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Putting transitivity to the test: a review of the Sydney and Cardiff models

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Abstract

In Systemic Functional Linguistics (SFL), the system of Transitivity is a common means by which to analyse both isolated clauses as well as clauses in context. To date, two Transitivity models have emerged. The first and more established of the two is the Sydney model, which was proposed by Halliday (*Journal of Linguistics* 3(1):37–81, 1967; *An introduction to functional grammar*, 1985; *An introduction to functional grammar*, 1994) and more latterly developed by himself and Christian Matthiessen (Halliday and Matthiessen, *An introduction to functional grammar*, 2004; Halliday's introduction to functional grammar, 2014). The second is the Cardiff Grammar (CG) model put forward by Fawcett (*Cognitive linguistics and social interaction: Towards an integrated model of a systemic functional grammar and the other components of a communicating mind*, 1980; *The semantics of clause and verb for relational processes in English*, 1987) as an alternative to the former and, which has subsequently been elaborated by Neale (*More delicate Transitivity: Extending the process type system networks for English to include full semantic classifications*, 2002; *Matching corpus data and system networks*, 2006). Although both models have various strengths, neither model is void of limitations. Thus, the aim of this paper is to describe, compare and draw on the inadequacies associated with either one or both of the aforementioned systems, which have come to light following substantial research on Transitivity. All in all, several issues are raised here in order to highlight particular areas that need to be addressed if we are to ensure a systematic and delicate analysis of Transitivity patterns across texts.

Introduction

To date, within functional grammar, Transitivity has been considered from two different perspectives, with each offering alternative explanations as to how we use language to represent our inner and outer experiences. The first and more widely used model by discourse analysts was proposed by Michael Halliday (1985, 1994) who later collaborated with Christian Matthiessen (Halliday and Matthiessen 2004, 2014) and, together, they made amendments to the original system of Transitivity. The alternative model was initially put forward by Robin Fawcett (1980, 1987), better known as the Cardiff Grammar (CG henceforth) model, which was later elaborated through collaborative work with Amy Neale to ensure a more fine-grained system of Transitivity (Neale 2002, 2006). Although the CG model offers a number of valid ideas and, arguably, provides potential solutions for some of the problems associated with the Sydney model (SM henceforth) (Halliday and Matthiessen 2014), it has nonetheless received significantly less attention. Moreover, very little discussion has actually been dedicated to comparing the two transitivity

networks in terms of their individual strengths and/or weaknesses (cf. He et al. 2017); the current paper is an attempt to contribute to this discussion and to outline a series of dilemmas associated with either one or both and how these issues may be addressed.

Transitivity: The Sydney model vs. the Cardiff grammar model

According to Halliday (1973: 134), Transitivity is the set of options whereby the speaker encodes his [sic] experience of the processes of the external world, and of the internal world of his [sic] own consciousness, together with the participants in these processes and their attendant circumstances.

There is a common consensus that each individual has their own linguistic style, which implies that not only does one express him/herself in his/her own way, but also that s/he will focus on determined aspects when using language to describe his/her own reality. Thus, the semantic and syntactic choices one makes in order to communicate serve to manifest their positioning and are based on the belief that one organises their discourse in line with how they perceive a situation and the meanings they wish to convey (Halliday and Matthiessen 2014: 217).

Both the Sydney and the CG models of Transitivity insist that any given clause comprises 3 main components, namely a process (a verbal group), as in (1),¹ a participant (a nominal group), as in (2), and a circumstance (an adverbial or prepositional phrase), as in (3).

- (1). He got up again [...] (BNCWeb 2008, ASS 1515 W:fict:prose)
- (2). He got up again [...] (BNCWeb 2008, ASS 1515 W:fict:prose)
- (3). He got up again [...] (BNCWeb 2008, ASS 1515 W:fict:prose)

Whilst circumstantial elements are considered an optional element of the clause, both the process and participant are considered inherent. This aside, there are differences between the two models, starting with, for instance, the fact that the models diverge with regard to what constitutes a circumstance or a participant. That is, in many instances, what the SM considers to denote a circumstance, as in (4a) is, instead, labelled a participant in the CG model, as in (4b).

- (4a). They had behaved well (Circumstance) (BNCWeb 2008, FET 1337 W:fict:prose)
- (4b). They had behaved well (Participant). (BNCWeb 2008, FET 1337 W:fict:prose)

To add to this, they also vary, occasionally, as to which verb corresponds to the process of a clause in instances where more than one verb appears.

With these issues in mind, we now proceed with a comparison of both systems, specifically in terms of their process, participant and circumstance configurations.

Process and participant configuration in both Transitivity systems

In the SM model, there are six process categories: material, mental, relational, verbal, behavioural and existential. The first three are major types and the latter three minor categories. Meanwhile, the CG model also proposes six process types, namely: action, mental, relational, influential, environmental and event-relating. As evident in Tables 1

Table 1 Semantic roles in the Sydney transitivity model (Halliday and Matthiessen 2014)

Material	Mental	Relational	Verbal	Behavioural	Existential
<i>Actor</i>	<i>Senser</i>	<i>Carrier</i>	<i>Sayer</i>	<i>Behaver</i>	<i>Existent</i>
<i>Goal</i>	<i>Phenomenon</i>	<i>Attribute</i>	<i>Receiver</i>	<i>Behaviour</i>	
<i>Beneficiary: Recipient</i>		<i>Attributor</i>	<i>Verbiage</i>		
<i>Beneficiary: Client</i>		<i>Identifier</i>	<i>Target</i>		
<i>Scope</i>		<i>Identified</i>			
<i>Initiator</i>		<i>Assigner</i>			

and 2 below, not only do differences emerge in terms of the process categories, but equally, there are discrepancies in the semantic roles pertinent to each.

Whilst the SM describes material processes as embodying our external experiences and, thus, include references to actions and events, the CG model instead employs the term ‘action’ on the grounds that, as Neale (Neale 2002: 80) argues, ‘not all actions are material’. Thus, unlike the former, the term action more accurately encompasses both material and social actions. Aside from this, there are also variations in the terminology used for particular semantic roles, despite the fact that the meaning in both often remains the same. For instance, the role defined as being responsible for bringing about a change, as in (5), is labelled an *Actor* in the SM and an *Agent* in the CG model. Similarly, the role that finds itself affected by the process, as in (6) is labelled as *Goal* in the SM and *Affected* in the CG; that said, if an entity is brought into existence, as in (7), whilst the SM model maintain the term *Goal*, the CG propose the label *Created* to refer to the same thing. By the same token, whilst the SM distinguishes between an *Actor* (see above) and an *Initiator*, (the role responsible for making the *Actor* perform an action), as in (8) (Halliday and Matthiessen 2014: 224–226), the CG instead labels both roles as *Agent*.

(5). She shaved her legs and underarms [...] (BNCWeb 2008, GUM 2399 W:fict:prose)

(6). She shaved her legs and underarms [...] (BNCWeb 2008, GUM 2399 W:fict:prose)

(7). He wrote a poem about his friend [...] (BNCWeb 2008, B1F 298 W:religion)

(8). They marched them to the top of the hill [...] (BNCWeb 2008, H9N 1339 W:fict:prose)

To add to the latter, there are also semantic roles introduced by each model that do not coincide with an alternative equivalent. The SM, for example, refers to i) a *Beneficiary* (i.e. the role who is given goods, as in (9) or the role for whom a service is performed, as in (10)); neither of these appear in the CG.

(9). One night after I had cooked her supper [...] (BNCWeb 2008, CH4 2956 W:fict:prose)

(10). We all took a bath in the same hot tub [...] (BNCWeb 2008, G3P 59 W:misc)

Meanwhile, the CG model include the notion of a *Carrier* (i.e. the role in possession of an item, for instance, as in (11)) and a *Manner* (the participant that describes how the *Agent* acts or treats someone or something), as in (12).

(11). He gave her the rake [...] (BNCWeb 2008, A0N 1978 W:fict:prose)

(12). They had behaved well. (BNCWeb 2008, FET 1337 W:fict:prose)

Table 2 Semantic roles in the CG transitivity model (Fawcett 1980; Neale Amy 2002)

Action	Mental	Relational	Influential	Environmental	Event-relating
Agent	(Affected) Emoter	(Agent or Affected Carrier)	Agent	Attribute	Carrier
Affected	Agent	Attribute	Affected		Phenomenon
Carrier	(Agent or Affected) Cognizant	Location	Phenomenon		Created-Phenomenon
Created	(Agent or Affected) Perceiver	(Affected) Source	Created-Phenomenon		
Range	Phenomenon	(Affected) Path			
Manner		(Affected) Destination			
		Possessed			
		Matchee			

The participant roles containing items in brackets indicate that the role may represent an Agent or Affected compound role (e.g. Agent-Cognizant)

The mental process category in both models relates to our internal experiences (i.e. how we understand, perceive, feel about or desire something or someone) (Halliday and Matthiessen 2014: 248). To account for these types of experiences, the SM proposes four separate subcategories, namely mental cognitive, mental perceptive, mental emotive and mental desiderative processes; the CG, however, makes no such distinction between our emotions and desires and, as such, classifies them under the same category (i.e. mental emotive). Furthermore, the CG model asserts that the mental cognition category not only includes the prototypical cognitive verbs (e.g. think, believe), but also verbs that refer to the notion of communication. Thus, what Halliday and Matthiessen (2014) have classed as verbal processes, which are a discrete category (see below), are instead placed within the mental cognition category in the CG model on the basis that the semantic roles associated with a mental cognitive clause are thought to correspond to those that appear in a clause conveying communication.

Whilst both models concur that the mental category consists of a different participant configuration to the material/action category, they each have their own ideas about which roles are actually included. To elaborate, the SM mentions merely 3 roles, namely a *Senser* (the conscious role who thinks, perceives, feels or desires something or someone), as in (13); (ii) a *Phenomenon* (the role that reflects what is thought, perceived, felt or desired), as in (14); and (iii) an *Inducer* (the role that causes the *Senser* to think, perceive, feel or desire something), as in (15). All of these can surface in any of the mental process subcategories.

(13). He thought I was mad [...] (BNCWeb 2008, A70 546 W:pop_lore)

(14). He thought I was mad [...] (BNCWeb 2008, A70 546 W:pop_lore)

(15). Then he made me look at the windows. (BNCWeb 2008, G13 800 W:fict:prose)

The CG model, however, proposes a different participant configuration for each mental process subtype. Thus, a mental cognitive process consists of a *Cognizant*, as in (16); a mental perceptive process includes a *Perceiver*, as in (17); and a mental emotion

process has an *Emoter*, as in (18). That said, what may appear in all three subcategories, as in the SM, is a *Phenomenon*, as in (19).

- (16). It was an accident, we all know that. (BNCWeb 2008, A0D 1417 W:fict:prose)
 (17). He looked at Pat but Pat looked away. (BNCWeb 2008, A05 1639 W:ac:humanities_arts)
 (18). I love Lucy. (BNCWeb 2008, A0L 852 W:fict:prose)
 (19). I love Lucy. (BNCWeb 2008, A0L 852 W:fict:prose)

The CG model also maintains the concept of *Inducer*, although this term is labelled *Agent*, as defined in the description of action processes above. Furthermore, unlike Halliday and Matthiessen (2014), Fawcett (1987, 2000) and Neale (2002) suggest that it is also possible to have semantic role combinations, both in the mental process category as well as in relational, influential and event-relating types (see below for a discussion of these categories). This possibility can be observed in example (20) in which *he* has been annotated as an *Affected-Emoter*, given that this participant role not only feels something for someone (i.e. an English girl), but also finds himself undergoing a change of state.

- (20). He fell in love with an English girl [...]. (BNCWeb 2008, A7A 1995 W:fict:prose)

Before concluding the description of mental processes, we first must acknowledge the distinction made between the act of consciously perceiving something and doing so intuitively, which only features in the CG Transitivity system. That is, when someone perceives something intentionally, *s/he* is labelled an agentive *Perceiver*, as in *he* or *Pat* in (17) above; when, however, someone perceives something instinctively, *s/he* is otherwise annotated as a non-agentive *Perceiver*, as in (21).

- (21). I saw the cherry and [...]. (BNCWeb 2008, A0D 1224 W:fict:prose)

Relational processes are the final major process type in both models and they refer to the general notions of being, becoming and having (Halliday and Matthiessen 2014: 259). That said, each comprises their own set of subcategories. The SM comprises i) relational intensive, (ii) relational possessive and (iii) relational circumstantial processes, each of which may be attributive or identifying in nature. In the case of the former, an entity is ascribed a quality or attribute, as in (22), whereas relational identifying clauses identify one entity in terms of another, as in (23).

- (22). Steffi is happy [...]. (BNCWeb 2008, CKL 389 W:pop_lore)
 (23). Heather is my friend [...]. (BNCWeb 2008, H8T 2901 W:fict:prose)

Whether attributive or identifying, a relational clause always includes at least two semantic roles. With the relational attributive type, there is a *Carrier* (i.e. Steffi) and an *Attribute* (i.e. happy). Nonetheless, a third semantic role is also possible, otherwise labelled as *Attributor*, which assigns an *Attribute* to a *Carrier*, as in (24).

- (24). It makes me furious [...]. (BNCWeb 2008, CH6 8837 W:newsp:tabloid)

With relational identifying clauses, there are also two participants, namely an *Identifier* (i.e. the role that defines another entity in terms of an identity), as in (25) and an *Identified* (i.e. the role that is defined by the *Identifier*), as in (26).

(25). Heather is my friend [...] (BNCWeb 2008, H8T 2901 W:fict:prose)

(26). Heather is my friend [...] (BNCWeb 2008, H8T 2901 W:fict:prose)

Again, a third participant may appear in this type of clause, otherwise known as an *Assigner* (i.e. the role that assigns an identity to the *Identified*), as in (27).

(27). We made her the supervisor [...] (BNCWeb 2008, JN7 441 S:meeting)

The CG Transitivity model consists of four relational process subcategories that tend to overlap with those from the SM comprising: (i) relational attributive; (ii) relational possessive; (iii) relational locational; and (iv) relational matching. The first category corresponds to both the relational attributive and relational identifying categories of the SM (Halliday and Matthiessen 2014); here, however, no distinction is made between clauses denoting the attribution of a quality and those that assign an identity to an entity. Rather, the concern lies with whether the attribute denotes a thing, a quality or, otherwise, a situation (Neale 2002: 144). The second category indicates a relationship of possession or lack thereof, although clauses of this type can also imply possession occurs as a result of a happening, as illustrated in (11) above. Therefore, verbs such as *give* are classified as relational possessive processes (Butler 2003: 395) in the CG system, whilst the SM classifies the same verb as a material process.

Relational locational processes are similar to what the SM classifies as relational circumstantial processes. However, unlike the latter, Fawcett (1987) and Neale (2002) include verbs that imply movement in their category, as evident in example (28).

(28). [...] as he drove home that evening. (BNCWeb 2008, AC2 477 W:fict:prose)

Once again, the SM would consider examples such as (28) a material process, given that the verb *drive* embodies the notion of an action.

The fourth and final subcategory of relational processes in the CG was put forward by Neale (2002) after encountering examples in her corpus that failed to adequately fit into any of the existing categories in the system. These processes represent a relationship indicating the idea of matching two entities, as illustrated in (29) below, and are labelled as relational matching processes.

(29). Do you think this jumper really goes with this skirt? (BNCWeb 2008, CB8 3462 W:pop_lore)

The semantic roles that may emerge in a relational clause in the CG system and which differ to those listed in the SM are provided below, along with an example of each for clarification.

Agent-carrier

(30). [...] when she became an alcoholic (BNCWeb 2008, A7N 701 W:pop_lore)

Affected-carrier

(31). [...] the stronger and more dominant partner became weak (BNCWeb 2008, CGD 1461 W:non_ac:soc_science)

Location (the equivalent of the circumstance location: place in the SM)

(32). [...] as he drove home that evening. (BNCWeb 2008, AC2 477 W:fict:prose)

Destination

(33). I went to the hospital with him (BNCWeb 2008, HD7 1905 W:misc)

Path

(34). When the marchers passed the city's overhead railway (BNCWeb 2008, A3U 317 W:newsp:brdsht_nat:report)

Source

(35). [...] before we left the reception. (BNCWeb 2008, HGM 3005 W:fict:prose)

Possessed

(36). [...] he had a moustache. (BNCWeb 2008, ECK 1068 W:fict:prose)

Matchee

(37). It matches the bowl downstairs. (BNCWeb 2008, ECK 1068 W:fict:prose)

We now turn to the three minor process types that are specific to one model and show how, once again, the two transitivity models are different.

The Sydney model: minor process types

Halliday and Matthiessen (2014) discuss three minor process types, namely verbal, behavioural and existential processes. Verbal processes constitute a category in their own right in the SM. They are defined as covering 'any kind of symbolic exchange of meaning' (Halliday 1994: 140; Halliday and Matthiessen 2014: 303) and, as with other process types described thus far, consist of a range of semantic roles, including: (i) a *Sayer*, as in (38); (ii) a *Receiver*, as in (39); (iii) a *Verbiage*, as in (40); and (iv) a *Target*, as in (41).

- (38). “It’s for you” she said to her husband. (BNCWeb 2008, A7A 2759 W:fict:prose)
 (39). “It’s for you” she said to her husband. (BNCWeb 2008, A7A 2759 W:fict:prose)
 (40). “It’s for you” she said to her husband. (BNCWeb 2008, A7A 2759 W:fict:prose)
 (41). [...] the Queen criticised her son [...] (BNCWeb 2008, CEN 980 W:newsp:other:report)

A second minor process outlined in the SM is the behavioural process type, said to have features of material and mental processes, although with ‘no clearly defined characteristics of their own’. Consequently, ‘the boundaries of behavioural processes are indeterminate’ (Halliday and Matthiessen 2014: 301); nonetheless, they are understood to typically denote physiological and psychological behaviours (e.g. sneeze, smile). The main participant found in a behavioural clause is a Behaver which, generally, represents a conscious entity, as in (42). A second participant is termed a Behaviour, which serves as a restatement of the process, as in (43).

- (42). When I offered to let him finish it, he laughed. (BNCWeb 2008, A08 2942 W:fict:prose)
 (43). He gave a laugh. (BNCWeb 2008, BP0 2569 W:fict:prose)

Lastly, we note the existential process category of the SM which represents the existence of an entity, otherwise termed an *Existent*, as in (44). An *Existent* may denote a person, an object, an action, an event, an institution or an abstraction (Halliday 1994: 142).

- (44). [...] there is a brief biographical note about the sculptor [...] (BNCWeb 2008, A04 1461 W:ac:humanities_arts)

The Cardiff grammar model: minor process types

The first of the three minor process types in the CG model is the influential process category. Influential processes are not contemplated in the SM and have been defined in the CG as involving ‘an embedded event in the matrix clause [that] is somehow ‘influenced’ in one way or another by the process’ (Neale 2002: 172). This process category consists of several subcategories, namely: (i) causative processes, as in (45); (ii) permissive processes, as in (46); (iii) preventative processes, as in (47); (iv) enabling processes, as in (48); (v) starting processes, as in (49); (vi) continuing processes, as in (50); (vii) delaying processes, as in (51); (viii) stopping processes, as in (52); (ix) tentative processes, as in (53); (x) succeeding processes, as in (54); and (xi) failing processes, as in (55).

- (45). Afterwards, he made her go and rest again [...] (BNCWeb 2008, CKE 2730 477 W:fict:prose)
 (46). Cameron let him finish. (BNCWeb 2008, A0N 1433 W:fict:prose)
 (47). Their noise had stopped me sleeping [...] (BNCWeb 2008, A0U 1401 W:fict:prose)
 (48). A dim light enabled him to find room seventeen. (BNCWeb 2008, HTG 79 W:fict:prose)
 (49). [...] when I started working on the script. (BNCWeb 2008, AB3 1076 W:non_ac:humanities_arts)

- (50). The Fulmars continued searching for it [...] (BNCWeb 2008, CA8 818 W:non_ac:humanities_arts)
- (51). [...] she put off fulfilling her ambition (BNCWeb 2008, BMD 683 W:pop_lore)
- (52). She stopped singing [...] (BNCWeb 2008, ACW 1780 W:fict:prose)
- (53). Her mother tried to persuade the woman [...] (BNCWeb 2008, A03 839 W:pop_lore)
- (54). He managed to complete the last lap [...] (BNCWeb 2008, A1N 199 W:newsp:brdsht_nat:sports)
- (55). He failed to release in time [...] (BNCWeb 2008, A0H 1312 W:misc)

An influential process permits any one of four participant roles, to include an *Agent* (inherent in a clause of this type, even if not mentioned explicitly), an *Affected*, a *Created* and a *Range*. This new category of processes is arguably a useful addition to the Transitivity system, given that it includes what are otherwise better known as aspectual verbs, which are not considered by Halliday and Matthiessen (2014) in the SM, despite the fact that they contribute meaning to the clause.

The second minor process type in the CG model is called the environmental category and caters for verbs that denote climatic conditions. According to (Neale 2002: 171), there exist two potential realisations: (i) using a process (i.e. a verb) in the clause, as in (56), or, (ii) using an attribute (i.e. an adjective), as in (57).

- (56). [...] even when it rains. (BNCWeb 2008, CH5 2350 W:newsp:tabloid)
- (57). [...] it is sunny [...] (BNCWeb 2008, G1L 27 W:fict:prose)

When the realisation is verbal, as in (56), there is no semantic role in the clause; rather, the subject *it* is referentially empty (Neale 2002: 171). Something similar occurs in (57), although this time there is a role, i.e. the Attribute *sunny*. The environmental process category shares similarities with the SM existential category in this sense, given that both embody an interpersonal subject, which is necessary to ensure that the clause is coherent.

The third and final minor process in the CG model is the event-relating category. This type is again absent in the SM or, at least, it is not contemplated in the same way; that is, Halliday & Matthiessen (2014: 707) refer to grammatical metaphors, which they transform to produce verbal equivalents of a nominalisation in an attempt to maintain the original meaning. Meanwhile, the CG model treats grammatical metaphors as a process in their own right. In view of the fact that this process type relates two events, there is always a Carrier role along with one other participant (i.e. a Created, an Affected or a Range) (Fawcett and Schultz 2010).

Finally we turn to an outline of the final component that is equally pertinent to both systems, i.e. circumstances.

Circumstances in both transitivity systems

Despite the fact that both models agree that circumstances are not inherent to the clause and, rather, serve to provide additional meaning (Fontaine 2013: 79), the two models do, however, have their own take on (i) what constitutes a circumstance, as outlined above, and (ii) what circumstance types can occur. A list of

categories and subcategories pertaining to each system can now be found in Tables 3 and 4 below.

The classification of circumstances in the CG model is by no means straightforward on the grounds that it is often difficult to distinguish between some of the different subtypes (e.g. *Proportion* and *Dimension*). Moreover, as with the SM, it remains challenging to understand what constitutes a circumstance and what denotes a semantic role. With this in mind, we now proceed to outline a number of issues associated with each of the two models and which consequently lead to problems for the discourse analyst when s/he is deciding on which process, participant role and/or circumstance best reflects a given clause.

Ambiguities and issues with the CG and the Sydney models of transitivity

As Halliday & Matthiessen (1999: 542) and Fawcett (2009: 212–222) rightly acknowledge, the system of Transitivity can prove somewhat confusing, especially when it comes to determining which process categories a given verb belongs to. This difficulty occurs, above all, for those who do discourse analysis and need to neatly categorise their data, despite the fact that a number of verbs have ambiguous and/or complex meanings. What follows below is a discussion of several issues that have initially been

Table 3 Circumstances in the Hallidayan transitivity system (Halliday and Matthiessen 2014)

Types of circumstances			Probe	Example
Category	Subcategory	Subtype		
Enhancing	Extent	Distance	How far?	over 12,000 miles
		Duration	How long?	for several hours
		Frequency	How many times?	15 times
	Location	Place	Where?	in Tulsa
		Time	When?	in September
	Manner	Means	How? By means of?	by train
		Quality	In what way?	this way
		Comparison	What like?	His hair was cut differently
		Degree	How much?	I like him very much
	Cause	Reason	Why?	because of
		Purpose	What for?	for the purpose of
		Behalf	Who for?	on behalf of
	Contingency	Condition	In which case?	in the event of
Default		Unless what?	Unless	
Concession		Despite what?	in spite of	
Extending	Accompaniment	Comitative	With what/who?	without you
		Additive	Who/What else?	in addition to
Elaborating	Role	Guise	What as?	as a 13-year-old
		Product	What into?	Madonna softened into a more human figure
Projection	Matter		What about?	about his daughter
	Angle	Source	According to who/what?	according to your report
		Viewpoint	In whose opinion?	in my opinion

Table 4 Circumstances in the CG transitivity system

Type	Subtype	Example	
Experiential	Time position	right now	
	Duration	for several hours	
	Repetition	15 times	
	Reduplication	again and again	
	Periodic Frequency	once a month	
	Regularly repeated time position	every year	
	Regularly repeated duration	about an hour each night	
	Usuality	always	
	Ordinative	the first time	
	Inferential time position	still	
Circumstances for specific processes			
Action	Body part	(He shoved his finger) into my vagina	
	Material	(made) out of metal	
	Physical cause	from internal haemorrhaging	
Mental emotion	Degree	very much	
Relational possessive	Exchange	for £10	
	Occasion	for lunch	
Relational directional	Direction	north	
	Distance	for a mile	
	Process manner	brutally	
Usually appear with an Agent	Manner	very carefully	
	Method	through conversation	
	Instrument	by telephone	
	Role	as a scientist	
	Intentionality	accidentally	
	Client	She read <i>her</i> a story	
	Pleasee	We did the shopping for <i>him</i>	
	Substituted	instead of her husband	
	Others	Place	at the scene
		Accompaniment	He was meeting <i>with him</i>
Concurrent state		Feeling <i>uneasy</i> , we turned	
Subsequent state		She hung up, feeling <i>much happier</i>	
Participant specification		<i>Besides the friends</i>	
Substituted situation		instead of bringing one from the 31st	
Proportion		What is orthodox today may change <i>with time</i>	
Dimension	<i>Over time</i> , these have both adapted		
	Respect	<i>as for [...]</i>	

identified in relation to the two transitivity models discussed, before continuing to suggest potential means by which to deal with such issues and, furthermore, assist the discourse analyst in carrying out a more detailed and systematic analysis of written or spoken texts.

The first issue with the two Transitivity systems as they currently stand concerns the issue of what constitutes the main verb of a clause (Fontaine 2013: 25). If there is only

one verb in the clause, the analysis proves relatively simple; however, when more than one verb appears in a clause, as in (58a), each of the aforementioned Transitivity models opts to analyse a different verb. That is, whilst the Sydney model classifies the second non-finite verb as the main verb and, therefore, as the process, as in (58a), the CG model instead chooses to annotate the aspectual verb as the process, as in (58b).

(58a). Taking a deep breath, Kate started to talk. (BNCWeb 2008, FAB 1743 W:fict:prose)

(58b). Taking a deep breath, Kate started to talk. (BNCWeb 2008, FAB 1743 W:fict:prose)

Thus, the Sydney model does not analyse verbs such as *start* when they are used as aspectual verbs that bring an additional meaning to the process in terms of, for instance, time (Fontaine 2013: 25). The reason behind this is that the process centres around the situation of the clause, which in (58) above would, essentially, be the action of talking, as opposed to starting something. On these grounds, one must question whether the meaning of the process is actually captured in its entirety though, which I would argue, is not the case. To support my contention, we may refer to two clauses below in which *recognise* is annotated as the main verb in both sentences. However, the use of the aspectual verb *start* in (59a) has been replaced by the aspectual verb *fail* in (59b).

(59a). [...] people will start to recognise a change in your shape. (BNCWeb 2008, AD0 581 W:non_ac:medicine)

(59b). [...] people will fail to recognise a change in your shape. (BNCWeb 2008, AD0 581 W:non_ac:medicine)

By substituting *start* in (59a) with the verb *fail* in (59b), we witness how the meaning of the clause alters entirely, from affirmative to negated. In other words, if someone fails to recognise something, s/he does not recognise it, which is the idea transmitted in (59b). The latter leads us to question, then, whether the researcher really can ignore certain elements in the clause and still maintain the meaning of the clause. The CG system also presents a similar problem with regard to the analysis of the main verb of the clause. As stated, the CG model considers the aspectual verb (e.g. *start*, *try*) as the main verb of the clause and as pertaining to the influential process category. As such, the CG model would proffer an entirely different analysis of the same clause, classifying (59a) as an influential: starting process and (59b) as an influential: failing process. Whilst this alternative interpretation is by no means any less valid than that proposed in the SM, it is equally inadequate. That is, by disregarding the verb that follows the finite verb, only part of the meaning is captured. That said, there is a way to solve this issue and that is by simply acknowledging that both verbs bring meaning to the clause and, as a result, need to be annotated as separate processes of the Transitivity system when doing discourse analysis.

A second issue concerns the confusion regarding whether an item denotes a circumstance or otherwise, an inherent part of the clause (i.e. a participant role). The treatment of circumstances in the SM tends to differ slightly from the CG model in the sense that lexical items indicating, for instance, the manner in which something occurs, is labelled as circumstantial; meanwhile, the CG instead considers the same item

inherent to the process and, thus, treats it as a participant role (Butler 2003: 396), as evident in Table 5 below. This difference is said to surface as a result of the syntactic labels assigned to the different components of the clause.

The CG model argues that the Location of a clause is inherent because it is a predictable continuation of the process (i.e. *went*). The SM, on the other hand, considers *Peru* as a circumstance on the basis that this information ‘encode[s] the background against which the process takes place’ (Thompson 2004: 109) and, thus, although serving as important information, is nonetheless not a nucleus of the clausal structure (Halliday and Matthiessen 2014: 312). This second argument seems far more plausible given that, although the locational information serves to situate the process, it is not necessary to give the clause meaning. That is, it is possible to simply say *Ivy went* and the meaning of what happened is still clear; all that is lacking is that ‘additional detail’ that serves to clarify, in this case, where to. To elaborate on this issue further, if we were to change the above example slightly, as in (60a) or (60b) below, we witness how the meaning of the clause alters completely, which leads us again to question whether there really exists a predictable extension of a process, as the CG contends.

- (60a). Ivy went quietly.
- (60b). Ivy went with her brother.

A third issue regarding both Transitivity models relates to a number of inconsistencies with the criteria that are used to determine whether a verb belongs to one process category or another. Specifically, six problematic areas are identified in this paper:

- (i) Processes denoting communication (both models)
- (ii) Behavioural processes (Sydney model)
- (iii) Influential processes (CG model)
- (iv) Action process (CG model)
- (v) Process and participant configurations
- (vi) The analysis of grammatical metaphors

Processes denoting communication

In the CG model processes that denote communication are classified as part of the mental cognition category, which was also originally the case in the SM (Halliday 1967). Although the form in which we communicate with others is a reflection of what we think about the world around us, however, communication clearly goes beyond our inner thoughts and, in fact, is a verbal act in which we intentionally vocalise these very thoughts to the rest of the world. Consequently, it implies the deliberate transfer of information to other sources. For this reason, a separate category as established in the SM is indeed a valid amendment to the systems. That said, the SM is not without its

Table 5 Circumstances or participants in both transitivity systems

	Ivy	went	to Peru
Sydney model	<i>Actor</i>	material process	Circumstance: Location
CG model	<i>Agent-Carrier</i>	relational (locational) process	Participant role: Location

limitations. To continue with the notion of communication, Halliday & Matthiessen (2014: 330) maintain that a verbal process is a minor process, given that it is somewhere along a cline between mental and relational processes and covers ‘any kind of symbolic exchange of meaning’. Evidently, this definition means that the category is rather broad, as they themselves admit. However, we encounter a contradiction when considering examples such as (61) below, in which, in spite of producing a communicative exchange through the verb *suggest*, this example is, nevertheless, annotated as a relational process (Halliday and Matthiessen 2014: 285).

(61). In Swindon, a council report suggests the problem has risen twelvefold in recent years. (BNCWeb 2008, K1D 3103 W:news_script)

One may well argue that the aforementioned example is considered relational on the grounds that the verb *suggest* in this particular case is employed metaphorically. However, if we accept that the verb *suggest* in the previous example is relational, we face yet another contradiction in terms with the Sydney Transitivity system. Halliday & Matthiessen (2014: 226) insist that, unlike mental and verbal process types, relational processes cannot project a separate clause. However, examples such as (61) do indeed project, which would seem to imply that not only is it necessary to reconsider the definition of the verbal process category, but also perhaps review the criteria of relational processes and acknowledge that they can sometimes project. One potential solution to deal with this may be to classify any verb denoting communication, even metaphorically, as a verbal process and, in doing so, not only is the definition of this category adhered to, but the contradiction regarding the inability of relational processes to project is also simultaneously resolved.²

Behavioural processes (the Sydney model)

We now turn to consider a second problem, which is whether it is possible to clarify what constitutes a behavioural process or if it would be better to eliminate this category altogether from the Transitivity system and reassign ‘behavioural process’ verbs to one of the already existing categories. Halliday & Matthiessen (2014: 301) affirm that behavioural processes ‘have no clearly defined characteristics of their own’, which is essentially why this category often proves so controversial. The behavioural set includes verbs such as *sneeze, cough, laugh, dream, burp, yawn, breathe, gossip*, thus denoting a group of processes that represent human physiological and/or psychological behaviours. The CG model, unlike the SM, do not propose a behavioural process category and, instead, assign the majority of verbs to a subcategory of action processes, otherwise considered to exemplify involuntary behaviours. Those that do not fit under this label are, alternatively, placed in the mental perception process category (Neale 2002: 110–111). Within the subcategory of involuntary behaviour, reference is made to physiological or psychological reactions, as in (62).

(62). [...] he sweats under the studio lights [...] (BNCWeb 2008, CD6 1037 W:pop_lore)

The mental perception subcategory of the CG model, on the other hand, distinguishes between those cases in which there is evidence of intentional perception, as in (63), and those in which the participant perceives something intuitively, as in (64) (see also Section 2.1).

(63). He turned and looked at the display of cakes [...] (BNCWeb 2008, A0D
900 W:fict:prose)

(64). [...] they first noticed the onset of the condition [...] (BNCWeb 2008, K8Y
1890 W:misc)

Given that the processes that denote action in either of the two aforementioned Transitivity systems include actions that imply intention as well as a lack thereof (i.e. bodily reactions), there seems to be no reason why a separate category is actually needed to represent many of the physiological and psychological behaviours. To add to this, the idea of differentiating between an agentive and a non-agentive *Senser* for the mental perception process set is also a useful way of accounting for a number of verbs that denote deliberate as opposed to non-deliberate perception (i.e. *look at* vs. *see*, for instance). With the latter in mind, then, the behavioural process category appears to be superfluous and, therefore, could, in fact, be eliminated altogether from the Transitivity network. That said, in order to ensure that each of the verbs are adequately accounted for by the other categories, it is vital that a set of clear-cut criteria are proposed for each process type (See Bartley 2017 for more on this).

To add to the latter, the behavioural process set comprises verbs that are arguably verbal in nature, as in (65), yet due to their inability to project, are instead considered to pertain to the behavioural category (Halliday and Matthiessen 2014: 302).

(65). We gossiped for half an hour [...] (BNCWeb 2008, EFN 867 W:non_ac:polit_law_edu)

This may appear to be a valid contention until we come across other instances in which a number of similar verbs that also denote communication are unable to project and yet are still classed as verbal processes, comprising a *Target*. A *Target* is defined as the entity who finds him/herself verbally affected by the *Sayer* and emerges in verbal clauses unable to project, as in (66).

(66). Ms Nelson has praised her [...] (BNCWeb 2008, K35 1409 W:newsp:other:report)

The latter ultimately leads to yet another contradiction in the theory; that is, if verbal processes that cannot project are considered behavioural (or as discussed above, sometimes relational), yet other verbal processes that also cannot project are instead considered verbal, the question arises of just what constitutes a verbal and/or behavioural process. In line with the proposal to remove the behavioural category from the Transitivity system, one way to address the fact that a *Target* may emerge in a clause comprising a verbal process is to allow for the verbal process set to cater for a distinction between verbs with and those without the potential to project (see Bartley 2017 for more details on a proposal of verbal process subtypes).

Influential processes (the CG model)

We now look at a third issue, which concerns the influential process category in the CG model. As we have seen above in section 2.1.2, this group comprises verbs such as *start*, *try*, *continue* or *stop*, as well as verbs that denote success and failure. According to (Neale 2002: 172), these process types only consist of an *Affected* semantic role, as in (67) and (68) below.

(67). To date, 10 million smokers [*Affected*] have succeeded in kicking the habit.
(BNCWeb 2008, A0J 760 W:misc)

(68). McMahon [*Affected*] had failed to convince the manager [...] (BNCWeb 2008, A4P 39 W:newsp:brdsht_nat:sports)

Although the participant in the two previous examples denotes, without question, an *Affected* role, I would urge the analyst to take the annotation a step further. That is, an individual who is (or is not) successful is not only affected by the outcome of the action, but equally responsible for the action or event taking place. Thus, it seems appropriate to suggest that in the above examples, *smokers* and *McMahon* would be better defined as participant combinations (i.e. *Agent-Affected*).

Action processes (the CG model)

The last of the process types under discussion is the action category and, specifically, the divide established in the CG model between material and social action processes. At first sight, this idea seems useful, given that as (Neale 2002: 149) asserts, not all action is of the same type. Nonetheless, within the social action subcategory there seems to be a degree of overlap; that is, this subcategory not only contemplates social interactions of a physical nature, but also of a verbal character, as in (69) below.

(69). They threatened me once more [...] (BNCWeb 2008, BP7 867 W:fict:prose)

First off, the point I wish to make here is that there are other verbs that imply a verbal interaction and are instead classified as mental cognitive verbs. (Neale 2002: 227) reasons, however, that the difference between verbs such as *threaten*, annotated as a social action process, and *tell*, considered a process of mental cognition, is that mental cognitive verbs of communication are those that ‘cause someone to know something’. Moreover, she adds that unlike example (69), which comprises two semantic roles, mental cognition examples are claimed to include three semantic roles (i.e. an *Agent*, a *Cognizant-Affected* and a *Phenomenon*, as in (70)).

(70). I [*Agent*] told [mental cognitive process] him [*Affected-Cognizant*] to surrender [*Phenomenon*] [...] (BNCWeb 2008, BP7 867 W:fict:prose)

In view of the fact that the CG model considers the process secondary to the semantic role configuration, the above analysis would seem reasonable. However, this argument actually fails to work consistently when tested using other similar examples, as illustrated in (71) below.

(71). He [*Agent*] was always on at [mental cognitive process] me [*Affected-Cognizant*] to become a driver [*Phenomenon*] [...] (BNCWeb 2008, A6E 1611 W:biography)

Whereas *threaten* in example (69) above has been classified as a verb of social action on the grounds that it consists of two semantic roles, *be on at* in example (71) also appears as a social action verb despite including three semantic roles, as evidenced. In other words, it is not clear if example (71) should be grouped in the mental cognitive category on the grounds that the number of semantic roles takes priority in the clause, or whether most weighting should be given to the semantics of the process itself (i.e. to consider *be on at* as a form of social verbal abuse). A potential solution may be to propose the notion of complex process types, in the same way that the CG model has put forward the concept of participant combinations (Butler 2003: 394). In doing so, both the process and participants would receive an equal weighting within the Transitivity system. Examples such as (69) clearly share features of verbal and action processes and, in my view, neither one need be overlooked. Thus, if a participant can reflect more than one semantic role simultaneously, it seems logical to assign a dual code to a verb that denotes more than one simple meaning when used in a particular context³.

Process and participant combinations

The fifth issue raised here is something that is yet to emerge in the SM, although it has, in part, been suggested in the CG Transitivity system. That is, the latter proposes the possibility of allowing for participant combinations (e.g. *Agent-Cognizant*, *Affected-Carrier*) (Neale 2002: 374–375) so as to analyse clauses in which the participant performs more than one role simultaneously. In light of this idea what springs to mind here is the same potential for processes in order to cater for those verbs that denote more complex meanings. Whilst the idea of participant combinations in the CG model most definitely enhances the Transitivity network, the system still proves insufficient as long as the same option is not available for the process element of the clause. In the English language there are numerous verbs with meanings that stretch beyond one process type and, consequently, this often results in a lack of consensus among analysts who annotate texts for Transitivity patterns (cf. studies by O'Donnell et al. 2009; Fontaine and Gwilliams 2015). Thus, through offering the option of process combinations (i.e. dual processes), it may be possible to satisfy many if not all of the annotation discrepancies that arise. An example of a potential dual process is provided below.

(72). He showed her his wallet [...] (BNCWeb 2008, BMX 146 W:fict:prose)

In this instance, the verb *show* may be considered to represent an action on the part of the person who shows something, but simultaneously one of mental perception on the basis that the person who is shown something is subject to perceiving it.⁴

The analysis of grammatical metaphors

The sixth and final issue that we deal with in this article relates to the treatment of grammatical metaphors. According to Halliday & Matthiessen (2014: 710), grammatical

metaphors, also referred to as nominalisations, denote entities (i.e. things) as opposed to processes. Consequently, expressions such as (73a) are considered non-congruent when they are designed to express an event. However, this example can be made congruent if the process is instead expressed using an appropriate verbal realisation, as in (73b).

(73a). My belief is that sports journalism is there to inform [...] (BNCWeb 2008, CHV 194 W:pop_lore)

(73b). I believe that sports journalism is there to inform [...].

Halliday & Matthiessen (2014: 715) insist that metaphorical expressions that appear as nominalisations must have a congruent equivalent in order to identify the process in the clause. That said, there are other researchers who counter this view and, rather, assert that nominalisations can indeed serve to represent processes (cf. Simon-Vandenberg et al. 2003; Bartley and Hidalgo-Tenorio 2015) and, in fact, their use is likely to serve a particular purpose. Woods (2006), for instance, argues that one function of nominalisations is to obscure the participant(s) involved and, especially, anyone who is considered responsible for the process. By the same token, Woods points out that when nominalisations are used, the process itself is backgrounded and, instead, emphasis is laid on the outcome of the process (2006: 73). In view of the latter it seems logical to propose that those who do discourse analysis must consider the use of nominalisations in their Transitivity analyses. However, the question still arises as to how this can be best achieved. Whilst the SM transforms a non-congruent clause into a congruent equivalent, the CG model puts forward an alternative approach. As detailed in section 2.1.2, the CG model includes a category labelled as event-relating processes, which caters for examples such as those discussed here. As such, the CG Transitivity model considers grammatical metaphors as a process in their own right (Fawcett, *The many types of theme in English. Their syntax, semantics and discourse functions, forthcoming*) and treats them as the equivalent of a clause that relates two events, as in (74).

(74). My belief [*Carrier*] is [event-relating process] that sports journalism is there to inform [*Range*] [...] (BNCWeb 2008, CHV 194 W:pop_lore)

The introduction of this category in the Transitivity system is arguably a legitimate alternative to the way grammatical metaphors are treated by Halliday and Matthiessen (2014), given that the CG model, unlike the SM, considers them as Transitivity patterns that need not undergo any modifications. Nonetheless, as evident in (74) above, the annotation of the clause is still severely lacking in detail. To elaborate, the fact that *My belief* is classified as *Carrier* implies that the mental cognitive meaning inherent in the nominalisation is completely disregarded. As such, the annotation may be deemed inadequate. Moreover, if the expression *sports journalism is there to inform* is tagged exclusively as a *Range* participant, the analyst will also fail to capture the full meaning of the projected clause. Given that systemic functional grammarians strive to obtain both the meaning of the clause as well as take account of how the clause is expressed in terms of its syntactic structure, both systems at present are, to some extent, deficient. To deal with this, it is important that the Transitivity network incorporate

the potential for nominalisations and, moreover, that each process category accounts for this type of realisation; only in this way will it be possible to capture both *what* is said and *how* it is said.

Conclusion

This article began by outlining the main tenets of two Transitivity systems, namely the Sydney model (Halliday and Matthiessen 2014) and the CG model (Fawcett 2000; Neale 2002). Whilst both serve as tools for discourse analysis, we have witnessed that both have shortcomings (cf. He et al. 2017: 23). Among the issues raised here, first and foremost is the fact that both Transitivity models consider there to be only one predicator per clause when analysing texts for Transitivity patterns. However, if we wish to capture the meaning of a clause in its entirety, it may be necessary to accept the notion that all the verbs in a clause constitute a process type with each verb contributing to the intended meaning of the structure.

A second issue raised in this paper is the common difficulty in deciding whether a given item corresponds to a participant role or a circumstance type. In order to deal with this, it is necessary to offer further clarification regarding just what constitutes each of these components. To add to this, the CG model above all would also benefit from specifying a set of criteria that can be used to distinguish between specific circumstance types.

A third concern with the Transitivity models under discussion relates to a series of incoherencies and ambiguities that emerge as a result of the criteria specified by each model for the different process types. A prime example of this is the behavioural set of processes described in the SM, which comprises a miscellaneous assortment of verbs that, essentially, could be assigned to other existing categories if amendments were made to the criteria of each type. A second example is the inconsistent classification of a number of verbs that denote communicative action. That is, there is a clear crossover of semantic criteria in the SM, with communicative verbs assigned to any one of three categories (i.e. verbal, relational and behavioural categories), resulting in a lack of consistency; meanwhile, the CG model fails to capture a sufficient level of detail through placing communication verbs within the mental cognition category.

A fourth question that arose as a result of an innovative idea proposed in the CG Transitivity system was the potential for process combinations. As with the option of participant combinations put forward by the CG model, process combinations may be one way in which, on a practical level, verbs with more complex meanings could be dealt with. That is, the notion of a verb comprising more than one process type need not be viewed as detrimental nor involving a less delicate annotation; rather, it would arguably serve the opposite purpose.

A final point discussed in this article concerns how each model at present fails to adequately annotate grammatical metaphors in discourse. Given that the SM rewords the clause means that how the utterance has been expressed is immediately disregarded; meanwhile, the CG approach examines this type of structure by clearly giving precedence to syntax and, consequently, completely overlooks the actual meaning of the clause itself. As such, there is no denying that neither model currently offers a satisfactory means by which to analyse this type of grammatical structure. With all of the above in mind, then, there are a range of issues that need addressing and especially, if, as discourse analysts, we are striving for an accurate and systematic analysis of Transitivity patterns in any given piece of discourse (cf. He et al. 2017: 160).

Endnotes

¹All examples are taken from the BNCWeb (<http://bncweb.lancs.ac.uk>).

²For more details on a revised transitivity system, see Bartley (2017).

³More details on the proposal of dual processes can be found in Bartley (2017).

⁴I acknowledge that for this type of dual analysis to be deemed reliable, an inter-rater reliability measure would need to be applied, preferably involving collaborative analyses by various SFL transitivity experts of a set of problematic clauses.

Acknowledgements

I would like to thank my father, John Bartley and my PhD Supervisor Encarnación Hidalgo Tenorio for assisting me with various aspects of the content discussed in this article. Their insights and advice, as always, are much appreciated and, without a doubt, invaluable. I must also acknowledge that this article was carried under the auspices of the project "The Construction of Otherness in the Public Domain: A Critical Study of the Case of Ireland" (reference number FFI2011-25453), led by Dr Encarnación Hidalgo Tenorio.

Funding

Not applicable

Availability of data and materials

Not applicable

Author's contributions

The article has been written by the sole author. The author read and approved the final manuscript.

Competing interests

The author declares that they have no competing interests.

Received: 28 October 2017 Accepted: 7 March 2018

Published online: 20 March 2018

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