5 Background to Systemic Functional Grammar

5.1 Introduction: Systemic Functional Linguistics

Founded on the work of Michael Halliday, Systemic Functional Linguistics (SFL) commands a huge following and proposes an all-encompassing theory of language (Matthiessen 2023). In Halliday's approach, language is primarily a social, as opposed to mental, phenomenon. Systemic Functional Linguistics is also a theory of meaning, being concerned with what meanings a society makes and how (Halliday 2013: 194; Webster 2019: 36). Rather than representing language as a series of rules, SFL regards language as a set of resources; these are represented as paradigmatic systems that express the options available to the language user.

In producing an instance of language, a speaker has a range of options available that can be used to construe the social or physical or internal world in a specific way. The role of the linguist is to identify what resources are available and how they might be modelled. The connection between 'what people say', 'what they might have said', and 'how we see the world' has made SFL the theory most used in Critical Discourse Analysis and other approaches concerned with the social impact of language (O'Grady 2019).

As a comprehensive theory of language, SFL offers ways of modelling aspects such as context (Taverniers 2021), genre (Hasan 1996/1984), evaluative language (Martin and White 2005), and multimodal communication (Kress and van Leeuwen 2006). Detailed accounts of Systemic Function Linguistics can be found in Bartlett and O'Grady (2017) and Thompson et al. (2019). At the heart of SFL, however, is the lexicogrammar: the resources of lexis and grammar that are used in the production of individual utterances. The hybrid term 'lexicogrammar' indicates that for Halliday, lexis and grammar comprise a single system for making meaning. The following section will explain Systemic Functional Grammar (SFG) in more detail, and this is followed by a section discussing approaches to the place of lexis in the model. The final section explains the use made of SFG in this book.

5.2 A Brief Introduction to Systemic Functional Grammar

The fullest account of SFG is found in Halliday and Matthiessen (2014), and a more accessible account is found in Thompson (2014).

The clause is the central unit of lexicogrammar, and a key innovation in Halliday's model is that any clause performs three functions and is analysed in three ways: as a construal of experience (the experiential metafunction); as an enactment of social relations (the interpersonal metafunction); and as a means of creating discourse (the textual metafunction) (Webster 2019: 36). Figure 5.1 (adapted from Thompson 2014: 34, figure 3.8) shows three analyses applied to a single clause: 'Did you take her calculator just now?' The experiential, or ideational analysis identifies the Process element, the Participants that accompany it (Actor and Goal), and a Circumstance. In other words, the experiential analysis tells us about the situation construed by the clause: who did what kind of action to what and when. The interpersonal analysis deals with the fact that the clause is a question: one person is seeking information from another. This is expressed by the splitting of the Finite element of the verb phrase from the Predicator, and the insertion of the Subject between them. The textual analysis is concerned with the order of the information given. In Figure 5.1, the clause begins with the Finite and Subject elements – these constitute the Theme or initial part of the clause. The rest of the clause constitutes the Rheme.

The clause illustrated in Figure 5.1 makes use of particular options in the experiential, interpersonal, and textual metafunctions. Alternative versions of the clause would construe different meanings. Examples (1)–(4) illustrate this.

(1) Did you take her calculator just now?

(2) You took her calculator just now.

(3) Her calculator was taken by you just now.

(4) The theft of the calculator was wrong.

Example (1) is the original clause from Thompson (2014: 34). Example (2) makes changes that affect the interpersonal metafunction: the clause is now a statement not a question. Example (3) is in the passive and this change affects

Type of structure	Did	you	take	her calculator	just now?
experiential		Actor	Process	Goal	Circumstance
interpersonal	Finite	Subject	Predicator	Complement	Adjunct
textual	Theme		Rheme		

Figure 5.1 Analysis of a clause showing three metafunctions (from Thompson 2014: 34)

the textual metafunction: the starting point or Theme of the clause is 'her calculator' instead of 'you'. Example (4) makes a change to the experiential metafunction: the process is one of being, expressed by the verb 'was', instead of one of doing, expressed by 'take'. The action of taking is construed by the noun 'theft' – it is a 'thing' rather than an 'action'.

Later versions of SFG include a fourth metafunction: the logical metafunction (Thompson 2014: 38), which relates to connections between clauses. In this book, we are concerned with the experiential or ideational metafunction only. From the perspective of this metafunction, a clause 'construes a quantum of change in the flow of events as a figure, or configuration of a process, participants involved in it and any attendant circumstances' (Halliday and Matthiessen 2014: 212). Thompson (2014: 92) puts this more prosaically:

> From the experiential perspective, language comprises a set of resources for referring to entities in the world and the ways in which those entities act on or relate to each other.

Those resources are modelled as networks of transitivity, one of which is the classification of process types. The process types identified by Halliday are: Material, Mental, Relational, Verbal, Behavioural, and Existential (Thompson 2014: 95–111). The first three of these are the most basic in that they construe three different types of situation: a dynamic one where events take place (Material); a static one where relationships exist between entities or events (Relational); and one where the situation exists in the 'inner world' of someone's mind (Mental). The other process types account for clauses that do not fit the first three types. The division into process types is to some extent a semantic classification. For example, the process 'take' in example (1) means that a physical action took place, whereas the process 'was' in example (4) expresses the relationship between the act of theft and the evaluation of it as wrong. The process type in example (1) is Material, while the process type in example (4) is Relational.

However, the identification of process types is not left to a subjective judgement of meaning. Instead, process types are identified by grammatical behaviour and participant type. For example, Material process verbs are unremarkably found in the progressive ('he is running'), while Mental process verbs are more likely to be found in simple aspect ('she thinks'). Verbal process verbs are typically complemented by a that-clause ('she said that . . . '). In terms of participants, Material processes have Actor and Goal as participants, while Mental processes have Senser (person who thinks) and Phenomenon (what they think). Process, participant and circumstance together constitute transitivity (Webster 2019: 38). The semantic fields identified in this book (see Chapter 4) are inspired by, but are not reliant on, these process types. Similarly, the participant roles are inspired by those in Halliday's framework.

As previously noted, Halliday sees meaning as paradigmatic and contrastive: the meaning of a language feature depends on what other features are available in that context. The paradigm is expressed as a system network. Matthiessen (2023: 7) notes that system networks 'model [language] theoretically as a resource rather than as a system of rules'. Webster (2019: 43) describes system networks as 'a way to represent meaning potential not simply syntagmatically as an inventory of sequentially ordered items, but instead primarily as paradigmatically organized sets of options', though as Thompson (2014: 35) points out, describing a node in a network as a 'choice' does not mean that the speaker consciously chooses between options. Neither, as Matthiessen (2023: 206) notes, should the network be read as a taxonomy. Rather, the network represents the full set of meaning resources available to the speaker (Matthiessen 2023: 7). The network arrangement shows the dependency of one choice upon another. Moving from left to right along the network, the items become more specific: in Halliday's terminology, there is an increase in 'delicacy' (Thompson 2014: 36). System networks have been devised for all areas of language (Matthiessen 2023). Figure 5.2 shows a simple network for Mood choices in English. The information and layout come from Thompson (2014: 41), but the figure uses the type of diagram used in this book, rather than the conventional SFG format. Reading from left to right, this figure summarises the following information:

- An independent clause in English may be indicative or imperative. If it is indicative, it may be interrogative or declarative.

The network might also be read right to left, though this is the less conventional approach. In this case, the figure summarises this information:

- Clauses in English may be interrogative, declarative, or imperative. Interrogative and declarative clauses are like each other in that both are indicative, whereas imperative clauses are not. All the clause types are subcategories of independent clause.

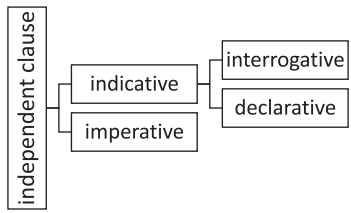

Figure 5.2 Mood choices in English (adapted from Thompson 2014: 41)

In drawing system networks, square brackets are used to show mutually exclusive alternatives. Curly brackets are used to show simultaneous, or independent, choices. An example is shown in Figure 5.3, which is a simplified version of part only of the network of mental processes shown in Halliday and Matthiessen (2014: 258), but using the layout used in this book. It shows that there is a choice between types of sensing (whether the process is one of thinking, wanting, seeing, etc.), but also a choice between directions of sensing: whether the event is construed as the Senser acting on the thing, as in 'Peter liked the film', or as the thing acting on the Senser, as in 'The film pleased Peter'. Finally, there is a choice between whether the phenomenon is specified in the clause or not. Thus, an example such as (5)

(5) I liked the poem about Grantchester. (BNC2014)

is the consequence of three independent or simultaneous choices: it is the emotive type of sensing, it is the emanating direction, and the phenomenon ('the poem') is specified in the clause. It therefore contrasts with three different alternative clauses, shown here as examples (6)–(8):

(6) I considered the poem about Grantchester. (cognitive, not emotive)

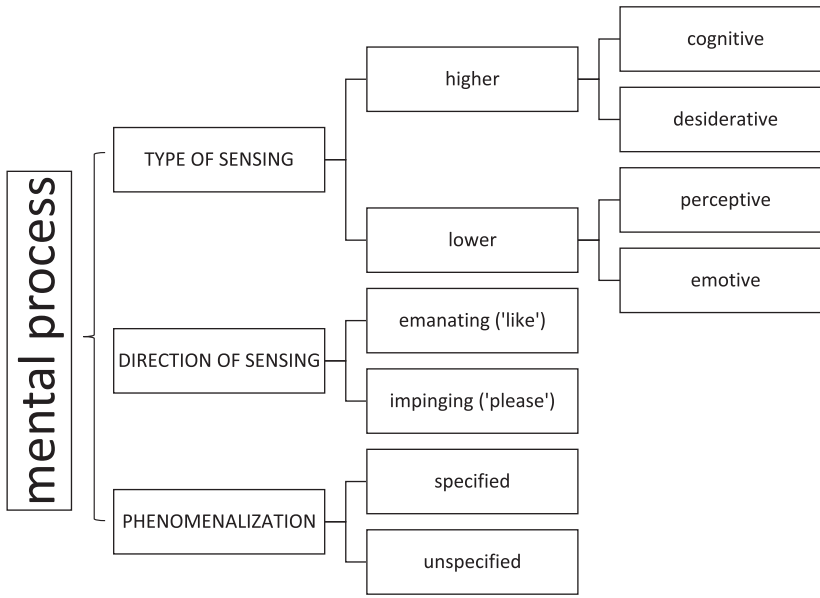

Figure 5.3 A simplified network for mental processes (adapted from Halliday and Matthiessen 2014: 258)

(7) The poem about Grantchester pleased me. (impinging, not emanating)

(8) I rejoiced (when I read the poem). (phenomenon unspecified in the clause)

Although SFG involves a qualitative assignment of category labels, it has embraced the opportunities for quantitative research offered by Corpus Linguistics (Halliday 1993: 1; Matthiessen 1999, 2006). Halliday and James (1993) found that, in an 18 million word corpus, clauses with positive or negative polarity occurred in a ratio of approximately 9:1, while clauses with present or past tense occurred in the ratio 5:5. This accorded with Halliday's view that system options would tend to be 'skew' (like polarity) or 'equi' (like tense) (Halliday and James 1993: 35). Where two options have equal probability, there is no marked or unmarked form, whereas where the probability is skew, the less probable form is marked. Halliday and James (1993) raise the question of whether genre/register would greatly change these figures, a question answered from work in a different tradition (Biber et al. 1999). Biber et al. (1999: 456) demonstrate, for example, that present and past tense are roughly equal in news discourse, but that present tense predominates in conversation and academic discourse, while past tense is more frequent in fiction. Matthiessen (2006) measures the frequency of process types: material and relational processes occur with approximately equal frequency, then mental and verbal, and finally behavioural and existential processes. These frequencies are to some extent dependent on register: material, relational, and verbal processes are proportionally more frequent in written than spoken registers, whereas mental and behavioural processes are proportionally more frequent in spoken registers. He also shows in detail how the frequency of various language features such as process type and mood vary against each other; in other words, the probability of one choice within a system depends on choices within other systems. For example, whereas all process types are most likely to take the 'declarative' mood choice, the process types of relational and existential are very unlikely to take the 'imperative' choice and verbal process clauses are less likely to be yes/no interrogatives than the other process types are (Matthiessen 2006: 129). Detailed quantitative work of this nature is essential in the exploration of the uniqueness of single texts or collections of texts – what makes them representative of or markedly different from others from a similar context. The outcome might be explained in terms of 'style' or of 'ideological bias', or similar.

As the remainder of this book makes considerable use of networks, it is necessary to mention an important caveat. Of necessity, networks represent 'either/or' choices: a clause is either active or passive; a process is either mental or material, and so on. However, many categories are 'fuzzy' and blend into one another, meaning that a network representation is somewhat idealised, to

the point where it may be inaccurate. Thompson (2014: 77) follows Martin and White (2005) in using a slanting line in a network to show that choices are placed on a cline rather than in opposition to each other. This is in a network of choices in modality: the type of modality is either modalization or modulation, but the level of commitment, ranging from high to low, is a continuum rather than an either/or. More radically, typologies that are represented as system networks can instead be represented as 'topologies' (Halliday and Matthiessen 2014: 217–220). This is particularly relevant to process types, which instead of being shown in a network (either material or mental or relational etc.), can be shown as a continuous circle: relational blending into verbal, which blends into mental, which blends into behavioural and so on. This is the representation of process types chosen for the cover of Halliday (1994). Although the current book prioritises the typological over the topological, it is worth remembering that both representations exist.

5.3 Perspectives on Systemic Functional Grammar and Lexis

There is agreement that some features of language are 'grammar-like' and some are 'lexis-like'. In English, inverting the order of Subject and Verb changes a declarative clause to an interrogative one: this is a 'grammar' observation. The use of the word *cast* in *cast your mind back to* … is a 'lexis' observation. There are (at least) three ways of looking at this distinction. One view is that grammar and lexis are entities of different kinds that are described using different frameworks and stored in different parts of the brain. Information about them is found in different books – dictionaries and grammars. An alternate view is that grammar and lexis are not distinct: 'pieces of language' consist of both closed-class grammar features and open-class lexical features, but the relationship between the 'grammar-like' and the 'lexis-like' is not systematic. What lies between the extremes of 'grammar-like' and 'lexis-like' could be represented as a cloud rather than as a taxonomy (Herbst 2024).

The third view, from SFG, is that lexis and grammar form a continuum. According to Matthiessen (2023: 80): 'The stratum of lexicogrammar is extended systemically (i.e. along the paradigmatic axis) in delicacy from the grammatical zone to the lexical zone.' Interestingly, in light of the approach taken in this book, Matthiessen' (2023: 81) proposes 'constructions' as lying between grammar and lexis. He argues that:

> Lexical distinctions will be located within systems whose points of origin are grammatical; they do not suddenly appear mid-delicacy unrelated to any grammatical systems. Paradigmatically, the move along the cline of delicacy from grammar is a move from closed systems to open sets; and syntagmatically, it is a move from grammatical structures to lexical collocations. (Matthiessen 2023: 82)

Matthiessen exemplifies this principle in relation to all the metafunctions. Under the heading of 'experiential', he proposes a movement from the system of process type, to the closed systems of 'grammaticalized lexical verbs' (DO, HAPPEN), to 'high-frequency verbs' that have features of both closed systems and open sets (DO, MAKE, TAKE; SAY, THINK; BE, HAVE), to open sets of verbs.

In principle, then, it should be possible to move along the continuum from the most general choices, such as between process types, to the most specific, or most delicate, such as between verb types (Neale 2006: 143; Matthiessen 2014: 143; Davidse 2017). In practice, determining how to integrate observations about lexis and those about grammar has proved far from straightforward, and a number of different proposals have been put forward. This section focuses on four studies: Hasan's seminal paper on 'the grammarian's dream' (Hasan 1996/1987); Matthiessen's (2014) reinterpretation of Levin's (1993) work on alternations; the 'Cardiff Grammar' as discussed in the work of Fawcett (2017), Neale (2002, 2006) and Chrispin (2021); and Fontaine's (2017, 2025) alternative view.

Hasan: The Grammarian's Dream

The proposal to extend the representation of grammar as paradigmatic system into lexis has been referred to as 'the grammarian's dream' (Halliday 1961: 267; Hasan 1996/1987: 73; Matthiessen 2023: 80). Neale (2006: 143) points out that this could be achieved by going from the grammar to the lexis, or vice versa. Hasan (1996/1987) adopts the second of these options, with lexis as the starting point. She discusses groups of verbs drawn from the same semantic field, such as GATHER, COLLECT, ACCUMULATE, SCATTER, DIVIDE, DISTRIBUTE, STREW, SPILL, and SHARE (Hasan 1996/1987: 99). These are instances of material process, specifically 'action' processes. She then devises networks to account for the differences between them. The class of 'action' is divided into types such as 'disposal', 'transformation', and 'locomotion' (and others that are not specified in the paper). The verbs GATHER, COLLECT etc. all belong to the 'disposal' type. Distinguishing between them requires the application of several criteria rather than a simple grouping into types. To put this another way, a system network specifying a number of simultaneous feature paradigms is needed. Taking 'disposal' as the entry point, there are two major simultaneous paradigms: 'access' and 'character'. Under 'access', the choice is between 'acquisition' (e.g. GATHER) and 'deprivation' (e.g. DISTRIBUTE). Under 'character', the choice is between 'iterative' (e.g. ACCUMULATE) and 'non-iterative', which is not discussed in the paper. Simultaneously with all of these is another set of choices, with 'action' as the entry point, under the heading of 'benefaction'. The options are 'beneficile' (e.g. *gather Mary some flowers*) and non-beneficile (e.g. the impossibility of **scatter Mary some flowers*). Within each of these options there

are further choices, many dependent on choices at other points in the network, leading to a complex system network.

One way of looking at the network is that it acts as a heuristic in identifying the features that are of significance in distinguishing between verbs. It answers the question 'What makes GATHER different from ACCUMULATE and DISTRIBUTE different from SCATTER?' For example, the verb GATHER is an example of 'acquisition', not 'deprivation'; it is used with plural nouns that construe discrete items, such as *flowers*, but not uncount nouns such as *water*; it construes an 'iterative' action; it can be used with a benefitting party that can be indicated in an object or in a prepositional phrase ('gather someone some flowers'/'gather flowers for someone'). The networks are also used to describe the options taken up in specific instances of verb use. One of the examples quoted by Hasan is shown here as example (9):

(9) She divided the apple between John and Jenny. (Hasan 1996/1987: 93)

Here the verb *divided* realises the following options: 'deprivation' (not 'acquisition'); 'iterative'; 'inherent benefactor'; 'planned' (not 'random'); 'constrained' (the benefactors must be in a prepositional phrase).

Hasan's paper on 'the grammarian's dream' is referred to in all subsequent work on lexis within the SFG framework. It is important in many ways. For one thing, it demonstrated that the concept of treating lexis in the same way as grammar is a valid one. That is, it is possible to itemise the resources available and to model each instance of usage as the outcome of choices within those resources. The idea of binary choice, and of simultaneous choice, can be applied to the fine distinctions between verbs as it can to the more abstract concepts of transitivity. Secondly, it showed that modelling the distinction between verbs requires that attention be paid to features of meaning; that is, a verb has to be considered as a bundle of meaning features, rather than as an item with a simple meaning. Finally, discussion of examples such as (9) shows that, when the feature choices are instantiated, they are instantiated as a verb in context (in this case 'divide entity between people'), or, it might be said, as a construction, rather than as a verb alone.

Although Hasan's work is much admired, the amount of manual work involved made it unfeasible to extend it across all semantic fields (Matthiessen 2014: 147). Subsequent work on the grammar and lexis continuum, of the kind discussed next, has involved two major departures. Firstly, information from other approaches to lexis has been incorporated into the research. This includes references to Levin (Matthiessen 2014), Construction Grammar, FrameNet, Pattern Grammar (Neale 2002; Matthiessen 2014), and Corpus Pattern Analysis – CPA (Chrispin 2021). Secondly, the emphasis has shifted from identifying the distinguishing features of groups of verbs to allocating verbs to process types and sub-types, thus testing and expanding

the process type framework. It might be said that a final legacy of Hasan's work is to inspire further research exploiting the synergies between SFG and other traditions, in particular corpus-based research.

Matthiessen: Process Type and Levinian Verb Classes

Matthiessen (2014: 141) credits both Halliday and Fillmore with developing grammars of transitivity but distinguishes between Halliday's focus on the paradigmatic and Fillmore's concern with the syntagmatic. He sees more similarity between Halliday's work and that of Levin (1993), arguing that: 'they are concerned with paradigmatic contrasts (or as Levin calls it, with 'diathesis alternations' (argument alternations)), they see grammar and lexis as continuous, and they are based on the insight that grammar is semantically natural . . .' (Matthiessen 2014: 143).

Matthiessen (2014: 144) seeks to extend the delicacy of process types, moving from the 'most general' distinctions between six process types (material, relational, mental, etc.) towards the 'least general' distinctions between lexis. He argues that to occupy this area of 'mid-range delicacy' successfully, it is necessary to draw on the work of large-scale classification projects, such as FrameNet (Ruppenhofer et al. 2016), or the COBUILD project (Francis et al. 1996), or Levin's verb classes project (Levin 1993).

Levin (1993) reports the output of a large project to classify verbs in English based on the combination of behaviours (or alternations) they allow. In a simple example (Levin 1993: 6–7), she shows that four transitive verbs (TOUCH, HIT, CUT, and BREAK) each permit a different combination of behaviours. This may be summarised thus (terminology is a simplified version of that used by Levin):

- The 'two argument' behaviour e.g. 'Margaret cut the bread' is allowed by all the verbs.
- The 'middle' behaviour e.g. 'Crystal vases break easily' is allowed by CUT and BREAK only.
- The 'conative' behaviour e.g. 'Carla hit at the door' is allowed by HIT and CUT only.
- The 'body part' behaviour e.g. 'Terry touched Bill on the shoulder' is allowed by TOUCH, HIT, and CUT only.

Thus, each of these four verbs has a unique combination of behaviours. However, if other verbs are subjected to the same behaviour tests, it is found that there is a group that shares all behaviours with BREAK (e.g. CRACK, RIP, SHATTER, SNAP), a group that behaves like CUT (e.g. HACK, SAW, SCRATCH, SLASH), a group that behaves like TOUCH (e.g. PAT, STROKE, TICKLE), and a group that behaves like HIT (e.g. BASH, KICK, POUND,

TAP). It is entirely feasible, in other words, to classify verbs into groups based on alternations such as these. Overall, Levin classifies 3,100 verbs divided into 48 primary classes, 150 secondary classes, and 29 tertiary classes. Matthiessen (2014: 152) illustrates the notion of 'primary', 'secondary', and 'tertiary' with the example of 'verbs of motion'. 'Verbs of motion' constitute the primary class (e.g. MOVE). One of the secondary classes is 'Verbs of motion using a vehicle' (e.g. RIDE). One of the tertiary classes is: 'Verbs of motion using a vehicle that are vehicle names' (e.g. HELICOPTER).

Matthiessen (2014: 144) reinterprets Levin's work in SFG terms. He argues that 'verb classes and alternations' can be seen as 'transitivity configurations', with processes, participants, and circumstances, and proposes to 'interpret her verb classes as clause nuclei'. He specifically locates these clause nuclei as occupying a space between the least delicate 'Grammar' and the most delicate 'Lexis', describing them as 'more delicate process types'.

Matthiessen then classifies Levin's verb classes into the SFG process types. He finds that all the primary classes can be allocated to a process type, but that some of the secondary classes from the same primary one have to be allocated to different types. An interesting example is illustrated by the verb PEER in the example *she peered at the dog*. Levin classes this as a 'perception' verb, but Matthiessen classifies it as 'behavioural' (not 'mental – perception'). This is because *at the dog* is analysed in SFG as a circumstance not a participant (Matthiessen 2014: 160). In the Pattern Grammar work, this distinction between participant and circumstance is elided, and the example treated as though 'peer at' is the verb and 'the dog' the Object.

The result of Matthiessen's work is on the one hand a validation of the SFL process types (mostly) and on the other hand a taxonomy of more delicate process types that successfully progresses the process type networks towards greater delicacy of description. He does, however, insist on a distinction between taxonomy and system, arguing that:

> . . . while Levin's (1993) scheme is a strict taxonomy, a systemic description represented in a system network is not; there are often simultaneous systems in a system network, such as the systems of PROCESS TYPE and AGENCY, and interactions between simultaneous systems . . . must be taken into account when the systemic description of motion or of any other experiential field is extended in delicacy. The result is likely to be a multi-dimensional description of a field such as motion of the kind that can be accommodated in a system network . . . rather than a one-dimensional one of the kind that can be accommodated in a strict taxonomy. (Matthiessen 2014: 158)

In the subsequent chapters of this book I shall propose that to account for the verbs and patterns involved in expressing a semantic field, two kinds of network are needed. In Matthiessen's terms, the one-dimensional taxonomies

are what I shall call 'Meaning Networks', and the multidimensional system networks are what I shall call 'Systemic Networks'.

Matthiessen (2014: 168) concludes that:

> the fact that it proved possible to classify all her [Levin's] verb classes in terms of the six process types and their more delicate subtypes can be seen as powerful evidence for current views that grammar and lexis form a continuum.

This comment holds true provided that 'grammar' is defined to include the distinction between process types.

The Cardiff Grammar

Although all researchers in SFL follow the same principles, there are inevitably differences of perspective and methodology. A team of researchers based at Cardiff University have developed a model of lexicogrammar which differs in some key respects from the 'classical' SFL model based on Halliday's work. The Cardiff Model (or Cardiff Grammar) is based on the work of Fawcett (summarised in Fawcett 2017), though of most relevance to the current book is the work of Tucker (1998), Neale (2002, 2006), and Chrispin (2021).

One of the features of the Cardiff Grammar is that it places emphasis on the findings of Corpus Linguistics, particularly the focus on phraseology and on the idiosyncratic behaviour of individual words. An early and highly influential attempt to build system networks to account for lexical items is Tucker's (1998) work on adjectives. Tucker works with 200 adjective senses and builds networks that essentially explore the grammatical roles of adjectives and the range of meanings they express. The broadest categories of meaning are (Tucker 1998: 125):

- Relative quality i.e. similarity, familiarity, normality
- Situation-oriented quality i.e. usuality, likelihood, and event
- Thing-oriented quality, divided into epithetic and classifying
  - Epithetic quality i.e. evaluative, effect, dimension, and physical, **typically human**, age, colour
  - Classifying quality i.e. substance, identity, human, and domain

Further system networks give further detail of each of these categories. To take an example, the 'typically human' type of adjective, shown in bold, is divided into physical state, behaviour, emotion, and social status (Tucker 1998:133). One interesting feature of Tucker's work is its similarity to and difference from Martin and White's (2005) Appraisal framework. The quality 'normality' is one of the subcategories of Judgement in Martin and White's framework, for example. To take another instance, Tucker's 'evaluative' meaning network identifies as separate qualities 'function', 'moral judgement',

'fact', 'value', 'aesthetic', and 'emotive'. Function and Moral Judgement might be said to align with Martin and White's category of Judgement, while Value, Aesthetic quality and Emotive (e.g. *fantastic*) align with Appreciation. In general, Tucker (1998) and Martin and White (2005) observe similar categories but arrange the networks accounting for them differently. This is because their starting point is different: Tucker explores the behaviour of adjectives; Martin and White explore the semantic area of evaluation.

According to Fawcett's (2017) account, the Cardiff Model differs from the Sydney (Halliday's) Model in several key respects. One is the insistence that a model of language should be testable and verifiable. The second is the inclusion of a cognitive dimension to the model – what is specified in the Cardiff Model is how a speaker produces an utterance, using resources that are similar to, though not identical to, the systemic networks developed by Halliday and others. The process of production requires the concept not only of language resources but also of realisation rules that take the speaker from the available options to the actual words said or written. Fawcett (2017: 71) notes that:

> Unlike the SM [Sydney Model], the CM's [Cardiff Model's] cognitive-interactive architecture introduces several different types of component, each with a processor or structure appropriate for its function (e.g. decision trees for the microplanners, and taxonomies for the belief system).

The validity of this model is tested by using it to program computers to produce utterances, following the proposed realisation rules. These realisation rules incorporate what might be called the higher level, or more grammar-like systems (Mood, Theme, etc.), but also incorporate the grammatical behaviour of specific lexical items.

Of most relevance to this book, however, is the set of process types proposed by the Cardiff Model, which is somewhat different from those found in the Sydney Model and in the work of Matthiessen, Thompson, and Hasan, discussed earlier. The 'Cardiff' process types are: 'Action'; 'Relational'; 'Mental'; 'Influential'; 'Event-relating'; 'Environmental'. Neale (2017) itemises each process type and lists the sub-types that have different configurations of participant roles. She also details the tests used to determine each sub-type. For illustration, the following are the process types, each with two examples of the many sub-types identified, taken from Neale (2017):

- Action. Examples of sub-types:
  - Agent only e.g. *We all used to cheat in exams*. 'we all' = Agent; 'cheat' = Process.
  - Agent + Range e.g. *Have you read that article*? 'you' = Agent; 'read' = Process; 'that article' = Range.

- Relational. Examples of sub-types:
  - Simple Carrier + Attribute e.g. *He doesn't resemble the robber*. 'he' = Carrier; 'resemble' = Process; 'the robber' = Attribute.
  - Affected Carrier + Location e.g. *Soviet Territory borders on Poland*. 'Soviet Territory' = Affected Carrier; 'borders' = Process; 'Poland' = Location.
- Mental. Examples of sub-types:
  - Emoter + Phemenon, Emoter-oriented e.g. *She is in love with him*. 'she' = Emoter; 'is in love with' = Process; 'him' = Phenomenon
  - Affected-perceiver + Phenomenon + Agent e.g. *Francis concealed the machine from us*. 'Francis' = Agent; 'concealed' = Process; 'the machine' = Phenomenon; 'us' = Affected-perceiver.
- Influential. Examples of sub-types:
  - Agent + Created Participant, causative e.g. *The state must ensure law-abiding people are protected*. 'the state' = Agent; 'ensure' = Process; 'law-abiding people are protected' = Created Participant.
  - Affected + Range, stage of process e.g. *The girder kept on bending*. 'the girder' = Affected; 'kept on' = Process; 'bending' = Range.
- 'Event-relating'. Examples of sub-types:
  - Cause + Range, cause-to-effect e.g. *A degree in English could lead to a carer in journalism*. 'a degree in English' = Cause; 'lead to' = Process; 'a career in journalism' = Range.
  - Cause + Range, premise-to-inference e.g. *The merger will mean the closure of the company's Sydney office*. 'the merger' = Cause; 'mean' = Process; 'the closure of the company's Sydney office' = Range.
- 'Environmental'
  - As process e.g. *It rained*. 'rained' = Process.
  - As attribute e.g. *It is sunny*. 'is' = Process; 'sunny' = Attribute.

One point of note here is the willingness to treat verb + prepositions, such as *lead to* or *kept on*, or even phrases such as *is in love with* as single Processes.

Further work in the Cardiff tradition has used methods and output from Corpus Linguistics studies to identify groups of verbs and assess their alignment with the Cardiff process types. The hypothesis is that if verbs that have been observed to have similar behaviour (the same alternations, in Levin's (1993) terms), they form a class that should be accountable for within the process type taxonomy. If a class of verbs needs to be split across process types, this suggests that the taxonomy needs to be adjusted. Two examples of such work is briefly summarised here: Neale (2002) and Chrispin (2021). Neale (2002) uses West's (1953) *A General Service List of English Words* as well as

the verb descriptions in the Collins COBUILD English Dictionary (Sinclair 1995) and in Francis et al. (1996) as the source of information on the behaviour of verbs. Chrispin (2021) undertakes a CPA (Hanks 2004) of selected intransitive verbs in order to classify them.

The outcome of Neale's (2002) research is a Process Type Database of 5,400 verb senses in English, based on the most frequent verbs in English as identified by Francis et al. (1996). Each sense is annotated for its process type and its configuration of participant roles. The basis for her analysis is the Cardiff Grammar process types and a set of 27 participant roles, also based on the Cardiff Grammar (Neale 2002: 220). In simple terms, verb senses are annotated with whether each participant is always, sometimes, or never found. Neale (2002: 235) claims three important innovations: she includes realisation rules in keeping with the Cardiff Grammar; she includes multi-word verbs whereas most similar endeavours exclude them; she includes estimates of probabilities of each item in the system network, i.e. the relative frequencies. The verbs are grouped in terms of meaning, using various resources such as Levin (1993), Francis et al. (1996), and Roget's *Thesaurus*. The end point of the research is a series of system networks that extend in delicacy from the process type to a set of verbs. Neale (2002) exemplifies this with three examples:

1 Action process type, one role, affected only;
2 Action process type, two roles, agent plus affected;
3 Relational process type, three roles, directional.

To give a sense of the networks proposed, we will follow a series of choices starting with the first kind of Action process, where there is only one participant, who is affected by the process. There are four sub-types: stopping being, change of state, involuntary behaviour, and emission. Of these, 'change of state' is estimated to account for 60 per cent of the total verbs. This is further divided into 'change of state as such' and 'change of state specified'. The latter accounts for 80 per cent of the total. In turn, this group is divided into several subgroups, one of which is 'change by moving', which accounts for 40 per cent of the 'change of state specified' group (Neale 2002: 240). 'Change by moving' has five subcategories, one of which is 'moving relative to upright state'. A further system divides this into specific meanings: capsizing, overturning, toppling, and overbalancing (Neale 2002: 246).

This brief illustration shows the progression in delicacy from Process Type to group of verbs. Figure 5.4 is derived from several figures from Neale (2002), omitting all information except the route through from 'change of state' to the specified verbs.

Following Neale's pioneering work, Chrispin (2021) also uses corpus data, and some secondary corpus data, to challenge and support SFL claims. Her focus is 'pure' intransitive verbs, that is, verbs that are used only intransitively

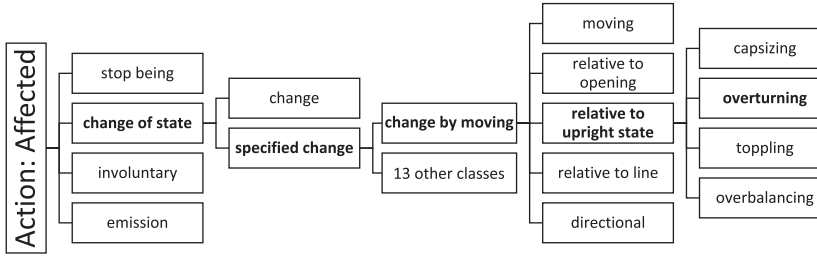

Figure 5.4 Progression in delicacy from 'Action: Affected participant' to 'overturning'. (Based on Neale 2002)

and not also transitively or ergatively. In terms of grammar patterns, the intransitive includes verbs used in the pattern **V** (a pattern not considered at all in this book) and also those used in patterns where the verb is complemented by a prepositional phrase, such as **V *at* n** etc. A major question raised and answered is whether intransitive verbs should be included in the Behaviour process type or the Action process type, and if they are divided between those types, what the criteria are for assigning a verb to one type or the other. Chrispin (2021) uses a variety of methods to annotate and classify the verbs studied; she finds Hanks' (2004) CPA particularly useful for establishing patterns that specify not only formal features, such as prepositional phrases, but also semantic categories, such as animate Subjects.

Overall, Chrispin (2021: 237) finds that verbs that have been categorized as belonging to the Behaviour process type do share characteristics, such as being unlikely to occur with a that-clause complement (the pattern **V that**), occurring with an animate subject and occurring in a perfective aspect (e.g. *she sneezed* rather than *she was sneezing*). On the other hand, it is not only Behaviour verbs that share these characteristics. Chrispin (2021: 239) then determines what distinguishes Behaviour verbs from Action verbs that are intransitive, finding that lexical aspect and animacy are the key distinguishing features. (Lexical aspect is a verb categorisation that reflects the relationship of the verb to time. For example, KNOW is static while RUN is dynamic; the action of POST (*a letter*) relates to a single point in time while the action READ (*a letter*) relates to an extended period of time; FALL indicates an action that is completed, or telic, while PLAY indicates an ongoing or atelic action.) Taking all the evidence into account, she proposes that intransitive verbs with animate subjects be classed as Behaviour whereas those with inanimate subjects be classed as Action. This means that verbs such as RUN, SWIM, and SING, which tend to cause difficulty in categorisation, are considered members of the Behaviour process type (Chrispin 2021: 239).

Chrispin (2021) goes on to discuss, essentially, what the intransitive 'means'. This is where complementation pattern becomes important. For example, whereas intransitive verbs are typically atelic, indicating an activity without a defined end-point, when the verb is complemented by a prepositional phrase it may become telic, e.g. *she ran* versus *she ran to the shop*. Similarly, an intransitive verb may take on a 'transitive-like' meaning in certain patterns e.g. *she listened* versus *she listened to the lecture*. This observation is reminiscent of the analysis of verb patterns in Francis et al. (1996), where the element 'to the lecture' is analysed as a 'Prepositional Object' (i.e. 'like an Object but with a preposition') rather than as an Adjunct. For Chrispin, the classification of the verb depends on its most frequent usage. For example, perception verbs such as *look* and *listen* are usually found with prepositional phrases and are therefore transitive-like Action verbs, whereas a verb such as *laugh*, which can also occur with the preposition *at*, is classified as Behaviour, because it is much more frequently found in the pattern 'animate-Subject + verb' (Chrispin 2021: 243).

Fontaine: Lexis as Most Local Context

Both Neale (2002) and Chrispin (2021) offer ways of demonstrating that grammar and lexis form an unbroken continuum, or cline of delicacy, by linking individual verbs – instances of lexis – with process type categories – instances of grammar. An alternative view is proposed by Fontaine (2017, 2025), who raises questions about the nature of the lexicogrammar, noting that:

> Perhaps because it mediates between semantics and expression, the lexicogrammar has somewhat of an identity crisis; sometimes seen as meaning, sometimes as form'. (Fontaine 2025: 2)

She concludes that 'It is difficult to see how a lexeme could be represented as a choice in the system networks' (Fontaine 2017: 8).

The main thrust of Fontaine's argument is that the organising principles that might model the grammar and the lexis are different: the 'grammar end' of the lexicogrammar consists of systems with small numbers of components, such as that shown in Figure 5.2; the 'lexis end' consists of a large number of sets of items. Citing Hunston and Francis (2000) that lexis and grammar are mutually dependent, she goes on to conclude that 'it is difficult to imagine a continuum as the best metaphor for this relationship' (Fontaine 2025: 8). As an alternative she suggests the concept of meaning-potential, a notion taken from Hanks (2013). She proposes a distinction between the 'lexeme', which might be glossed informally as 'a word having a variety of meanings depending on the specifics of each instance of use', and a 'lexical item', which might be glossed

as ‘a word or phrase as used in a specific instance’. The lexeme has a meaning potential, which is instantiated by the lexical item (Fontaine 2017: 13).

Fontaine’s proposal for how to account for lexis within the Systemic Functional approach is by analogy with Halliday’s (1991) view of both context and language. This view posits systems that are instantiated by each instance of language use. The system makes possible the instance and each instance contributes to the system. In terms of context, culture is a system while a situation type is an instance. For example, the socialisation of children via formal education might be an aspect of culture, while the situation type ‘lesson’ is an instance of that culture. Formal education enables lessons to take place and the format of lessons constitutes what formal education is. In the same way, while ‘language’ is a system, the language that is found in an individual text is an instance of that system. By analogy, Fontaine (2017: 13) proposes that the lexeme can be described in terms of system but the lexical item must be described in terms of its individual instance, or rather instances, of use. Corpus Linguistics, by focusing on multiple instances of use, can give information about instances, leading to the construction of a system.

The work of Tucker, Neale, and Chrispin responds to Fontaine’s call for further work on lexis in the context of SFL but drawing on work in Corpus Linguistics and lexicology. However, the optimum way of modelling lexis in SFL remains an open question. Seeing the lexeme as a unit with meaning potential and the lexical item as an instance of that potential is an interesting possibility. The consequences of Fontaine’s work, and the other work discussed in this chapter, will be considered in Section 5.4.

5.4 Conclusion

Systemic Functional Linguistics is a framework for the description of language that encompasses everything from social context to phonology, with lexicogrammar at its heart. Although there are differences of opinion within SFL, notably the distinction between ‘Sydney Grammar’ and ‘Cardiff Grammar’, it does for the most part constitute a coherent view of language and the principles behind describing it. In some ways, the very coherence of the framework makes it difficult to use unless one is wholly embedded in its community. It is true that the concepts of process type and of grammatical metaphor are used extensively in Critical Discourse Analysis, and the Appraisal framework (Martin and White 2005) is used particularly in the analysis of academic discourse, but otherwise, the ideas behind SFL are to be adopted wholesale or not at all. It will be obvious that the study described in this book is not located within the framework of SFG, and its primary function is not to contribute to debates in the SFL community. Neither does it seek to reframe SFG, in the way that the Cardiff Model has done, for example. The study very much sits outside SFL.

However, SFG has been a very large influence upon the study. This influence is apparent (though not always explicitly acknowledged) in the Pattern Grammar publications, especially Francis et al. (1996). The meaning groups for the pattern **V n**, for example, owe much to the process types proposed by Halliday. One very significant departure from the principles of SFG, however, is the treatment of complementation patterns as integral to verb behaviour. As previously noted, prepositional phrases which in SFG would be analysed as Adjuncts, in Francis et al. (1996) are labelled as prepositional Objects.

This study also has made use of many of the concepts in SFG. In the first place, the SFG notion of network as a way of representing layered options is adopted, as shown in Chapter 3, as a way of representing the meanings associated with each verb complementation pattern. The networks essentially organise the constructions that have been identified into hierarchies of meaning. It will be noted too that many of the distinctions that determine how the networks are configured draw on SFG concepts, such as 'process type'. Secondly, the semantic fields that were presumed as the basis for annotating semantic roles, as shown in Chapter 4, are inspired by the process type distinctions described in Halliday and Matthiessen (2014). The same semantic fields are the basis of the descriptions in Chapters 6–8. Those descriptions also use networks to represent the resources available to construe each semantic field. Finally, the concept of system network, as distinct from a taxonomic network, is used to highlight the salient meaning choices that are in play in each semantic field (see Chapters 6–8).

Having acknowledged this debt to SFG, the question remains as to whether this study is able to contribute to discussions within SFG, and in particular the discussions of the place of lexis in SFG outlined in Section 5.3. It must be said that for the most part the answer is 'no', because the purpose of this study was not to test the distinctions between process types, as Neale (2002) and Chrispin (2021) have done, or to propose a novel set of process types, as the Cardiff Model (Neale 2017) has done.

On the other hand, there are two ways in which the study presented in this book, and the database that sits behind it, could be of use to SFG researchers. One is that the Meaning Networks and Systemic Networks presented in Chapters 6–8 could be scrutinised to discover the extent to which they support or challenge proposed process types. This issue will be discussed further in Chapter 9.

Secondly, it will be noted that this study diverges markedly from the approach to lexis taken by Hasan, Matthiessen, Neale, and Chrispin, discussed in Section 5.3. In all of those studies, as in Levin's study, the unit of investigation is the verb. Typically, the combination of behaviours of a verb is used to classify that verb; verbs with the same set of behaviours, sometimes taking into account frequency, are said to belong to the same class. In this study, the unit of

investigation is the verb and its complementation pattern: what is termed in this book the 'verb argument construction'. For this study, then, instances such as 'smile to think that', 'smile at the idea', and 'smile with happiness' are three different entities, and it is not presupposed that what we are dealing with here is a unit constituted by the verb SMILE. This may be something akin to what Fontaine (2017) means by the distinction between 'lexeme' (e.g. 'smile') and 'lexical item' (e.g. 'smile at something'). Consideration of this alternative view might be of use to future researchers in the place of lexis in SFG.

This brings us, of course, to the question of what 'lies between' the grammar end and the lexical end of the lexicogrammar, and whether it can be modelled as a series of ever-expanding networks (lexis as the most delicate grammar) or whether a different representation is needed. This discussion is taken up again in Chapter 9. For the moment, what might be said is that, as always, the answer to the question depends to a large extent on what the starting point is. In this study, form is the initial starting point (see the networks shown in Chapter 4, each one developed from a single verb complementation pattern), but then the meaning is taken as another starting point (see the networks in Chapters 6–8). The two sets of networks do not connect up, and neither provides a route from transitivity to verb. Rather, they perhaps challenge the notion that there is a single answer to the question.

The next three chapters in this book take the constructions discussed in Chapters 3 and 4 as given, and use them to build networks around semantic fields. As noted, they draw heavily on the notion of network and owe a great deal to work in SFG.