforming creativity as it is a possibly a unique instance given the specificity of the text appears in this banner. This instance of pattern-reforming creativity is implicit -- as the formula of construction, meaning the overall design including the use of colours, graphics, fonts type and sizes, has not been explained; and exo-referenced – as the instance is not made referenced to any internal source.

 is an instance of pattern-forming creativity that is exo-referenced – as it is also not made referenced to an internal source but to an external one, that is the original Regina Ip's campaign banner in ; and implicit – as the formula of construction, meaning the overall design, has not been explained. This banner has retained several elements from the original campaign banner while modifying certain elements. Modifications include the replacement of the top part of the written Chinese character '贏' and the English equivalent 'win' with another written Chinese character '亡' (meaning 'die') above the English 'RIP' (short for 'Rest In Peace'). Another written Chinese character '返' (meaning 'back') has also been changed to '咗' (a Cantonese grammatical particle, meaning the past tense of the verb preceding it), when the messages are read from left to right, they are '亡咗香港' in written Chinese and 'RIP HK' in English and are close to equivalent in meaning.

There is also a particularly striking instance of pattern-reforming creativity within this 're-creativity' version of the banner. A bunch of red grapes replaces the red heart which is originally the 'dot' of the letter 'i' in 'win', providing multi-levels of meanings: 1) it functions as a bunch of 'sour grapes', signifying the relationship between Regina Ip and sour grapes and therefore, all incidences related to the coining of '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina'), 2) it functions as a dot / a separator, yielding 'R.IP' which is the short form for the name 'Regina Ip', 3) it functions

as a bunch of 'sour grapes' but not as a dot / a separator, yielding 'RIP' which is the short form for 'Rest In Peace' as well as signifying the relationship between Regina Ip and sour grapes and therefore, all incidences related to the coining of '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina'), or finally 4) it functions as a bunch of 'sour grapes', as a dot / a separator, as well as not as a dot / a separator at the same time, and the outcome is a combination of all outcomes stated in 1), 2) and 3).

This instance of pattern-reforming creativity is implicit – as the formula of construction, meaning the true representation or functions of the bunch of red grapes, is not told explicitly; and endo-referenced – as the letters 'RIP' can be referred to 'Regina Ip' which is recoverable from the banner itself, or 'Rest In Peace' which is in the written Chinese '亡' and also recoverable from the banner itself, or vice versa.

There are also other arguably more subtle similarity and differences such as some resizing and reposition of texts, as well as the adaptation of written Chinese character '亡' (meaning 'die') from the top part of '言', which is also the top half of the written Chinese character '贏' (meaning 'win'), meaning "not answering when asked" or "slow in reaction owing to old age" (Cheng K. , 2016; Coconuts Hong Kong, 2016).

8.6. Expanded view for Figure 40 on p. 236

Cncgrm1	Cncgrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines
395 149 Text= 6				t-score	MI	Creative?	Reason?	1st instance?	Keywords
danger	against	2	0.223714	1.411275	8.910893	Y	Non-co-constructed repetition, repetition in the same scene	Y	She probably weighed that danger against the danger of not breathing
danger	weighed	2	0.223714	1.411275	8.910893	Y	Non-co-constructed repetition, repetition in the same scene	N	
gift	beauty	2	0.223714	1.994806	8.588964	N	Non-co-constructed		
old	x	2	0.223714	1.409806	8.32593	N	Non-co-constructed repetition, repetition in the same scene		
genetic	beauty	2	0.223714	1.409806	8.32593	N	Non-co-constructed repetition, repetition in the same scene		
Knows	conned	2	0.223714	1.409806	8.32593	Y	Non-co-constructed repetition, repetition in the same scene	Y	Knows when they're being conned, knows how to con
basement	Meth	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	Y	could be running a meth lab out of her basement
change	dollar	2	0.223714	1.408337	7.910893	Y	Non-co-constructed repetition, repetition across scene	Y	He says he needs a refill. Got change for a dollar?
crime	scene	2	0.223714	1.408337	7.910893	Y	co-constructed repetition	N	
genetic	gift	2	0.223714	1.724854	7.910893	N	Non-co-constructed repetition, repetition in the same scene		
highly	unlikely	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition in the same scene	Y	She's 29. Whatever she's got is highly unlikely.
Jagger	philosopher	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	Y	I looked into that philosopher you quoted, Jagger, and you're right
mental	status	2	0.223714	1.408337	7.910893	N	Non-co-constructed		
Meth	running	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	N	
treat	letting	2	0.223714	1.408337	7.910893	N	Non-co-constructed, self-repetition		
old	regular	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
old	technology	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
respect	food	2	0.223714	1.406868	7.588964	Y	Non-co-constructed repetition, repetition in the same scene	Y	Am I supposed to respect their food more than I respect their DVD players? Yo
treating	illnesses	2	0.223714	1.406868	7.588964	Y	co-constructed repetition, repetition in the same scene	Y	treating patients why we became doctors? No, treating illnesses is why we be
x-ray	regular	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
allergic	gadolinium	2	0.223714	1.405399	7.32593	N	Non-co-constructed, repetition across scenes		
ask	key	2	0.223714	1.405399	7.32593	Y	co-constructed repetition, repetition across scenes	Y	I can go up to her room tomorrow morning and ask her for the key.
during	Oxygen	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
Exam	room	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
immune	system	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
neurologic	problems	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
became	treating	2	0.223714	1.720056	7.173927	Y	co-constructed repetition, repetition in the same scene	N	
Yeah	damn	3	0.33557	1.718857	7.036423	Y	Non-co-constructed, self-repetition	N	
affair	having	3	0.33557	1.984418	7.004002	Y	Non-co-constructed repetition, repetition in the same scene	Y	have a deeper problem. Your wife is having an affair. What?! You're orange,
attack	heart	3	0.33557	1.984418	7.004002	N	Non-co-constructed		
basement	Lab	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
class	pets	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition in the same scene	Y	You said you didn't have any pets in this class. A parrot is a bird.
happens	often	2	0.223714	1.402461	6.910893	N	co-constructed repetition, repetition in the same scene		
lab	Meth	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
lab	running	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
than	grades	2	0.223714	1.402461	6.910893	N	Non-co-constructed, self-repetition		
thing	bigger	2	0.223714	1.402461	6.910893	Y	Non-co-constructed repetition, repetition in the same scene	Y	bored. It's a lesion. And the big green thing in the middle of the bigger blue t
thing	middle	2	0.223714	1.402461	6.910893	Y	Non-co-constructed repetition, repetition in the same scene	N	
affair	wife	2	0.223714	1.400992	6.740968	Y	Non-co-constructed repetition, repetition in the same scene	N	
inflammat	vessels	2	0.223714	1.400992	6.740968	N	Non-co-constructed, duplicate		
juvenile	record	2	0.223714	1.400992	6.740968	Y	co-constructed repetition, repetition in the same scene	Y	see a black guy. I just saw a doctor...with a juvenile record.
some	beauty	2	0.223714	1.400992	6.740968	N	Non-co-constructed repetition, repetition in the same scene		
Too	Figures	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
Too	painful	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
Too	short	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
any	treatments	2	0.223714	1.399523	6.588964	N	Non-co-constructed, self-repetition		
definition	kinda	2	0.223714	1.399523	6.588964	Y	co-constructed repetition, repetition in the same scene	Y	have Chronic Fatigue Syndrome? It's kinda the definition isn't it? It's kinda t
explain	symptoms	3	0.33557	1.714059	6.588964	Y	co-constructed repetition, repetition in the same scene	Y	No toxins, no medication? Nothing that would explain these symptoms. Fami
explain	these	3	0.33557	1.714059	6.588964	Y	co-constructed repetition, repetition in the same scene	N	
female	old	2	0.223714	1.399523	6.588964	N	Non-co-constructed, self-repetition		

patients	letting	2	0.223714	1.399523	6.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	So, because you want me to treat patients, you are n't letting me treat patient
more	treatments	2	0.223714	1.398054	6.451461	N	Non-co-constructed, self-repetition	
Yeah	idea	2	0.223714	1.398054	6.451461	N	Non-co-constructed, self-repetition	
always	ugly	2	0.223714	1.396585	6.32593	N	Non-co-constructed, self-repetition	
Am	supposed	2	0.223714	1.396585	6.32593	N	Non-co-constructed, self-repetition	
case	typical	2	0.223714	1.396585	6.32593	N	Non-co-constructed repetition, repetition in the same scene	
female	year	2	0.223714	1.396585	6.32593	N	Non-co-constructed, self-repetition	
gift	some	2	0.223714	1.71046	6.32593	N	Non-co-constructed repetition, repetition in the same scene	
x-ray	old	2	0.223714	1.97403	6.267036	N	Non-co-constructed	
genetic	some	3	0.33557	1.971953	6.156005	N	Non-co-constructed, self-repetition, repetition in the same scene	
became	doctors	2	0.223714	1.393647	6.103538	Y	co-constructed repetition, repetition in the same scene	N
black	guy	2	0.223714	1.393647	6.103538	Y	co-constructed repetition, repetition in the same scene	N
Other	things	2	0.223714	1.393647	6.103538	N	Non-co-constructed	
break	someone	2	0.223714	1.392178	6.004002	N	Non-co-constructed	
Everybody	lies	2	0.223714	1.392178	6.004002	Y	co-constructed repetition, repetition across scenes	Is she a doctor? No, but... Everybody lies. Dr
having	wife	2	0.223714	1.392178	6.004002	N	Non-co-constructed, self-repetition, repetition in the same scene	
old	year	4	0.447427	1.968837	6.004002	N	Non-co-constructed	
pills	Two	2	0.223714	1.392178	6.004002	N	Non-co-constructed, self-repetition, repetition in the same scene	
bus	missed	2	0.223714	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene	
danger	probably	2	0.223714	1.390709	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	
day	every	2	0.223714	1.390709	5.910893	N	Non-co-constructed	
found	ham	2	0.223714	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene	
friend	new	2	0.223714	1.390709	5.910893	N	co-constructed repetition, repetition in the same scene	
People	corollary	2	0.223714	1.390709	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	. I assume it 's a corollary if people lie, that people screw up.
People	screw	2	0.223714	1.390709	5.910893	N	Non-co-constructed	
pork	Where	2	0.223714	1.703263	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	Where there 's ham there 's pork, where there 's pork there 's neurocysticerco
seen	worm	2	0.223714	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene	
contrast	MRI	3	0.33557	1.702064	5.851999	N	Non-co-constructed	
symptoms	these	3	0.33557	1.702064	5.851999	N	co-constructed repetition, repetition in the same scene	
does	treatments	2	0.223714	1.38924	5.82343	N	Non-co-constructed, self-repetition, repetition in the same scene	
doctors	treating	3	0.33557	1.963643	5.78161	Y	co-constructed repetition, repetition in the same scene	N
medical	school	4	0.447427	1.963643	5.78161	Y	co-constructed repetition, repetition in the same scene	First year of medical school if you hear hoof beets you think "horses"
as	certain	2	0.223714	1.387771	5.740968	N	Non-co-constructed	
as	embarrassed	2	0.223714	1.387771	5.740968	N	Non-co-constructed	
blood	stream	2	0.223714	1.387771	5.740968	N	Non-co-constructed, self-repetition, repetition in the same scene	
blood	vessels	3	0.33557	1.699665	5.740968	N	co-constructed, self-repetition, repetition in the same scene	
family	history	2	0.223714	1.387771	5.740968	N	Non-co-constructed	
healthy	long	2	0.223714	1.387771	5.740968	Y	co-constructed repetition, repetition in the same scene	1 blood stream go? Everywhere. As long as it 's healthy the immune system
pretty	sue	2	0.223714	1.387771	5.740968	Y	co-constructed repetition, repetition in the same scene	knows how to con. I should sue you! I 'm pretty sure you ca n't sue somebody,
ago	office	2	0.223714	1.384832	5.588964	Y	co-constructed repetition, repetition in the same scene	I was expecting you in my office 20 minutes ago. Really? Well, that 's odd, bec
any	pets	2	0.223714	1.384832	5.588964	N	co-constructed repetition, repetition in the same scene	
became	patients	2	0.223714	1.384832	5.588964	N	co-constructed repetition, repetition in the same scene	
could	married	2	0.223714	1.384832	5.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	and you defied it. That 's why I hired you. You could have married rich, could h
could	model	2	0.223714	1.384832	5.588964	N	Non-co-constructed, self-repetition, repetition in the same scene	
could	rich	2	0.223714	1.384832	5.588964	N	Non-co-constructed, self-repetition, repetition in the same scene	
first	year	3	0.33557	1.696066	5.588964	N	co-constructed repetition, repetition in the same scene	
help	little	2	0.223714	1.384832	5.588964	N	Non-co-constructed	
living	never	2	0.223714	1.384832	5.588964	N	Non-co-constructed	
minutes	office	2	0.223714	1.384832	5.588964	N	co-constructed repetition, repetition in the same scene	
mistakes	when	2	0.223714	1.384832	5.588964	Y	co-constructed repetition, repetition across scenes	Because I 'm a doctor. Because when we make mistakes people die. Come o
want	treatments	2	0.223714	1.384832	5.588964	N	Non-co-constructed, self-repetition, repetition in the same scene	
doctors	makes	2	0.223714	1.383363	5.518575	Y	co-constructed repetition, repetition across scenes	N

doctors	most	2	0.223714	1.383363	5.518575	Y	co-constructed repetition, repetition in the same scene	N	
high	school	2	0.223714	1.383363	5.518575	N	Non-co-constructed	N	
sure	sue	2	0.223714	1.383363	5.518575	Y	co-constructed repetition, repetition in the same scene	N	
die	mistakes	2	0.223714	1.381894	5.451461	Y	co-constructed repetition, repetition across scenes	N	
else	something	2	0.223714	1.381894	5.451461	N	Non-co-constructed	N	
make	mistakes	2	0.223714	1.381894	5.451461	Y	co-constructed repetition, repetition across scenes	N	
more	often	2	0.223714	1.381894	5.451461	N	co-constructed repetition, repetition across scenes	N	
basement	out	2	0.223714	1.378956	5.32593	Y	co-constructed repetition, repetition across scenes	N	
fast	too	2	0.223714	1.688869	5.32593	N	Non-co-constructed	N	
Meth	out	2	0.223714	1.378956	5.32593	Y	co-constructed repetition, repetition in the same scene	N	
out	running	2	0.223714	1.378956	5.32593	Y	co-constructed repetition, repetition in the same scene	N	
tell	weekend	2	0.223714	1.378956	5.32593	N	Non-co-constructed	N	
ago	minutes	2	0.223714	1.377487	5.267036	Y	co-constructed repetition, repetition in the same scene	N	
first	medical	2	0.223714	1.377487	5.267036	Y	co-constructed repetition, repetition in the same scene	N	
know	certain	2	0.223714	1.377487	5.267036	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	the hospital has certain rules, and as you also know we tend to ignore them, b
know	rules	2	0.223714	1.377487	5.267036	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
old	contrast	2	0.223714	1.377487	5.267036	N	Non-co-constructed	N	
x-ray	contrast	2	0.223714	1.377487	5.267036	N	co-constructed repetition, repetition in the same scene	N	
x-ray	leg	2	0.223714	1.684072	5.173927	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
patients	treat	4	0.447427	1.943906	5.156005	Y	co-constructed repetition, repetition in the same scene	N	
as	healthy	2	0.223714	1.374549	5.156005	N	Non-co-constructed	N	
blood	Inflammation	2	0.223714	1.374549	5.156005	N	co-constructed repetition, repetition in the same scene	N	
name	Rebecca	2	0.223714	1.37308	5.103538	N	Non-co-constructed	N	
nothing	scan	3	0.33557	1.681673	5.103538	Y	co-constructed repetition, repetition in the same scene	N	
pretty	sure	2	0.223714	1.370142	5.004002	N	Non-co-constructed	N	
break	When	2	0.223714	1.370142	5.004002	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
Knows	when	2	0.223714	1.370142	5.004002	Y	co-constructed repetition, repetition in the same scene	N	
medical	year	2	0.223714	1.370142	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	
need	smell	2	0.223714	1.370142	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	smell it? No, I'm smelling for mold. I do n't need to smell it. You can smell ou
no	imaging	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	my authorization. Yes, why are you yelling? No MRIs, no imaging studies, no l
no	labs	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
no	MRIs	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
no	studies	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
x-ray	year	2	0.223714	1.370142	5.004002	Y	Non-co-constructed	N	
did	grades	2	0.223714	1.367204	4.910893	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
home	sick	2	0.223714	1.367204	4.910893	N	Non-co-constructed	N	
mistakes	people	2	0.223714	1.367204	4.910893	N	co-constructed repetition, repetition across scenes	N	
die	dignity	2	0.223714	1.365735	4.866498	Y	co-constructed repetition, repetition in the same scene	Y	scared, you 'll turn into me. I just want to die with a little dignity. There 's no :
die	watch	2	0.223714	1.365735	4.866498	Y	co-constructed repetition, repetition in the same scene	Y	watch her die? Yeah, we 're gonna watch her die. Specifically we 're gonna wa
Get	picture	2	0.223714	1.365735	4.866498	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	her throat. Ca n't get a picture, gonna have to get a thousand words. You actu
first	school	2	0.223714	1.362797	4.78161	Y	co-constructed repetition, repetition in the same scene	N	
as	beautiful	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	do not go to medical school. Unless they 're as damaged as they are beautiful.
as	damaged	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
as	long	6	0.671141	2.357888	4.740968	Y	co-constructed repetition, repetition in the same scene	N	
as	Unless	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
break	into	2	0.223714	1.361327	4.740968	N	Non-co-constructed	N	
much	Too	2	0.223714	1.667279	4.740968	N	Non-co-constructed	N	
more	respect	2	0.223714	1.666079	4.714495	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
better	than	5	0.559284	2.354496	4.6885	N	Non-co-constructed	N	
about	concerned	2	0.223714	1.358389	4.662965	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
about	talking	2	0.223714	1.66368	4.662965	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
became	why	2	0.223714	1.358389	4.662965	Y	co-constructed repetition, repetition in the same scene	N	

gonna	watch	3	0.33557	1.66368	4.662965	Y	co-constructed repetition, repetition in the same scene	N
Brain	vessels	2	0.223714	1.35692	4.62549	N	Non-co-constructed	N
any	class	2	0.223714	1.355451	4.588964	Y	co-constructed repetition, repetition in the same scene	N
happens	when	2	0.223714	1.355451	4.588964	N	Non-co-constructed	
into	someone	3	0.33557	1.660082	4.588964	N	Non-co-constructed	
respect	than	2	0.223714	1.355451	4.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	N
different	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed, self-repetition, repetition in the same scene	
explain	Nothing	2	0.223714	1.352513	4.518575	N	co-constructed repetition, repetition in the same scene	
grow	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed	
lie	us	2	0.223714	1.352513	4.518575	N	Non-co-constructed	
school	year	2	0.223714	1.352513	4.518575	Y	co-constructed repetition, repetition in the same scene	N
screwed	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed	
stand	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed	
should	trust	2	0.223714	1.654085	4.473487	N	Non-co-constructed, self-repetition, repetition in the same scene	N
happens	more	2	0.223714	1.349575	4.451461	N	co-constructed repetition, repetition in the same scene	
anything	mean	2	0.223714	1.348106	4.419039	N	Non-co-constructed	
How	many	2	0.223714	1.348106	4.419039	N	Non-co-constructed	
no	toxins	2	0.223714	1.348106	4.419039	N	Non-co-constructed, self-repetition, repetition in the same scene	
x-ray	x	3	0.33557	1.90651	4.419039	N	Non-co-constructed, self-repetition, repetition in the same scene	
doctors	patients	3	0.33557	1.648087	4.366572	Y	co-constructed repetition, repetition in the same scene	N
fire	still	2	0.223714	1.343699	4.32593	N	Non-co-constructed, self-repetition, repetition in the same scene	
lab	out	2	0.223714	1.343699	4.32593	Y	co-constructed repetition, repetition across scenes	N
very	wrong	2	0.223714	1.343699	4.32593	N	co-constructed repetition, repetition in the same scene	
know	Meth	2	0.223714	1.340761	4.267036	Y	co-constructed repetition, repetition across scenes	N
know	running	2	0.223714	1.340761	4.267036	Y	co-constructed repetition, repetition across scenes	N
patients	treating	2	0.223714	1.340761	4.267036	N	co-constructed repetition, repetition in the same scene	N
Sometime:	when	2	0.223714	1.340761	4.267036	N	Non-co-constructed, self-repetition, repetition in the same scene	
break	house	2	0.223714	1.334884	4.156005	N	Non-co-constructed, self-repetition, repetition in the same scene	
every	one	2	0.223714	1.331946	4.103538	N	Non-co-constructed	
school	thing	2	0.223714	1.331946	4.103538	N	Non-co-constructed	
tell	us	2	0.223714	1.331946	4.103538	N	co-constructed repetition, repetition in the same scene	
ever	gonna	2	0.223714	1.330477	4.078003	N	Non-co-constructed	
something	wrong	2	0.223714	1.626496	4.036423	N	co-constructed repetition, repetition in the same scene	
fast	how	2	0.223714	1.32607	4.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N
feel	little	2	0.223714	1.32607	4.004002	N	Non-co-constructed	
give	steroids	2	0.223714	1.32607	4.004002	N	Non-co-constructed	
him	thank	2	0.223714	1.32607	4.004002	N	Non-co-constructed	
like	look	3	0.33557	1.6181	3.925999	N	Non-co-constructed	
treating	why	3	0.33557	1.6181	3.925999	Y	co-constructed repetition, repetition in the same scene	N
Good	guys	2	0.223714	1.320194	3.910893	N	Non-co-constructed	
Good	morning	2	0.223714	1.320194	3.910893	N	Non-co-constructed	
Brain	leg	2	0.223714	1.318725	3.888525	N	Non-co-constructed	
should	thank	2	0.223714	1.318725	3.888525	N	co-constructed repetition, repetition in the same scene	
x-ray	brain	2	0.223714	1.318725	3.888525	N	Non-co-constructed, self-repetition, repetition in the same scene	
feel	make	2	0.223714	1.317256	3.866498	N	Non-co-constructed	
lie	them	2	0.223714	1.317256	3.866498	N	Non-co-constructed, self-repetition, repetition in the same scene	
something	very	2	0.223714	1.317256	3.866498	N	Non-co-constructed, self-repetition, repetition in the same scene	
any	other	2	0.223714	1.311379	3.78161	N	Non-co-constructed	
do	pleasant	2	0.223714	1.311379	3.78161	N	Non-co-constructed	
first	one	2	0.223714	1.311379	3.78161	N	co-constructed repetition, repetition in the same scene	
nothing	symptoms	2	0.223714	1.311379	3.78161	N	co-constructed repetition, repetition in the same scene	
nothing	these	2	0.223714	1.311379	3.78161	N	co-constructed repetition, repetition in the same scene	

as	same	2	0.223714	1.308441	3.740968	N	Non-co-constructed
any	more	2	0.223714	1.600108	3.714495	N	co-constructed repetition, repetition in the same scene
care	see	2	0.223714	1.304034	3.682074	N	co-constructed repetition, repetition in the same scene
about	new	2	0.223714	1.302565	3.662965	N	Non-co-constructed
could	Lab	2	0.223714	1.296689	3.589864	N	Non-co-constructed
better	Much	2	0.223714	1.290813	3.518575	N	Non-co-constructed
morning	up	2	0.223714	1.290813	3.518575	N	Non-co-constructed
does	mean	2	0.223714	1.289344	3.501502	N	Non-co-constructed, self-repetition, repetition in the same scene
more	than	2	0.223714	1.284936	3.451461	N	Non-co-constructed
something	than	2	0.223714	1.284936	3.451461	N	Non-co-constructed, self-repetition, repetition in the same scene
House	someone	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene
no	medication	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene
reason	think	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene
about	care	2	0.223714	1.274653	3.341037	N	Non-co-constructed
like	MRI	2	0.223714	1.274653	3.341037	N	Non-co-constructed
always	want	5	0.559284	2.013081	3.32593	N	Non-co-constructed
Come	here	2	0.223714	1.273184	3.32593	N	Non-co-constructed
go	where	2	0.223714	1.273184	3.32593	N	Non-co-constructed
him	wrong	2	0.223714	1.273184	3.32593	N	co-constructed repetition, repetition in the same scene
home	into	2	0.223714	1.273184	3.32593	N	Non-co-constructed
into	Oh	2	0.223714	1.273184	3.32593	N	Non-co-constructed
better	school	2	0.223714	1.270246	3.296183	N	Non-co-constructed, self-repetition, repetition in the same scene
ago	my	2	0.223714	1.267308	3.267036	N	Non-co-constructed
any	never	2	0.223714	1.267308	3.267036	N	Non-co-constructed
reputation	your	2	0.223714	1.267308	3.267036	N	Non-co-constructed, self-repetition, repetition in the same scene
wife	Your	3	0.33557	1.552129	3.267036	N	Non-co-constructed, self-repetition, repetition in the same scene
did	tell	4	0.447427	1.998215	3.232821	N	co-constructed repetition, repetition in the same scene
as	hospital	2	0.223714	1.255555	3.156005	N	Non-co-constructed, self-repetition, repetition in the same scene
as	work	2	0.223714	1.255555	3.156005	N	Non-co-constructed, self-repetition, repetition in the same scene
die	when	2	0.223714	1.252617	3.129533	Y	Non-co-constructed repetition, repetition across scene	N
make	when	2	0.223714	1.252617	3.129533	Y	Non-co-constructed repetition, repetition across scene	N
any	does	2	0.223714	1.528139	3.086464	N	Non-co-constructed, self-repetition, repetition in the same scene
Brain	blood	2	0.223714	1.242334	3.040528	N	Non-co-constructed
die	make	2	0.223714	1.236457	2.992029	Y	Non-co-constructed repetition, repetition across scene	N
does	more	2	0.223714	1.507748	2.948961	N	Non-co-constructed, self-repetition, repetition in the same scene
like	patients	3	0.33557	1.504149	2.925999	N	Non-co-constructed
did	find	2	0.223714	1.226174	2.910893	N	Non-co-constructed, self-repetition, repetition in the same scene
about	medicine	2	0.223714	1.218829	2.85561	Y	co-constructed repetition, repetition in the same scene
doctors	why	2	0.223714	1.218829	2.85561	Y	Non-co-constructed repetition, repetition in the same scene	N
any	want	2	0.223714	1.492155	2.851999	N	Non-co-constructed, self-repetition, repetition in the same scene
no	such	2	0.223714	1.215891	2.834077	N	Non-co-constructed
so	ya	2	0.223714	1.215891	2.834077	N	Non-co-constructed
die	gonna	3	0.33557	1.481359	2.788496	Y	co-constructed repetition, repetition in the same scene	N
could	made	2	0.223714	1.208545	2.78161	N	Non-co-constructed
do	healthy	3	0.33557	1.48016	2.78161	N	Non-co-constructed
do	last	2	0.223714	1.208545	2.78161	N	Non-co-constructed
job	your	5	0.559284	1.910878	2.78161	N	Non-co-constructed repetition, repetition across scene
as	still	2	0.223714	1.202669	2.740968	N	Non-co-constructed
House	into	3	0.33557	1.472963	2.740968	N	Non-co-constructed
more	want	2	0.223714	1.468165	2.714495	N	Non-co-constructed, self-repetition, repetition in the same scene
Get	now	4	0.447427	1.691482	2.696573	N	Non-co-constructed
did	us	3	0.33557	1.463367	2.6885	N	co-constructed repetition, repetition in the same scene

affair	Your	2	0.223714	1.193855	2.682074	N		Non-co-constructed, self-repetition, repetition in the same scene
ass	your	2	0.223714	1.193855	2.682074	N		Non-co-constructed
How	when	2	0.223714	1.193855	2.682074	N		Non-co-constructed
part	your	2	0.223714	1.193855	2.682074	N		Non-co-constructed
think	way	2	0.223714	1.193855	2.682074	N		Non-co-constructed
think	ya	2	0.223714	1.193855	2.682074	N		Non-co-constructed
about	treatment	2	0.223714	1.190917	2.662965	N		Non-co-constructed, self-repetition, repetition in the same scene
gonna	treatment	2	0.223714	1.190917	2.662965	N		Non-co-constructed
him	should	2	0.223714	1.18504	2.62549	Y		Non-co-constructed
People	when	2	0.223714	1.179164	2.588964	Y	N	Non-co-constructed repetition, repetition across scene
feel	so	2	0.223714	1.176226	2.571043	N		Non-co-constructed
much	so	2	0.223714	1.176226	2.571043	N		Non-co-constructed
contrast	Get	2	0.223714	1.171819	2.54457	N		Non-co-constructed
Get	MRI	2	0.223714	1.171819	2.54457	N		Non-co-constructed
did	than	2	0.223714	1.424984	2.495855	N		Non-co-constructed, self-repetition, repetition in the same scene
care	Do	4	0.447427	1.636427	2.459681	N		Non-co-constructed
cousin	your	4	0.447427	1.636427	2.459681	N		Non-co-constructed
even	know	2	0.223714	1.157128	2.459681	N		Non-co-constructed
die	people	2	0.223714	1.155659	2.451461	Y	N	Non-co-constructed repetition, repetition across scene
make	people	2	0.223714	1.155659	2.451461	Y	N	Non-co-constructed repetition, repetition across scene
always	How	2	0.223714	1.149783	2.419039	N		Non-co-constructed
does	make	2	0.223714	1.1395	2.363998	N		Non-co-constructed
patients	why	2	0.223714	1.135092	2.341037	Y	N	co-constructed repetition, repetition in the same scene
steroids	Why	2	0.223714	1.135092	2.341037	N		Non-co-constructed
doctor	good	2	0.223714	1.132154	2.32593	N		Non-co-constructed
do	job	5	0.559284	1.780802	2.296183	N		Non-co-constructed, self-repetition, repetition in the same scene
always	get	4	0.447427	1.588643	2.281536	N		Non-co-constructed, self-repetition, repetition in the same scene
Get	out	4	0.447427	1.588643	2.281536	N		Non-co-constructed
clinic	your	2	0.223714	1.120402	2.267036	N		Non-co-constructed
friend	your	2	0.223714	1.120402	2.267036	N		Non-co-constructed
office	your	2	0.223714	1.120402	2.267036	N		Non-co-constructed
patients	want	2	0.223714	1.120402	2.267036	N		Non-co-constructed
do	smell	2	0.223714	1.105711	2.196647	Y	N	co-constructed repetition, repetition in the same scene
always	right	2	0.223714	1.096897	2.156005	N		Non-co-constructed
die	want	2	0.223714	1.091021	2.129533	N		Non-co-constructed
Get	little	3	0.33557	1.336222	2.129533	N		Non-co-constructed
my	patient	2	0.223714	1.091021	2.129533	N		Non-co-constructed
patient	want	2	0.223714	1.091021	2.129533	N		Non-co-constructed
better	got	2	0.223714	1.085145	2.103538	N		Non-co-constructed
did	guy	2	0.223714	1.085145	2.103538	N		Non-co-constructed
got	one	2	0.223714	1.085145	2.103538	N		Non-co-constructed
People	up	3	0.33557	1.329025	2.103538	N		Non-co-constructed, self-repetition, repetition in the same scene
How	see	2	0.223714	1.083675	2.097111	N		Non-co-constructed
old	no	2	0.223714	1.083675	2.097111	N		Non-co-constructed
x-ray	no	2	0.223714	1.083675	2.097111	N		Non-co-constructed
does	want	2	0.223714	1.324227	2.086464	N		Non-co-constructed, self-repetition, repetition in the same scene
about	doctor	2	0.223714	1.079268	2.078003	N		Non-co-constructed
even	get	2	0.223714	1.074861	2.059143	N		Non-co-constructed
x-ray	do	3	0.33557	1.312232	2.044644	N		Non-co-constructed, self-repetition, repetition in the same scene
right	should	2	0.223714	1.070454	2.040528	N		Non-co-constructed, self-repetition, repetition in the same scene
right	x	2	0.223714	1.070454	2.040528	N		Non-co-constructed, self-repetition, repetition in the same scene
want	out	2	0.223714	1.06164	2.004002	N		Non-co-constructed

now	So	2	0.223714	1.057732	1.98608	N	Non-co-constructed
having	Your	2	0.223714	1.046949	1.945108	N	Non-co-constructed, self-repetition, repetition in the same scene
know	need	2	0.223714	1.046949	1.945108	N	Non-co-constructed
leg	your	2	0.223714	1.038135	1.910893	N	Non-co-constructed
did	maybe	2	0.223714	1.038135	1.910893	N	Non-co-constructed
did	said	2	0.223714	1.023444	1.85561	N	Non-co-constructed
about	nothing	2	0.223714	1.010223	1.807605	N	Non-co-constructed
know	Yeah	3	0.33557	1.228269	1.78161	N	Non-co-constructed
could	up	2	0.223714	0.977903	1.696573	N	Non-co-constructed
Get	some	2	0.223714	1.194683	1.6885	N	Non-co-constructed, self-repetition, repetition in the same scene
better	did	3	0.33557	1.192284	1.682074	N	Non-co-constructed, self-repetition, repetition in the same scene
as	know	2	0.223714	0.973496	1.682074	N	Non-co-constructed
case	your	2	0.223714	0.973496	1.682074	N	Non-co-constructed
family	your	2	0.223714	0.973496	1.682074	N	Non-co-constructed
know	out	2	0.223714	0.973496	1.682074	N	Non-co-constructed
think	tumor	2	0.223714	0.964682	1.653505	N	Non-co-constructed
does	House	2	0.223714	1.177891	1.644106	N	Non-co-constructed
better	get	2	0.223714	0.944115	1.588964	N	co-constructed repetition, repetition in the same scene
did	never	2	0.223714	0.939708	1.575502	N	Non-co-constructed
does	like	4	0.447427	1.314404	1.54457	N	Non-co-constructed, self-repetition, repetition in the same scene
Get	want	2	0.223714	0.929424	1.54457	N	Non-co-constructed
them	think	3	0.33557	1.13231	1.530071	N	Non-co-constructed
little	your	4	0.447427	1.298823	1.512149	N	Non-co-constructed, self-repetition, repetition in the same scene
no	see	4	0.447427	1.272853	1.459681	N	Non-co-constructed
do	need	2	0.223714	0.900043	1.459681	N	Non-co-constructed
made	way	2	0.223714	0.900043	1.459681	N	Non-co-constructed
no	your	2	0.223714	0.885353	1.419039	N	Non-co-constructed
better	thing	2	0.223714	0.858909	1.34865	N	Non-co-constructed
about	So	3	0.33557	1.048347	1.341037	N	Non-co-constructed
did	think	2	0.223714	0.850095	1.32593	N	Non-co-constructed
do	him	3	0.33557	1.200138	1.322178	N	Non-co-constructed
should	something	2	0.223714	0.841281	1.303562	N	Non-co-constructed
like	think	2	0.223714	0.828059	1.270648	N	Non-co-constructed
back	up	2	0.223714	0.82659	1.267036	N	Non-co-constructed
How	your	2	0.223714	0.819245	1.249114	N	Non-co-constructed
gonna	So	2	0.223714	0.979976	1.203533	N	Non-co-constructed
anything	get	2	0.223714	0.976378	1.196647	N	Non-co-constructed
up	do	4	0.447427	1.260498	1.196647	N	Non-co-constructed
Good	Your	2	0.223714	0.77958	1.156005	N	Non-co-constructed
know	so	2	0.223714	0.753137	1.097111	N	Non-co-constructed
Get	right	2	0.223714	0.735509	1.059143	N	Non-co-constructed
do	one	3	0.33557	0.892414	1.044644	N	Non-co-constructed
did	patients	2	0.223714	0.709065	1.004002	N	Non-co-constructed
got	see	2	0.223714	0.709065	1.004002	N	Non-co-constructed
as	think	2	0.223714	0.700251	0.98608	N	Non-co-constructed, self-repetition, repetition in the same scene
do	so	2	0.223714	0.694375	0.974255	N	Non-co-constructed
did	us	2	0.223714	0.662056	0.910893	N	Non-co-constructed, self-repetition, repetition in the same scene
gonna	got	2	0.223714	0.660587	0.908078	N	Non-co-constructed
so	So	3	0.33557	0.760471	0.834077	N	Non-co-constructed
do	think	6	0.671141	0.965208	0.722716	N	Non-co-constructed
Get	right	2	0.223714	0.541593	0.696573	N	Non-co-constructed

doctor	Your	2	0.223714	0.532779	0.682074	N	Non-co-constructed
do	now	2	0.223714	0.488707	0.611685	N	co-constructed repetition, repetition in the same scene
do	so	6	0.671141	0.846465	0.611685	N	Non-co-constructed
Brain	your	2	0.223714	0.459326	0.566597	N	Non-co-constructed
should	your	2	0.223714	0.459326	0.566597	N	Non-co-constructed
do	why	4	0.447427	0.618421	0.533682	N	Non-co-constructed
any	Do	2	0.223714	0.385873	0.459681	N	Non-co-constructed
do	steroids	6	0.671141	0.668351	0.459681	N	Non-co-constructed
do	think	2	0.223714	0.385873	0.459681	N	Non-co-constructed
do	tumor	4	0.447427	0.545706	0.459681	N	Non-co-constructed
do	want	3	0.33557	0.388632	0.366572	N	Non-co-constructed
See	People	2	0.223714	0.31242	0.360146	N	Non-co-constructed
do	your	2	0.223714	0.283039	0.322178	N	Non-co-constructed
do	them	2	0.223714	0.180204	0.196647	N	Non-co-constructed
do	go	2	0.223714	0.180204	0.196647	N	Non-co-constructed
do	here	3	0.33557	0.136741	0.118644	N	Non-co-constructed
about	Do	3	0.33557	0.136741	0.118644	N	Non-co-constructed
do	gonna	2	0.223714	0.105283	0.111611	N	Non-co-constructed
Get	So	2	0.223714	0.07737	0.08117	N	Non-co-constructed
do	should	2	0.223714	0.018608	0.019109	N	Non-co-constructed
about	your	2	0.223714	0.018608	0.019109	N	Non-co-constructed
like	your	2	0.223714	-0.02546	-0.02575	N	co-constructed repetition, repetition in the same scene
do	nothing	3	0.33557	-0.03119	-0.02575	N	Non-co-constructed
do	up	2	0.223714	-0.1283	-0.12528	N	Non-co-constructed
do	How	2	0.223714	-0.1283	-0.12528	N	Non-co-constructed
Get	see	3	0.33557	-0.24709	-0.1924	N	Non-co-constructed
do	your	2	0.223714	-0.53963	-0.46632	N	Non-co-constructed
no	like	2	0.223714	-0.56902	-0.48785	N	Non-co-constructed
so	think	2	0.223714	-0.56902	-0.48785	N	Non-co-constructed
could	your	2	0.223714	-0.64247	-0.54032	N	co-constructed repetition, repetition in the same scene
do	do	5	0.559284	-1.01583	-0.54032	N	Non-co-constructed, self-repetition, repetition in the same scene
do	did	2	0.223714	-1.87648	-1.21839	N	Non-co-constructed

8.7. Expanded view for Figure 41 on p. 236

Cngrm1	Cngrm2	No.of instances	%	t-score	MI	Creative?	Reason?	1st instance?	Concordance lines
395 149 Text= 6				t-score	MI	Creative?	Reason?	1st instance?	Keywords
as	long	6	0.671141	2.357888	4.740968	Y	co-constructed repetition, repetition in the same scene	Y	flow. It 's really kinda beautiful. As long as it 's healthy, so what do we do? Call a
better	than	5	0.559284	2.354496	4.6885	N	Non-co-constructed		
always	want	5	0.559284	2.013081	3.32593	N	Non-co-constructed		
did	tell	4	0.447427	1.998215	3.232821	N	co-constructed repetition, repetition in the same scene		
old	x	2	0.223714	1.994806	8.588964	N	Non-co-constructed		
affair	having	3	0.33557	1.984418	7.004002	Y	Non-co-constructed repetition, repetition in the same scene	Y	1 have a deeper problem. Your wife is having an affair. What?! You 're ora
attack	heart	3	0.33557	1.984418	7.004002	N	Non-co-constructed		
x-ray	old	2	0.223714	1.97403	6.267036	N	Non-co-constructed		
genetic	some	3	0.33557	1.971953	6.156005	N	Non-co-constructed, self-repetition, repetition in the same scene		
old	year	4	0.447427	1.968837	6.004002	N	Non-co-constructed		
doctors	treating	3	0.33557	1.963643	5.78161	Y	co-constructed repetition, repetition in the same scene	Y	Is n't treating patients why we became doctors? No, treating illnesses is why we
medical	school	4	0.447427	1.963643	5.78161	Y	co-constructed repetition, repetition in the same scene	Y	"horses" not "zebras". Are you in first year of medical school? No. First of all, th
as	healthy	4	0.447427	1.943906	5.156005	N	co-constructed repetition, repetition in the same scene	N	
job	your	5	0.559284	1.910878	2.78161	N	Non-co-constructed repetition, repetition across scene		
x-ray	x	3	0.33557	1.90651	4.419039	N	Non-co-constructed, self-repetition, repetition in the same scene		
do	job	5	0.559284	1.780802	2.296183	N	Non-co-constructed, self-repetition, repetition in the same scene		
genetic	gift	2	0.223714	1.724854	7.910893	N	co-constructed repetition, repetition in the same scene		
became	treating	2	0.223714	1.720056	7.173927	Y	co-constructed repetition, repetition in the same scene	N	
Yeah	damn	3	0.33557	1.718857	7.036423	N	Non-co-constructed, self-repetition		
explain	symptoms	3	0.33557	1.714059	6.588964	Y	co-constructed repetition, repetition in the same scene	Y	underwear drawer. You said nothing that would explain these symptoms. What
explain	these	3	0.33557	1.714059	6.588964	N	co-constructed repetition, repetition in the same scene	N	
gift	some	2	0.223714	1.71046	6.32593	N	Non-co-constructed, repetition in the same scene		
pork	Where	2	0.223714	1.703263	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	You found ham. So? Where there 's ham there 's pork, where there 's pork ther
contrast	MRI	3	0.33557	1.702064	5.851999	N	Non-co-constructed		
symptoms	these	3	0.33557	1.702064	5.851999	N	co-constructed repetition, repetition in the same scene		
blood	vessels	3	0.33557	1.699665	5.740968	N	co-constructed, self-repetition, repetition in the same scene		
first	year	3	0.33557	1.696066	5.588964	N	co-constructed repetition, repetition in the same scene		
Get	now	4	0.447427	1.691482	2.696573	N	Non-co-constructed		
fast	too	2	0.223714	1.688869	5.32593	N	Non-co-constructed		
patients	treat	2	0.223714	1.684072	5.173927	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
pretty	sure	3	0.33557	1.681673	5.103538	Y	co-constructed repetition, repetition in the same scene	Y	knows how to con. I should sue you I 'm pretty sure you ca n't sue somebody f
no	imaging	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	are you yelling? No MRIs, no imaging studies, no labs. You also ca n't make lon
no	labs	3	0.33557	1.678074	5.004002	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
no	MRIs	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
no	studies	3	0.33557	1.678074	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
much	Too	2	0.223714	1.667279	4.740968	N	Non-co-constructed		
more	respect	2	0.223714	1.666079	4.714495	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	break-ins? Am I supposed to respect their food more than I respect their DVD p
about	talking	2	0.223714	1.66368	4.662965	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
gonna	watch	3	0.33557	1.66368	4.662965	Y	co-constructed repetition, repetition in the same scene	Y	So we 're just gonna do nothing? We 're just gonna watch her die? Yeah, we 're
into	someone	3	0.33557	1.660082	4.588964	N	Non-co-constructed		
should	trust	2	0.223714	1.654085	4.473487	N	Non-co-constructed, self-repetition, repetition in the same scene		
doctors	patients	3	0.33557	1.648087	4.366572	Y	co-constructed repetition, repetition in the same scene	N	
care	Do	4	0.447427	1.636427	2.459681	N	Non-co-constructed		
cousin	your	4	0.447427	1.636427	2.459681	N	Non-co-constructed		
something	wrong	2	0.223714	1.626496	4.036423	N	co-constructed repetition, repetition in the same scene		
like	look	3	0.33557	1.6181	3.925999	N	Non-co-constructed		
treating	why	3	0.33557	1.6181	3.925999	Y	co-constructed repetition, repetition in the same scene	N	
any	more	2	0.223714	1.600108	3.714495	N	co-constructed repetition, repetition in the same scene		
always	get	4	0.447427	1.588643	2.281536	N	Non-co-constructed, self-repetition, repetition in the same scene		
Get	out	4	0.447427	1.588643	2.281536	N	Non-co-constructed		
wife	Your	3	0.33557	1.552129	3.267036	N	Non-co-constructed, self-repetition, repetition in the same scene		

any	does	2	0.223714	1.528139	3.086464	N	Non-co-constructed, self-repetition, repetition in the same scene		
does	more	2	0.223714	1.507748	2.948961	N	Non-co-constructed, self-repetition, repetition in the same scene		
like	patients	3	0.33557	1.504149	2.925999	N	Non-co-constructed		
any	want	2	0.223714	1.492155	2.851999	N	Non-co-constructed, self-repetition, repetition in the same scene		
die	gonna	3	0.33557	1.481359	2.788496	Y	co-constructed repetition, repetition in the same scene	N	
do	healthy	3	0.33557	1.48016	2.78161	N	Non-co-constructed		
House	into	3	0.33557	1.472963	2.740968	N	Non-co-constructed		
more	want	2	0.223714	1.468165	2.714495	N	Non-co-constructed, self-repetition, repetition in the same scene		
did	us	3	0.33557	1.463367	2.6885	N	co-constructed repetition, repetition in the same scene		
did	than	2	0.223714	1.424984	2.495855	N	Non-co-constructed, self-repetition, repetition in the same scene		
danger	against	2	0.223714	1.411275	8.910893	Y	Non-co-constructed repetition, repetition in the same scene	Y	She probably weighed that danger against the danger of not breathing. Oxyge
danger	weighed	2	0.223714	1.411275	8.910893	Y	Non-co-constructed repetition, repetition in the same scene	N	
gift	beauty	2	0.223714	1.411275	8.910893	N	Non-co-constructed repetition, repetition in the same scene		
genetic	beauty	2	0.223714	1.409806	8.32593	N	Non-co-constructed repetition, repetition in the same scene		
Knows	conned	2	0.223714	1.409806	8.32593	Y	Non-co-constructed repetition, repetition in the same scene	Y	somebody around here with street smarts. Ok? Knows when they 're being
basement	Meth	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	Y	know she could be running a meth lab out of her basement. I 'm tired a lot. A
change	dollar	2	0.223714	1.408337	7.910893	Y	Non-co-constructed repetition, repetition across scenes	Y	a patient. He says he needs a refill. Got change for a dollar? No, you ca n't al
crime	scene	2	0.223714	1.408337	7.910893	N	co-constructed repetition		
highly	unlikely	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition in the same scene	Y	unlikely. She 's 29. Whatever she 's got is highly unlikely. Protein markers
Jagger	philosopher	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	Y	Oh, I looked into that philosopher you quoted, Jagger, and you 're right, "You ca
mental	status	2	0.223714	1.408337	7.910893	N	Non-co-constructed		
Meth	running	2	0.223714	1.408337	7.910893	Y	co-constructed repetition, repetition across scenes	N	
treat	letting	2	0.223714	1.408337	7.910893	N	Non-co-constructed, self-repetition		
old	regular	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
old	technology	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
respect	food	2	0.223714	1.406868	7.588964	Y	Non-co-constructed repetition, repetition in the same scene	N	
treating	illnesses	2	0.223714	1.406868	7.588964	Y	co-constructed repetition, repetition in the same scene	N	
x-ray	regular	2	0.223714	1.406868	7.588964	N	Non-co-constructed		
allergic	gadolinium	2	0.223714	1.405399	7.32593	N	Non-co-constructed, repetition across scenes		
ask	key	2	0.223714	1.405399	7.32593	Y	co-constructed repetition, repetition across scenes	Y	I can go up to her room tomorrow morning and ask her for the key. Would the
during	Oxygen	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
Exam	room	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
immune	system	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
neurologic	problems	2	0.223714	1.405399	7.32593	N	Non-co-constructed		
basement	Lab	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
class	pets	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition in the same scene	Y	You said you did n't have any pets in this class. A parrot is a bird. Parrots are t
happens	often	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition in the same scene	N	
lab	Meth	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
lab	running	2	0.223714	1.402461	6.910893	Y	co-constructed repetition, repetition across scenes	N	
than	grades	2	0.223714	1.402461	6.910893	N	Non-co-constructed, self-repetition		
thing	bigger	2	0.223714	1.402461	6.910893	Y	Non-co-constructed repetition, repetition in the same scene	Y	bored. It 's a lesion. And the big green thing in the middle of the bigger blue tt
thing	middle	2	0.223714	1.402461	6.910893	Y	Non-co-constructed repetition, repetition in the same scene	N	
affair	wife	2	0.223714	1.400992	6.740968	N	Non-co-constructed, repetition in the same scene	N	
inflammati	vessels	2	0.223714	1.400992	6.740968	N	Non-co-constructed, duplicate		
juvenile	record	2	0.223714	1.400992	6.740968	Y	co-constructed repetition, repetition in the same scene	Y	see a black guy. I just saw a doctor…with a juvenile record. I hired Chase 'cause
some	beauty	2	0.223714	1.400992	6.740968	N	Non-co-constructed, repetition in the same scene		
Too	Figures	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
Too	painful	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
Too	short	2	0.223714	1.400992	6.740968	N	Non-co-constructed, self-repetition		
any	treatments	2	0.223714	1.399523	6.588964	N	Non-co-constructed, self-repetition		
definition	kinda	2	0.223714	1.399523	6.588964	Y	co-constructed repetition, repetition in the same scene	Y	kinda the definition is n't it? It 's kinda the definition of getting older. I had a co
female	old	2	0.223714	1.399523	6.588964	N	Non-co-constructed, self-repetition		
patients	letting	2	0.223714	1.399523	6.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	you need." So, because you want me to treat patients, you are n't letting me t

more	treatments	2	0.2237140	1.398054	1.398054	6.451461	N	Non-co-constructed, self-repetition		
Yeah	idea	2	0.2237140	1.398054	1.398054	6.451461	N	Non-co-constructed, self-repetition		
always	ugly	2	0.2237140	1.396585	1.396585	6.32593	N	Non-co-constructed, self-repetition		
Am	supposed	2	0.2237140	1.396585	1.396585	6.32593	N	Non-co-constructed, self-repetition		
case	typical	2	0.2237140	1.396585	1.396585	6.32593	N	Non-co-constructed repetition, repetition in the same scene		
female	year	2	0.2237140	1.396585	1.396585	6.32593	N	Non-co-constructed, self-repetition		
became	doctors	2	0.2237140	1.393647	1.393647	6.103538	Y	co-constructed repetition, repetition in the same scene	N	
black	guy	2	0.2237140	1.393647	1.393647	6.103538	Y	co-constructed repetition, repetition in the same scene	N	
Other	things	2	0.2237140	1.393647	1.393647	6.103538	N	Non-co-constructed		
break	someone	2	0.2237140	1.392178	1.392178	6.004002	N	Non-co-constructed		
Everybody	**lies**	**2**	**0.2237140**	**1.392178**	**1.392178**	**6.004002**	**Y**	**co-constructed repetition, repetition across scenes**	**Y**	You do n't know? As Dr. House likes to say, "Everybody lies." It 's not what pec
having	wife	2	0.2237140	1.392178	1.392178	6.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
pills	Two	2	0.2237140	1.392178	1.392178	6.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
bus	missed	2	0.2237140	1.390709	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene		
danger	probably	2	0.2237140	1.390709	1.390709	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
day	every	2	0.2237140	1.390709	1.390709	5.910893	N	Non-co-constructed		
found	ham	2	0.2237140	1.390709	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene		
friend	new	2	0.2237140	1.390709	1.390709	5.910893	N	co-constructed repetition, repetition in the same scene		
People	**corollary**	**2**	**0.2237140**	**1.390709**	**1.390709**	**5.910893**	**Y**	**Non-co-constructed, self-repetition, repetition in the same scene**	**Y**	up the blood test. I assume it 's a corollary if people lie, that people screw up. R
People	screw	2	0.2237140	1.390709	1.390709	5.910893	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
seen	worm	2	0.2237140	1.390709	1.390709	5.910893	N	Non-co-constructed, self-repetition, repetition in the same scene		
does	treatments	2	0.2237140	1.38924	1.38924	5.82343	N	Non-co-constructed, self-repetition, repetition in the same scene		
as	certain	2	0.2237140	1.387771	1.387771	5.740968	N	Non-co-constructed		
as	embarrassed	2	0.2237140	1.387771	1.387771	5.740968	N	Non-co-constructed		
blood	stream	2	0.2237140	1.387771	1.387771	5.740968	N	Non-co-constructed, self-repetition, repetition in the same scene		
family	history	2	0.2237140	1.387771	1.387771	5.740968	N	Non-co-constructed		
healthy	long	2	0.2237140	1.387771	1.387771	5.740968	Y	co-constructed repetition, repetition in the same scene	N	
pretty	sue	2	0.2237140	1.387771	1.387771	5.740968	Y	co-constructed repetition, repetition in the same scene	N	
ago	**office**	**2**	**0.2237140**	**1.384832**	**1.384832**	**5.588964**	**Y**	**co-constructed repetition, repetition in the same scene**	**Y**	I was expecting you in my office 20 minutes ago. Really? Well, that 's odd, bec
any	pets	2	0.2237140	1.384832	1.384832	5.588964	Y	co-constructed repetition, repetition in the same scene	N	
became	patients	2	0.2237140	1.384832	1.384832	5.588964	Y	co-constructed repetition, repetition in the same scene	N	
could	**married**	**2**	**0.2237140**	**1.384832**	**1.384832**	**5.588964**	**Y**	**Non-co-constructed, self-repetition, repetition in the same scene**	**Y**	's why I hired you. You could have married rich, could have been a model, you c
could	model	2	0.2237140	1.384832	1.384832	5.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
help	rich	2	0.2237140	1.384832	1.384832	5.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
living	little	2	0.2237140	1.384832	1.384832	5.588964	N	Non-co-constructed		
minutes	never	2	0.2237140	1.384832	1.384832	5.588964	N	Non-co-constructed		
minutes	office	2	0.2237140	1.384832	1.384832	5.588964	N	co-constructed repetition, repetition in the same scene	N	
mistakes	**when**	**2**	**0.2237140**	**1.384832**	**1.384832**	**5.588964**	**Y**	**co-constructed repetition, repetition across scenes**	**Y**	Because I 'm a doctor. Because when we make mistakes people die. Come or
want	treatments	2	0.2237140	1.384832	1.384832	5.588964	N	Non-co-constructed, self-repetition, repetition in the same scene		
doctors	makes	2	0.2237140	1.383363	1.383363	5.518575	Y	co-constructed repetition, repetition across scenes	N	
doctors	most	2	0.2237140	1.383363	1.383363	5.518575	Y	co-constructed repetition, repetition in the same scene	N	
high	school	2	0.2237140	1.383363	1.383363	5.518575	N	Non-co-constructed		
sure	sue	2	0.2237140	1.383363	1.383363	5.518575	Y	co-constructed repetition, repetition in the same scene	N	
die	mistakes	2	0.2237140	1.381894	1.381894	5.451461	Y	co-constructed repetition, repetition across scenes	N	
else	something	2	0.2237140	1.381894	1.381894	5.451461	Y	Non-co-constructed	N	
make	mistakes	2	0.2237140	1.381894	1.381894	5.451461	Y	co-constructed repetition, repetition across scenes	N	
more	often	2	0.2237140	1.381894	1.381894	5.451461	N	co-constructed repetition, repetition in the same scene		
basement	out	2	0.2237140	1.378956	1.378956	5.32593	Y	co-constructed repetition, repetition across scenes	N	
Meth	out	2	0.2237140	1.378956	1.378956	5.32593	Y	co-constructed repetition, repetition across scenes	N	
out	running	2	0.2237140	1.378956	1.378956	5.32593	Y	co-constructed repetition, repetition in the same scene	N	
tell	weekend	2	0.2237140	1.378956	1.378956	5.32593	N	Non-co-constructed		
ago	minutes	2	0.2237140	1.377487	1.377487	5.267036	Y	co-constructed repetition, repetition in the same scene	N	
first	medical	2	0.2237140	1.377487	1.377487	5.267036	Y	co-constructed repetition, repetition in the same scene	N	

									Context
know	certain	2	0.223714	1.377487	5.267036	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	the hospital has certain rules, and as you also know we tend to ignore them, bu
know	rules	2	0.223714	1.377487	5.267036	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
old	contrast	2	0.223714	1.377487	5.267036	N	Non-co-constructed		
x-ray	contrast	2	0.223714	1.377487	5.267036	N	Non-co-constructed		
x-ray	leg	2	0.223714	1.374549	5.267036	N	co-constructed repetition, repetition in the same scene		
blood	Inflammation	2	0.223714	1.374549	5.156005	N	Non-co-constructed		
name	Rebecca	2	0.223714	1.37308	5.156005	N	co-constructed repetition, repetition in the same scene		
nothing	scan	2	0.223714	1.370142	5.103538	N	Non-co-constructed		
break	When	2	0.223714	1.370142	5.004002	N	Non-co-constructed		
Knows	when	2	0.223714	1.370142	5.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
medical	year	2	0.223714	1.370142	5.004002	Y	co-constructed repetition, repetition in the same scene	N	
need	smell	2	0.223714	1.370142	5.004002	Y	co-constructed repetition, repetition in the same scene	Y	smell it? No, I'm smelling for mold. I do n't need to smell it. You can smell our
x-ray	year	2	0.223714	1.370142	5.004002	Y	Non-co-constructed		
did	grades	2	0.223714	1.367204	4.910893	N	Non-co-constructed, self-repetition, repetition in the same scene		
home	sick	2	0.223714	1.367204	4.910893	N	Non-co-constructed		
mistakes	people	2	0.223714	1.367204	4.910893	Y	co-constructed repetition, repetition across scenes	N	
die	dignity	2	0.223714	1.365735	4.866498	Y	co-constructed repetition, repetition in the same scene	Y	always. You can live with dignity, we ca n't die with it. No treatment. Maybe \
die	watch	2	0.223714	1.365735	4.866498	Y	co-constructed repetition, repetition in the same scene	N	
Get	picture	2	0.223714	1.365735	4.866498	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	get someone to cut a hole in her throat. Ca n't get a picture, gonna have to get
first	school	2	0.223714	1.362797	4.78161	Y	co-constructed repetition, repetition in the same scene	N	
as	beautiful	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	Y	go to medical school. Unless they 're as damaged as they are beautiful. Were
as	damaged	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
as	Unless	2	0.223714	1.361327	4.740968	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
break	into	2	0.223714	1.361327	4.740968	N	Non-co-constructed		
about	concerned	2	0.223714	1.358389	4.662965	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
became	why	2	0.223714	1.358389	4.662965	Y	co-constructed repetition, repetition in the same scene	N	
Brain	vessels	2	0.223714	1.35692	4.62549	N	Non-co-constructed		
any	class	2	0.223714	1.355451	4.588964	Y	co-constructed repetition, repetition in the same scene	N	
happens	when	2	0.223714	1.355451	4.588964	Y	Non-co-constructed		
respect	than	2	0.223714	1.355451	4.588964	Y	Non-co-constructed, self-repetition, repetition in the same scene	N	
different	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed, self-repetition, repetition in the same scene		
explain	Nothing	2	0.223714	1.352513	4.518575	N	co-constructed repetition, repetition in the same scene		
grow	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed		
lie	us	2	0.223714	1.352513	4.518575	N	Non-co-constructed		
school	year	2	0.223714	1.352513	4.518575	Y	co-constructed repetition, repetition in the same scene	N	
screwed	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed		
stand	up	2	0.223714	1.352513	4.518575	N	Non-co-constructed		
happens	more	2	0.223714	1.349575	4.451461	N	co-constructed repetition, repetition in the same scene		
anything	mean	2	0.223714	1.348106	4.419039	N	Non-co-constructed		
How	many	2	0.223714	1.348106	4.419039	N	Non-co-constructed		
no	toxins	2	0.223714	1.348106	4.419039	N	Non-co-constructed, self-repetition, repetition in the same scene		
fire	still	2	0.223714	1.343699	4.32593	N	Non-co-constructed, self-repetition, repetition in the same scene		
lab	out	2	0.223714	1.343699	4.32593	Y	co-constructed repetition, repetition across scenes	N	
very	wrong	2	0.223714	1.343699	4.32593	N	co-constructed repetition, repetition in the same scene		
know	Meth	2	0.223714	1.340761	4.267036	Y	co-constructed repetition, repetition across scenes	N	
know	running	2	0.223714	1.340761	4.267036	Y	co-constructed repetition, repetition across scenes	N	
patients	treating	2	0.223714	1.340761	4.267036	Y	co-constructed repetition, repetition in the same scene	N	
Sometime:	when	2	0.223714	1.340761	4.267036	N	Non-co-constructed, self-repetition, repetition in the same scene	N	
Get	little	3	0.33557	1.336222	2.129533	N	Non-co-constructed		
break	house	2	0.223714	1.334884	4.156005	N	Non-co-constructed, self-repetition, repetition in the same scene		
every	one	2	0.223714	1.331946	4.103538	N	Non-co-constructed		
school	thing	2	0.223714	1.331946	4.103538	N	Non-co-constructed		
tell	us	2	0.223714	1.331946	4.103538	N	co-constructed repetition, repetition in the same scene		

ever	gonna	2	0.223714	1.330477	4.078003	N	Non-co-constructed	
People	up	3	0.33557	1.329025	2.103538	N	Non-co-constructed, self-repetition, repetition in the same scene	
fast	how	2	0.223714	1.32607	4.004002	Y	Non-co-constructed, self-repetition, repetition in the same scene	N
feel	little	2	0.223714	1.32607	4.004002	N	Non-co-constructed	
give	steroids	2	0.223714	1.32607	4.004002	N	Non-co-constructed	
him	thank	2	0.223714	1.324227	2.086464	N	Non-co-constructed, self-repetition, repetition in the same scene	
does	want	2	0.223714	1.320194	3.910893	N	Non-co-constructed	
Good	guys	2	0.223714	1.320194	3.910893	N	Non-co-constructed	
Good	morning	2	0.223714	1.318725	3.888525	N	Non-co-constructed	
Brain	leg	2	0.223714	1.318725	3.888525	N	co-constructed repetition, repetition in the same scene	
should	thank	2	0.223714	1.318725	3.888525	N	Non-co-constructed, self-repetition, repetition in the same scene	
x-ray	brain	2	0.223714	1.317256	3.866498	N	Non-co-constructed	
feel	make	2	0.223714	1.317256	3.866498	N	Non-co-constructed, self-repetition, repetition in the same scene	
lie	them	2	0.223714	1.317256	3.866498	N	Non-co-constructed, self-repetition, repetition in the same scene	
something	very	4	0.447427	1.314404	1.54457	N	Non-co-constructed, self-repetition, repetition in the same scene	
Get	want	3	0.33557	1.312232	2.044644	N	Non-co-constructed, self-repetition, repetition in the same scene	
x-ray	do	2	0.223714	1.311379	3.78161	N	Non-co-constructed	
any	other	2	0.223714	1.311379	3.78161	N	Non-co-constructed	
do	pleasant	2	0.223714	1.311379	3.78161	N	Non-co-constructed	
first	one	2	0.223714	1.311379	3.78161	N	co-constructed repetition, repetition in the same scene	
nothing	symptoms	2	0.223714	1.311379	3.78161	N	co-constructed repetition, repetition in the same scene	
nothing	these	2	0.223714	1.308441	3.740968	N	Non-co-constructed	
as	same	2	0.223714	1.304034	3.682074	N	co-constructed repetition, repetition in the same scene	
care	see	2	0.223714	1.302565	3.662965	N	Non-co-constructed	
about	new	4	0.447427	1.298823	1.512149	N	Non-co-constructed, self-repetition, repetition in the same scene	
no	see	2	0.223714	1.296689	3.588964	N	Non-co-constructed	
could	Lab	2	0.223714	1.290813	3.518575	N	Non-co-constructed	
better	Much	2	0.223714	1.290813	3.518575	N	Non-co-constructed	
morning	up	2	0.223714	1.289344	3.501502	N	Non-co-constructed, self-repetition, repetition in the same scene	
does	mean	2	0.223714	1.284936	3.451461	N	Non-co-constructed	
more	than	2	0.223714	1.284936	3.451461	N	Non-co-constructed, self-repetition, repetition in the same scene	
something	than	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene	
House	someone	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene	
no	medication	2	0.223714	1.281998	3.419039	N	Non-co-constructed, self-repetition, repetition in the same scene	
reason	think	2	0.223714	1.274653	3.341037	N	Non-co-constructed	
about	care	2	0.223714	1.274653	3.341037	N	Non-co-constructed	
like	MRI	2	0.223714	1.273184	3.32593	N	Non-co-constructed	
Come	here	2	0.223714	1.273184	3.32593	N	Non-co-constructed	
go	where	2	0.223714	1.273184	3.32593	N	co-constructed repetition, repetition in the same scene	
him	wrong	2	0.223714	1.273184	3.32593	N	Non-co-constructed	
home	into	2	0.223714	1.273184	3.32593	N	Non-co-constructed	
into	Oh	2	0.223714	1.272853	1.459681	N	Non-co-constructed	
do	need	4	0.447427	1.270246	3.296183	N	Non-co-constructed, self-repetition, repetition in the same scene	
better	school	2	0.223714	1.267308	3.267036	N	Non-co-constructed	
ago	my	2	0.223714	1.267308	3.267036	N	Non-co-constructed	
any	never	2	0.223714	1.267308	3.267036	N	Non-co-constructed	
reputation	your	2	0.223714	1.260498	1.196647	N	Non-co-constructed, self-repetition, repetition in the same scene	
up	Your	4	0.447427	1.255555	3.156005	N	Non-co-constructed, self-repetition, repetition in the same scene	
as	hospital	2	0.223714	1.255555	3.156005	N	Non-co-constructed, self-repetition, repetition in the same scene	
as	work	2	0.223714	1.252617	3.129533	Y	Non-co-constructed repetition, repetition across scene	N
die	when	2	0.223714	1.252617	3.129533	Y	Non-co-constructed repetition, repetition across scene	N
make	when	2	0.223714	1.242334	3.040528	N	Non-co-constructed	
Brain	blood							

die	make	2	0.223714	1.236457	2.992029	Y	Non-co-constructed repetition, repetition across scene	N
could	up	3	0.33557	1.228269	1.78161	N	Non-co-constructed	
did	find	2	0.223714	1.226174	2.910893	N	Non-co-constructed, self-repetition, repetition in the same scene	
about	medicine	2	0.223714	1.218829	2.85561	N	co-constructed repetition, repetition in the same scene	N
doctors	why	2	0.223714	1.218829	2.85561	Y	co-constructed repetition, repetition in the same scene	
no	such	2	0.223714	1.215891	2.834077	N	Non-co-constructed	
so	ya	2	0.223714	1.215891	2.834077	N	Non-co-constructed	
could	made	2	0.223714	1.208545	2.78161	N	Non-co-constructed	
do	last	2	0.223714	1.208545	2.78161	N	Non-co-constructed	
as	still	2	0.223714	1.202669	2.740968	N	Non-co-constructed	
do	something	3	0.33557	1.200138	1.322178	N	Non-co-constructed	
better	did	2	0.223714	1.194683	1.6885	N	Non-co-constructed, self-repetition, repetition in the same scene	
affair	Your	2	0.223714	1.193855	2.682074	N	Non-co-constructed, self-repetition, repetition in the same scene	
ass	your	2	0.223714	1.193855	2.682074	N	Non-co-constructed	
How	when	2	0.223714	1.193855	2.682074	N	Non-co-constructed	
part	your	2	0.223714	1.193855	2.682074	N	Non-co-constructed	
think	way	2	0.223714	1.193855	2.682074	N	Non-co-constructed	
think	ya	2	0.223714	1.193855	2.682074	N	Non-co-constructed	
as	know	3	0.33557	1.192284	1.682074	N	Non-co-constructed, self-repetition, repetition in the same scene	
about	treatment	2	0.223714	1.190917	2.662965	N	Non-co-constructed, self-repetition, repetition in the same scene	
gonna	treatment	2	0.223714	1.190917	2.662965	N	Non-co-constructed	
him	should	2	0.223714	1.18504	2.62549	N	Non-co-constructed	
People	when	2	0.223714	1.179164	2.588964	Y	Non-co-constructed repetition, repetition across scene	N
better	get	2	0.223714	1.177891	1.644106	N	Non-co-constructed	
feel	so	2	0.223714	1.176226	2.571043	N	Non-co-constructed	
much	so	2	0.223714	1.176226	2.571043	N	Non-co-constructed	
contrast	Get	2	0.223714	1.171819	2.54457	N	Non-co-constructed	
Get	MRI	2	0.223714	1.171819	2.54457	N	Non-co-constructed	
even	know	2	0.223714	1.157128	2.459681	N	Non-co-constructed	
die	people	2	0.223714	1.155659	2.451461	Y	Non-co-constructed repetition, repetition across scene	N
make	people	2	0.223714	1.155659	2.451461	Y	Non-co-constructed repetition, repetition across scene	N
always	How	2	0.223714	1.149783	2.419039	N	Non-co-constructed	
does	make	2	0.223714	1.1395	2.363998	N	Non-co-constructed	
patients	why	2	0.223714	1.135092	2.341037	Y	co-constructed repetition, repetition in the same scene	N
steroids	Why	2	0.223714	1.135092	2.341037	N	Non-co-constructed	
little	your	3	0.33557	1.13231	1.530071	N	Non-co-constructed	
doctor	good	2	0.223714	1.132154	2.32593	N	Non-co-constructed	
clinic	your	2	0.223714	1.120402	2.267036	N	Non-co-constructed	
friend	your	2	0.223714	1.120402	2.267036	N	Non-co-constructed	
office	your	2	0.223714	1.120402	2.267036	N	Non-co-constructed	
patients	want	2	0.223714	1.120402	2.267036	N	Non-co-constructed	
do	smell	2	0.223714	1.105711	2.196647	Y	co-constructed repetition, repetition in the same scene	N
always	right	2	0.223714	1.096897	2.156005	N	Non-co-constructed	
die	want	2	0.223714	1.091021	2.129533	N	Non-co-constructed	
my	patient	2	0.223714	1.091021	2.129533	N	Non-co-constructed	
patient	want	2	0.223714	1.091021	2.129533	N	Non-co-constructed	
better	got	2	0.223714	1.085145	2.103538	N	Non-co-constructed	
did	guy	2	0.223714	1.085145	2.103538	N	Non-co-constructed	
got	one	2	0.223714	1.085145	2.103538	N	Non-co-constructed	
How	see	2	0.223714	1.083675	2.097111	N	Non-co-constructed	
old	no	2	0.223714	1.083675	2.097111	N	Non-co-constructed	
x-ray	no	2	0.223714	1.083675	2.097111	N	Non-co-constructed	
about	doctor	2	0.223714	1.079268	2.078003	N	Non-co-constructed	

even	get	2	0.223714	1.074861	2.059143 N	Non-co-constructed
right	should	2	0.223714	1.070454	2.040528 N	Non-co-constructed, self-repetition, repetition in the same scene
right	x	2	0.223714	1.070454	2.040528 N	Non-co-constructed, self-repetition, repetition in the same scene
want	out	2	0.223714	1.06164	2.004002 N	Non-co-constructed
now	So	2	0.223714	1.057232	1.98608 N	Non-co-constructed
about	think	3	0.33557	1.048347	1.341037 N	Non-co-constructed
having	Your	2	0.223714	1.046949	1.945108 N	Non-co-constructed, self-repetition, repetition in the same scene
know	need	2	0.223714	1.046949	1.945108 N	Non-co-constructed
leg	your	2	0.223714	1.046949	1.945108 N	Non-co-constructed
did	maybe	2	0.223714	1.038135	1.910893 N	Non-co-constructed
did	said	2	0.223714	1.038135	1.910893 N	Non-co-constructed
about	nothing	2	0.223714	1.023444	1.85561 N	Non-co-constructed
know	Yeah	2	0.223714	1.010223	1.807605 N	Non-co-constructed
gonna	get	2	0.223714	0.979976	1.203533 N	Non-co-constructed
Get	some	2	0.223714	0.977903	1.696573 N	Non-co-constructed
anything	do	2	0.223714	0.976378	1.196647 N	Non-co-constructed
case	your	2	0.223714	0.973496	1.682074 N	Non-co-constructed
family	your	2	0.223714	0.973496	1.682074 N	Non-co-constructed
know	out	2	0.223714	0.973496	1.682074 N	Non-co-constructed
think	tumor	2	0.223714	0.973496	1.682074 N	Non-co-constructed
do	know	6	0.671141	0.965208	0.722716 N	Non-co-constructed
does	House	2	0.223714	0.964682	1.653505 N	Non-co-constructed
did	never	2	0.223714	0.944115	1.588964 N	co-constructed repetition, repetition in the same scene
does	like	2	0.223714	0.939708	1.575502 N	Non-co-constructed
them	think	2	0.223714	0.929424	1.54457 N	Non-co-constructed
do	way	2	0.223714	0.900043	1.459681 N	Non-co-constructed
made	your	2	0.223714	0.900043	1.459681 N	Non-co-constructed
do	patients	3	0.33557	0.892414	1.044644 N	Non-co-constructed
no	thing	2	0.223714	0.885353	1.419039 N	Non-co-constructed
better	So	2	0.223714	0.858909	1.34865 N	Non-co-constructed
did	him	2	0.223714	0.850095	1.32593 N	Non-co-constructed
do	so	6	0.671141	0.846465	0.611685 N	Non-co-constructed
should	think	2	0.223714	0.841281	1.303562 N	Non-co-constructed
like	up	2	0.223714	0.828059	1.270648 N	Non-co-constructed
back	your	2	0.223714	0.82659	1.267036 N	Non-co-constructed
How	So	2	0.223714	0.819245	1.249114 N	Non-co-constructed
Good	so	2	0.223714	0.77958	1.156005 N	Non-co-constructed
so	think	3	0.33557	0.760471	0.834077 N	Non-co-constructed
know	right	2	0.223714	0.753137	1.097111 N	Non-co-constructed
Get	one	2	0.223714	0.735509	1.059143 N	Non-co-constructed
did	see	2	0.223714	0.709065	1.004002 N	Non-co-constructed
got	think	2	0.223714	0.709065	1.004002 N	Non-co-constructed
as	so	2	0.223714	0.700251	0.98608 N	Non-co-constructed, self-repetition, repetition in the same scene
do	us	2	0.223714	0.694375	0.974255 N	Non-co-constructed
do	think	6	0.671141	0.668351	0.459681 N	Non-co-constructed
did	got	2	0.223714	0.662056	0.910893 N	Non-co-constructed, self-repetition, repetition in the same scene
gonna	So	2	0.223714	0.660587	0.908078 N	Non-co-constructed
do	why	4	0.447427	0.618421	0.533682 N	Non-co-constructed
do	want	4	0.447427	0.545706	0.459681 N	Non-co-constructed
Get	right	2	0.223714	0.541593	0.696573 N	Non-co-constructed
doctor	Your	2	0.223714	0.532779	0.682074 N	co-constructed repetition, repetition in the same scene
do	now	2	0.223714	0.488707	0.611685 N	Non-co-constructed
Brain	your	2	0.223714	0.459326	0.566597 N	Non-co-constructed

should	your	2	0.223714	0.459326	0.566597	N	Non-co-constructed
do	People	3	0.33557	0.388632	0.366572	N	Non-co-constructed
any	Do	2	0.223714	0.385873	0.459681	N	Non-co-constructed
do	steroids	2	0.223714	0.385873	0.459681	N	Non-co-constructed
do	tumor	2	0.223714	0.31242	0.360146	N	Non-co-constructed
See	your	2	0.223714	0.283039	0.322178	N	Non-co-constructed
do	them	2	0.223714	0.180204	0.196647	N	Non-co-constructed
do	go	2	0.223714	0.180204	0.196647	N	Non-co-constructed
about	here	3	0.33557	0.136741	0.118644	N	Non-co-constructed
do	Do	3	0.33557	0.136741	0.118644	N	Non-co-constructed
Get	gonna	2	0.223714	0.105283	0.111611	N	Non-co-constructed
do	So	2	0.223714	0.07737	0.08117	N	Non-co-constructed
about	should	2	0.223714	0.018608	0.019109	N	Non-co-constructed
like	your	2	0.223714	0.018608	0.019109	N	Non-co-constructed
do	your	2	0.223714	-0.02546	-0.02575	N	co-constructed repetition, repetition in the same scene
do	nothing	3	0.33557	-0.03119	-0.02575	N	Non-co-constructed
do	up	2	0.223714	-0.1283	-0.12528	N	Non-co-constructed
Get	How	2	0.223714	-0.1283	-0.12528	N	Non-co-constructed
do	see	3	0.33557	-0.24709	-0.1924	N	Non-co-constructed
no	your	2	0.223714	-0.53963	-0.46632	N	Non-co-constructed
so	like	2	0.223714	-0.56902	-0.48785	N	Non-co-constructed
could	think	2	0.223714	-0.56902	-0.48785	N	Non-co-constructed
do	your	2	0.223714	-0.64247	-0.54032	N	co-constructed repetition, repetition in the same scene
do	do	5	0.559284	-1.01583	-0.54032	N	Non-co-constructed, self-repetition, repetition in the same scene
do	did	2	0.223714	-1.87648	-1.21839	N	Non-co-constructed

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