

When creativity meets systemic  
functional linguistics:  
The birth of an innovative 3D  
model

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## Abstract

As of today, the proportion of research in creativity which focuses on the description of language and language use has been minuscule, with Carter's (2004) creativity matrix for spoken English being arguably the most systematic attempt in over a decade. In spite of his success in identifying certain key features associated with creativity production, he too has acknowledged the presence of a rather significant gap in between those interpersonal features and context (of situation) and has thus called for a comprehensive model to fill this niche. The aim of this article is to address this issue by proposing a new descriptive model for the representation of the probabilistic nature of linguistic creativity using a systemic functional linguistic approach. This article is divided into 4 sections. The first section begins by describing the background and definitions of creativity. The second section discusses the main concepts and theories involved in the model construction. The third section provides a detailed, step-by-step walk-through of the model. Finally, the last section concludes with a short discussion of the advantages and limitations of this model.

Keywords: creativity; registerial cartography; registerial typography; spoken English; socio-semiotic processes;

## **1. Introduction**

### **1.1.Traditional definitions of creativity**

For centuries, conceptions of 'creativity' have seesawed between two ends of a spectrum: creation and invention (Carter, 2004; Macfarlane, 2007; Sawyer, 2006). Though these terms are non-standardized 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 (Carter, 2004; Macfarlane, 2007).

### **1.2.1880s - 1920s Literary language versus Ordinary language**

This debate over the abstract concept and definition of creativity, which is believed to have spanned the last two decade 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 categorization of 'literary', 'poetic' language and 'ordinary' language (Vo & Carter, 2010, p. 302). Creativity was then defined as 'deviation' (de Beaugrande, 1979; Mukarovsky, 1964 [1932]) or 'defamiliarisation' from the 'ordinary' language (Gerrig & Gibbs Jr, 1988; Vo & Carter, 2010, p. 302) 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).

### **1.3.1940s – 1960s The boom of research in creativity**

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 (Beittel, 1959; Guilford, 1957; Nahm, 1950; Tomas, 1958) 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 theorization of creativity (Anderson, 1959; Drevdahl, 1956; Drevdahl & Cattell, 1958; Rogers, 1954).

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.

#### **1.4.1980s – present Creativity in Ordinary language**

Until 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 (Carter, 2004; Gerrig & Gibbs Jr, 1988), moving away from what was once purely individualistic productions of written language to joint collaborative effort of verbal utterances (Gerrig & Gibbs Jr, 1988; Sawyer, 2006). 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 thus possess various social aims and purposes facilitated (Pennycook, 2010) through the co-creational and co-constructive play (Carter, 2004; Gerrig & Gibbs Jr, 1988), 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), literary techniques such humour (Carter, 2004, p. 21), irony, sarcasm, satire, understatement (Carter, 2004, p. 23) and repetition (Carter, 2004, p. 156; Tannen, 1989).

Research on each of the aforementioned creativity forms has been unceasingly popular in pragmatics (Moreno, 2007; Sperber & Wilson, 2008; Tendahl & Gibbs Jr, 2008), psychology and psycholinguistics (Cacciari & Tabossi, 1988; 2014; Gibbs, 1992; Gibbs & Nayak, 1989; Gibbs, Nayak, & Cutting, 1989), 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 (1.4) NEAR HERE]

[Figure 1 The Systems Model of Creativity, reproduced from Csikszentmihalyi \(1999, p. 315\)](#)

In 2013, a revised graphical representation of the Systems Model of Creativity by Kerrigan (2013) further emphasizes on convergence of elements (Figure 2).

[FIGURE 2 (1.4) NEAR HERE]

[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) as well as the seminal work in spoken creativity by 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 categorization 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 relations often vary greatly with culture, Halliday’s (1985) systemic functional linguistics approach to language as a social semiotic system does offer variables 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; 2013)



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. This article attempts to propose an innovative model to address this need.

## **2. Data & Methodology**

The derivation of this proposed model is twofold: 1) a revisit-cum-reinvestigation of Carter's (2004) corporal data and matrix framework for the use of creative language in spoken English from an unprecedented 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; 2013) registerial cartography onto the intermediate output from 1).

### **2.1. 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 1 (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*, *socializing* 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.

<b>Context type</b> (communication varies according to cultural and language affiliation)		<b>Interaction type</b> (including hybrid forms and embedding for creative purposes)	
	<i>Information provision</i>	<i>Collaborative task</i>	<i>Collaborative idea</i>
<i>Transactional</i>	commentary by museum guide	choosing and buying a television	chatting with hairdresser
<i>Professional</i>	oral report at group meeting	colleagues window dressing	planning meeting at place of work; therapist or counsellor problem-solving with a patient
<i>Socialising</i>	telling jokes to friends	friends cooking together; on-line communication in MUD game	reminiscing with friends; adolescents insulting an adult authority figure
<i>Intimate</i>	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 1 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 categorization, Carter (2004) also admits the challenge in the categorization 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.

## 2.2.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 3 can be summarized 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 is 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 families members are among the high affective involvement whereas customer and hairdresser are considered to have low affective involvement.

[FIGURE 3 (2.2) NEAR HERE]

Figure 3 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 summarized in Table 2. 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 2 Formal vs informal situations; reproduced from Egging (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.

### 2.3. Matthiessen's (2009; 2013) registerial cartography

Herein adding semiotic colors and completing this intermediate model is Matthiessen's (2009; 2013) registerial cartography, which will be used to categorize 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, 2013) of which "different settings of field, tenor and mode values correspond to different registers" (Matthiessen & Teruya, 2013), Matthiessen's (2009; 2013) registerial cartography consists of eight fields of activity, summarized below and illustrated in Figure 4:

- **expounding** general classes of theoretical phenomena either by **categorizing** ( or documenting) these phenomena or by **explaining** them.

- **reporting** on experience of particular phenomena by **chronicling** a series of events (e.g. news reports), **surveying** particular places (e.g. travel guide books) or **inventorying** particular entities (e.g. product catalogues);
- **recreating** our experience of the world through imaginations by **narrating** or **dramatizing** 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 4(2.3) NEAR HERE]

Figure 4 Fields of activity within context; reproduced from Matthiessen (2013)

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, 2013, 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.



### 3. Analysis

The starting point of the analysis is Carter's (2004, p. 207) creativity matrix which maps creativity and social interactional context (Table 1). 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 (Halliday, 1985) with subtlety.

#### 3.1. Creativity Matrix-Three Tenor Continuum 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 1 from *transactional, professional, socializing* to *intimate*, it follows an increasing level of intimacy by Carter's (2004, p. 207) definition of 'context' type. Considering the same modeling 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 3:

The diagram illustrates a 3D matrix with three axes:

- Vertical Axis (Intimacy):** An arrow pointing downwards from the top to the bottom, labeled "Increasing level of intimacy".
- Horizontal Axis (Equality):** An arrow pointing from left to right, labeled "Increasing level of equality".
- Depth Axis (Contact):** An arrow pointing from the front-left towards the back-right, labeled "Increasing Contact".

The matrix is structured as follows:

<b>Context type</b> (communication varies according to cultural and language affiliation) (monologue)		<b>Interaction type</b> (including hybrid forms and embedding for creative purposes) (dialogue)	
	<i>Information provision</i>	<i>Collaborative task</i>	<i>Collaborative idea</i>
<i>Transactional</i>	commentary by museum guide	choosing and buying a television	chatting with hairdresser
<i>Professional</i>	oral report at group meeting	colleagues window dressing	planning meeting at place of work
<i>Socialising</i>	telling jokes to friends	friends cooking together; on-line communication in MUD game	reminiscing with friends; adolescents insulting an adult authority figure
<i>Intimate</i>	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

Table 3 Creativity matrix and three continua of tenor

From the above Table 3, 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.

### 3.2.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 categorization of **socio-semiotic processes**, or **field of activity** within context. Table 4 shows the outcome yielded after the characterization of examples in the creativity matrix according to the definitions of fields of activity (Matthiessen, 2013; Matthiessen & Kashyap, 2014).

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

Increasing level of equality

→

↑

↓

Increasing level of intimacy

Increasing Contact

Table 4 Creativity matrix, three tenor continuum & socio-semiotic processes

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 latest 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 4 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 colored 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 5 below:

[FIGURE 5 (3.2) NEAR HERE]

**Figure 5 The Creativity-in-Register Cube (CIRC): a graphical representation of creativity with respect to tenor and socio-semiotic processes**

The above chart 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 (CIRC)** (pronounced as /kɜ:k/) in Figure 5 represents solely the 'behavior' 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.

### 3.3.Creativity-in-Register Cube (CIRC) Explained

The description of CIRC 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 5, 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 2.

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 continuum, 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, 2013), 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 2, 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 CIRC:

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 CIRC 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, CIRC does not restrict further expansion or division along such lines of investigation or categorization. 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 CIRC variables remain constant.
6. The CIRC 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.

## 4. Discussion & Conclusion

Apart from the above-mentioned properties, this successful blend of the cline of creativity, Carter's (2004) creativity matrix, Matthiessen's (2009; 2013) 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 CIRC's graphical representation.

Retrospectively, CIRC (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 in terms of attributes considered in their model construction. Even though the values differ in definition and stratification, similar concepts do collide, such as the notion of field versus field, tenor versus personal background/Idiosyncratic background, and mode versus domain. It will be truly exciting to see further development of these models and future research towards the unification of multi-disciplinary theories along this thread of creativity. Longitudinal exploration of creativity in relation to context (in both systemic functional linguistic and psychological sense) through large corpora investigations could serve as key evidence to support current theories and unlock future descriptive potentials of creativity.

All in all, while this new proposed model has made use of Carter's (2004, p. 208) inspiring creativity matrix of spoken English as a foundation of modeling, CIRC has in fact moved away from the original "static" illustration of individual examples to a "dynamic" representation and

thus has addressed precisely the lack 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 (Carter, 2004, p. 208). It is hoped that this proposed model has now opened up a new dimension in both the modeling and description of creativity from a systemic functional linguistics perspective.

### **About the author**

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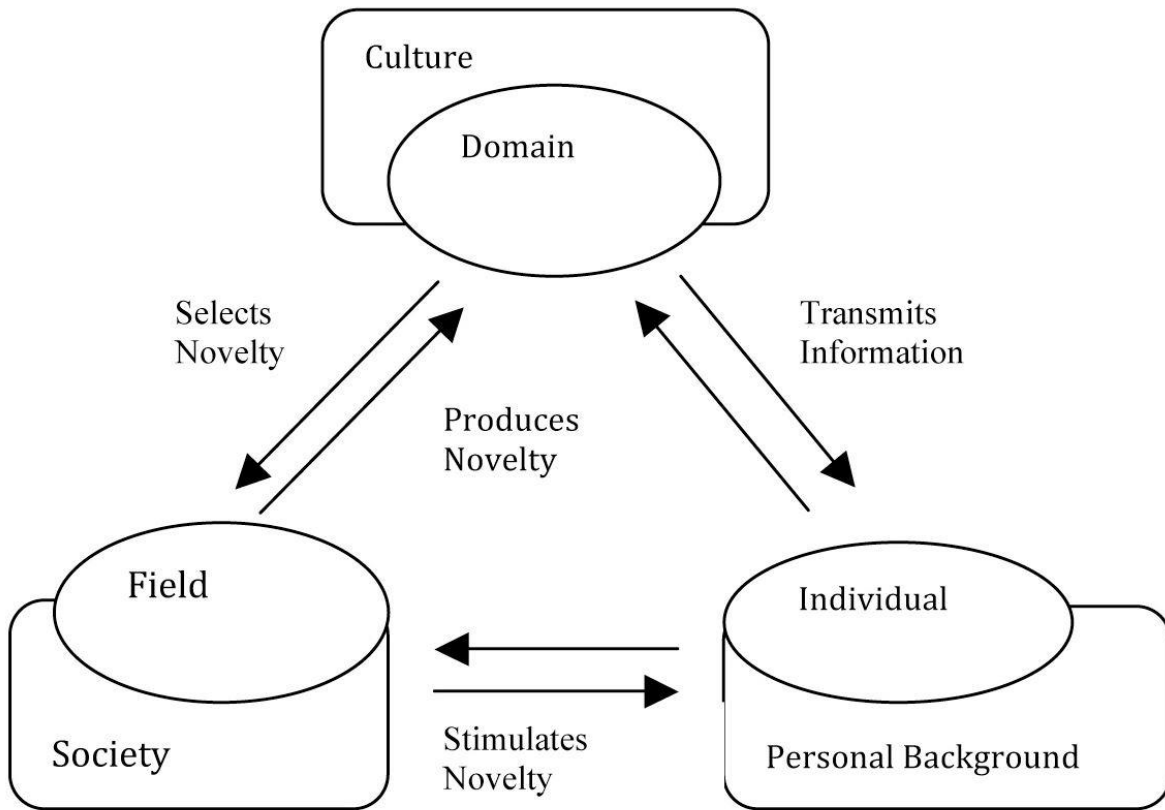


Figure 1

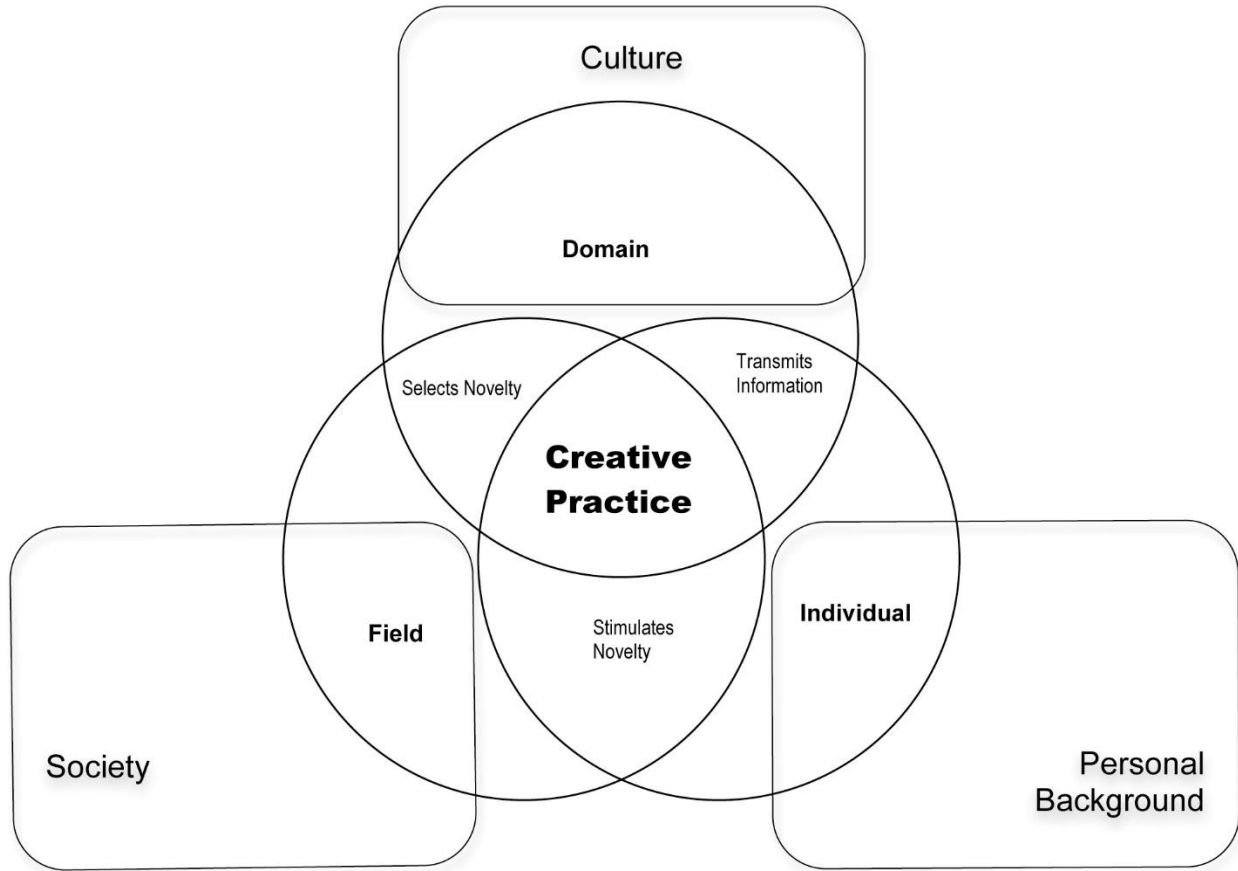


Figure 2

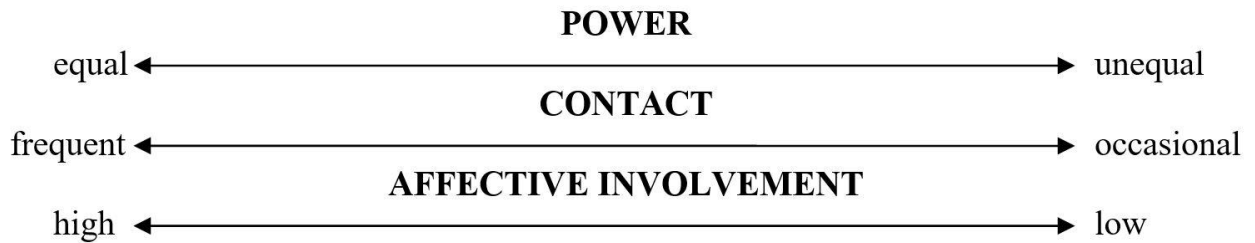


Figure 3

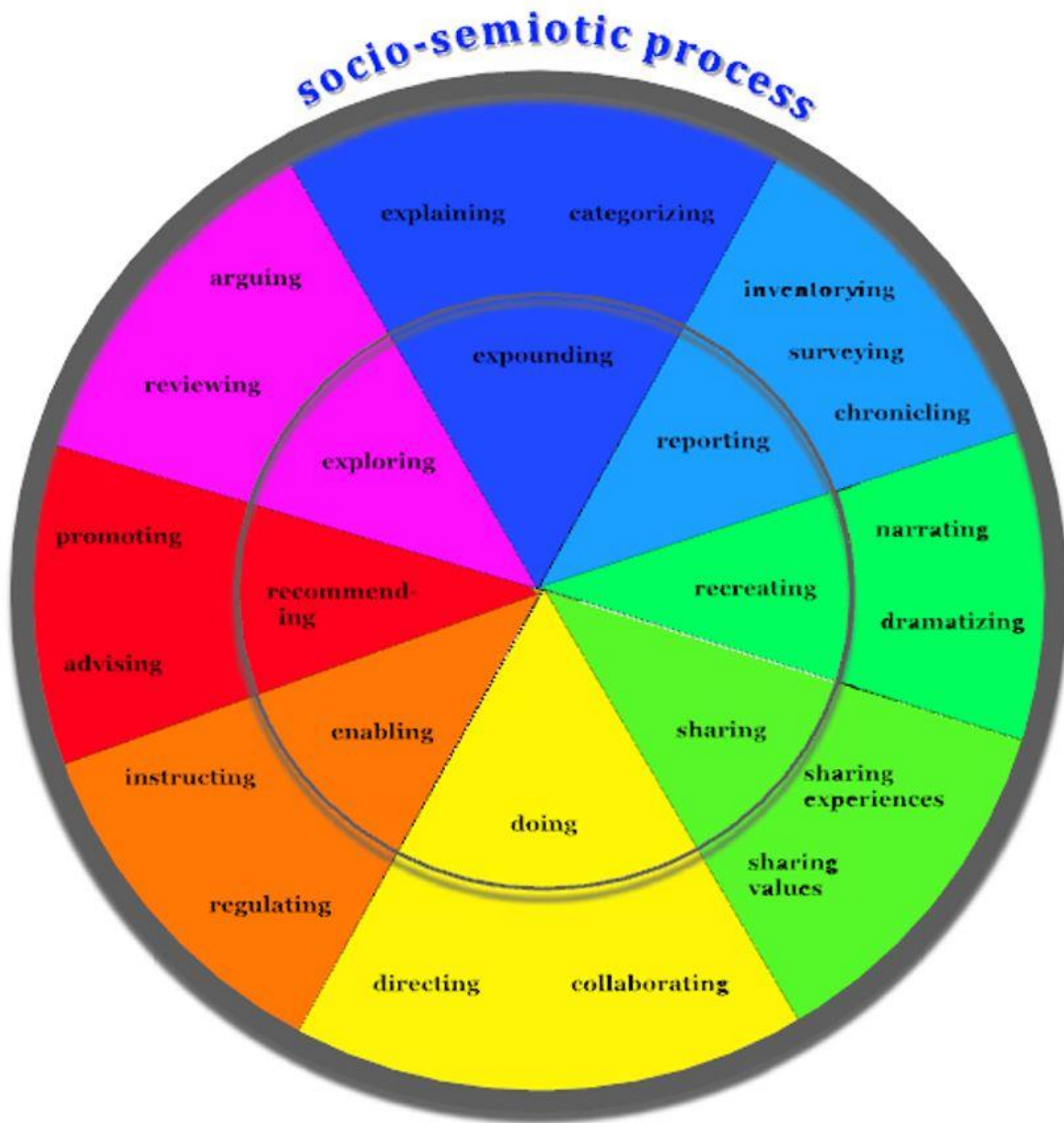


Figure 4

Cline of creativity of spoken English in Tenor space in relation to fields of activity

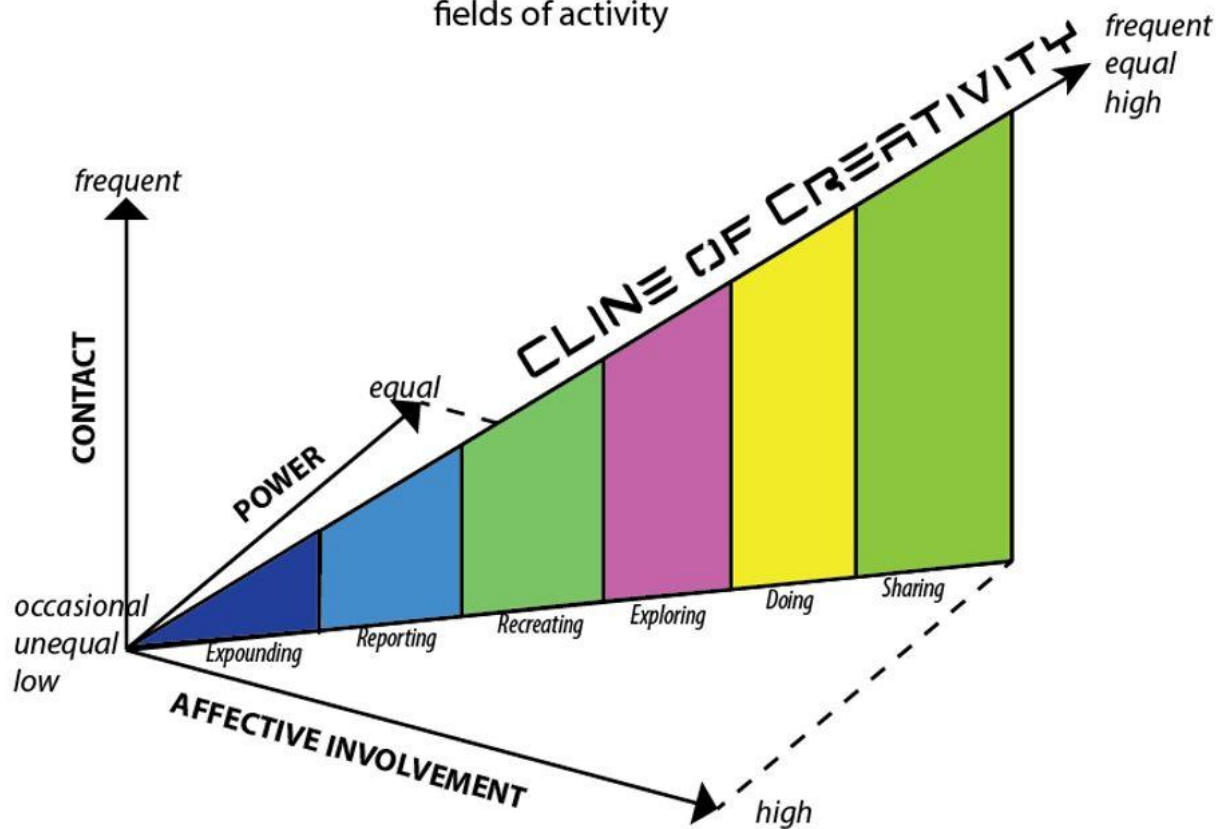


Figure 5