

Modelling interfaces with context in SFL: Stratification, instantiation, metafunctions

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Abstract

This is a study of the tools for describing language-in-context in Systemic Functional Linguistics (SFL), and specifically, the way in which dynamic time can be added to this description. Of central importance in this exploration are the concepts of stratification and instantiation and their interaction, and the way in which this interaction is 'achieved' metafunctionally and dynamically through the construction of relevant contexts spanning various time scales. The article proposes a new theorization of context in SFL, in which context is regarded as an interplay of different interfacing semiotic strata, and a meshing of multiple complementary and interacting processes of mediation which are at work at different scales of semogenesis.

Keywords: stratification, instantiation, context, semantics, time scales, semogenesis, Systemic Functional Linguistics

1. Introduction*

This article explores the tools for describing language-in-context in Systemic Functional Linguistics (SFL), and specifically, the way in which dynamic time can be added to this

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description. Of central importance in this exploration are the concepts of stratification and instantiation and their interaction, and the way in which this interaction is ‘achieved’ metafunctionally and dynamically through the construction of relevant contexts spanning various time scales. Stratification and instantiation are fundamental linguistic dimensions present in many linguistic frameworks, and rooted in structuralism: stratification deals with content-expression relations (*signifié-signifiant*), and instantiation refers to the relation between systemic potential and actual language use (*langue-parole*). They have been conceived as main ‘vectors’ (Halliday 1991: 58), and in a classic conception of language-in-context in SFL, they are imagined as such: in a two-dimensional table with stratification (realization) and instantiation cross-cutting (see Figure 1, and also the introduction to this special issue). While this scheme is a convenient, synoptic way of capturing the two-dimensional relation between stratification and instantiation, it does not go into the details of their dynamic interaction, and the specific role of stratification and instantiation in this dynamism is yet to be elucidated (cf. also Halliday 1985a: 10).

In this article an attempt will be made at ‘breaking open’ the two-dimensional model by adding the depth of time. Starting from suggestions in Taverniers (2019), and continuing a Hjelmslevian perspective on language-in-context (cf. Taverniers 2008), the idea will be developed of multiple semantic interfaces which are simultaneously relevant in meaning-making — an idea which resonates with Bartlett’s (2017, in press) account of linguistic dynamism, evoking Blommaert’s (e.g. 2007) notion of ‘layered simultaneity’. Types of semantic interfaces will be explored, and different, complementary and interacting instantiation processes will be suggested as being at work in meaning-making through the meshing of different scales of semogenesis. The view that emerges is one of a multidimensional space in which stratification and instantiation are engaged as intricately interacting through the dynamism of time — an interaction that is steered by the metafunctions.

Section 2, following, takes a closer look at how stratification is theorized in SFL in relation to the metafunctions; in Section 3 the dimension of instantiation is added to the

picture; and in Section 4 the focus is on how the dynamics of semantic interfaces and mediating processes can be theorized and modelled.

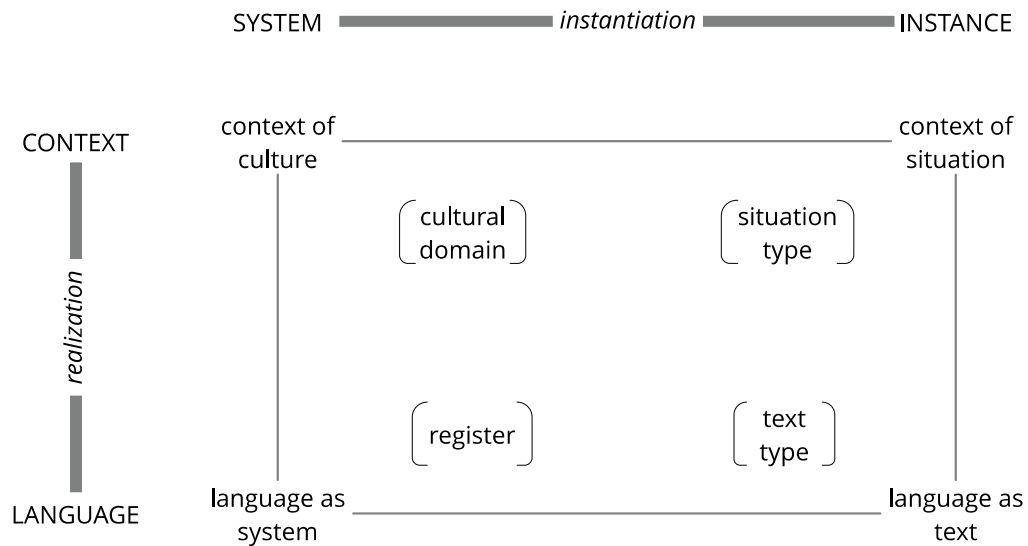


Figure 1. The relationship between context and language, system and text.

(adapted from Halliday 1999: 8)

2. Stratification & metafunctions

2.1 Setting the scene: Where to start in the SFL architecture & theory

The model of the stratified semiotic is the way in which SFL theorizes how language ‘means’ in context, viz. by recognizing different levels of encoding: phonology/graphology, lexicogrammar, semantics, and context. While the general stratified model is fundamental and well-entrenched in SFL, Martin (1992) further stratifies context into (at least) register and genre. The concept of ‘stratification’ is inspired by Hjelmslev (1963/1943, 1954; cf. Taverniers 2011 on Halliday’s interpretation of Hjelmslev in SFL). As in other structural-functionalist models, the syntax-semantics interface (or here: lexicogrammar-semantics) plays a central role in this conception of stratification. The differentiation between a lexicogrammar and a semantics as strata is regarded as an ‘internal stratification’ of the content plane (e.g. Halliday 1975). As the stratum interfacing between context and the language-internal level of

lexicogrammar, semantics is seen as Hjelmslev's content–purport (by Halliday, e.g. 2013: 34), or as a connotative semiotic layer in Hjelmslev's terms (Martin e.g. 1992 in relation to discourse semantics; cf. also Halliday 1991).

In order to understand the importance of the internal stratification of the content plane in the SFL architecture, it is necessary to turn to one of the first contexts in which Halliday (1975) developed and motivated this idea, viz. his study of language development or ontogenesis: the transition from 'protolanguage' to the adult language system. Here, Halliday demonstrates that it is the stratification of content into lexicogrammar and semantics that marks the transition into adult language. This semiotic "big bang", as Lukin (2018: 18) calls it, makes language what it is. First of all, as we will see below, Halliday explains the internal stratification of the content plane of language as lying at the basis of its **metafunctionality**, i.e. the idea, central in SFL, that in each act of meaning-making, ideational, interpersonal and textual dimensions of language are orchestrated together. I will argue later that the semiotic 'big bang' lies at the basis of the quintessential features of language, from the perspective of language-in-context developed in this article. In the next two sections, we will expand away from the semiotic big bang, by first looking at how exactly semiotic 'interfacing' emerges (Section 2.2) and then turning to complementary types of semantic interfaces and their semiotic organization (Section 2.3).

2.2 How semiotic 'interfacing' emerges

2.2.1 *Getting away from immediate situation context: Enter semiotized context*

Because of the presence of two content levels (semantics and grammar), language need no longer be directly tied to the immediate situational context, but *makes its own context*. This is precisely what is meant by the metafunctional semantics as an 'interface' level. This is in contrast to proto-language, which is a denotative semiotic whose signs are 'simple' couplings of expressions and contents. The latter are modelled by Halliday in terms of micro-functions, which thus directly represent elements in the setting of the interaction, such as 'making contact' or 'talking about a mutually visible object in the setting'. In the transition to adult

language (Thibault 2004b), with the expansion of the content plane into two levels, or strata, viz. lexicogrammar and semantics, the higher of these two, semantics, thus interfaces between a language-internal stratum and what is beyond language. As an interface level, the semantics of adult language is a *semioticized context*.

2.2.2 Linguistically relevant context as ‘semioticized context’

As a resource for making meaning in context, language construes meaning that is pertinent or relevant in this context, i.e. although language creates its own environment, viz. the semioticized context, it does so in a way in which elements of meaning resonate with aspects of the socio-cultural environment (which is partly beyond language and can also be realized in other semiotic systems). This resonance is reminiscent of the direct link with the environment in proto-language except that in the case of adult language, there is further interfacing. Halliday & Matthiessen (2014: 29) characterize the nature of the text in exactly those terms: “[...] the text has the power to create its own environment; but it has this power because of the way the system has evolved, by making meaning out of the environment as it was given.”

2.2.3 Semantic interfacing as mediation which is metafunctionally steered

In SFL the idea of resonance is captured in the contextual domains of Field, Tenor and Mode, which are regarded as typically ‘resonating with’ or ‘being associated with’ the ideational, interpersonal and textual components of language. Hence, the feature of stratal ‘resonance’ is modelled through the metafunctions in SFL (just like the more direct relation with context in proto-language is modelled in terms of *micro*-functions). This idea came to be known as the “context–metafunction hook-up hypothesis” (Hasan 1995) or the “context–metafunction resonance (CMR) hypothesis” (Hasan 2014).

Resonance can be further explained in terms of the complementary contributions that the metafunctions make to this relation:

- (i) ideationally: in adult language, meanings of humans experiencing reality can be construed in relation to objects and events which are *not* present in the here-and-now environment, including abstract concepts and experiences of inner reality, and events which are not occurring in the here-and-now (including past and future events, and further possibilities: probable, possible or desired events);
- (ii) interpersonally: language plays a role in constituting or ‘enacting’ social relationships; and
- (iii) textually: language itself brings together those two metafunctions *and* develops techniques for using language in combination with other semiotic systems, and combining ideational and interpersonal meaning makings appropriate for specific functions.

These metafunctional correspondences present a hypothesis of how context is *construed* or constituted in language. Most crucially, the moving away from the directly perceived or experienced immediate environment means that ‘context of situation’ for adult language is *semiotically mediated context*. Thus, meaning-making is no longer based on direct links with an immediate environment as in proto-language, but rather on an organization that is simultaneously language-internal (i.e. there is a lexicogrammar) and resonating through three metafunctions with semiotized context (at the interfacing level of semantics).

The following section (2.3) sets out the ways in which this view of the stratification of content, which is the hallmark of the transition into adult language, sets the scene for a broader conception of context as comprising multiple semantic interfaces.

2.3 Semantic interfaces

In spelling out how semantics functions as an interlevel in the language-context relation, this section briefly discusses the distinction between three types of semantic interfaces as suggested in Taverniers (2019): probability-based semantics, topological semantics and size-based semantics.

2.3.1 Probability-based semantics

The stratified relation between language and context is bidirectional. That is, while language *construes* context (as indicated in 2.2.3 above), context is also seen as *activating* language (cf. Hasan 2013). In a view of language as systemic meaning potential, this means that the features of context *set the probabilities* at the level of semantics, which in turn, through its coupling with lexicogrammar, activate particular ways in which those meanings can be encoded. However, while *activation* can be seen as the *converse* of construal — i.e. these two being conceived as the two semiotic relations involved in ‘resonance’ — *probability setting* is not stratal as such, but is intertwined with instantiation (see Section 3).

Such a semantics functions as a gateway between context and lexicogrammar, and is referred to as a “**probability-based semantics**” (Taverniers 2019). This type of semantics is highlighted in register studies in SFL, where the variables of Field, Tenor and Mode are seen as influencing the choices that can be made in the ideational, interpersonal and textual metafunctions, respectively.

2.3.2 Topological semantics

The relation between two content levels allows different types of ‘interlocking diversification’ (cf. Lamb 1962): at the interlevel of semantics, generalizations (neutralizations), alternatives, and new meanings leading to further differentiations (diversification) become possible. For instance, in English a ‘command’ can be realized in the most direct way (by an imperative) or by other means (e.g. a modalized interrogative: *could you ...*), thus creating a *generalization* between two different mood types. Conversely, the modalized interrogative is recognized as a ‘command’ which differs in some respect (e.g. ‘more polite’) from the imperative (*diversification*). Thus, various types of ‘decoupling’ and ‘recoupling’ (Halliday 2008: 16) between semantics and lexicogrammar become possible. Semantics as an extra connotative content stratum thus becomes a level that is not bound by a one-to-one relation to the systemic, fixed content-expression pairings found in the lexicogrammar. While the lexicogrammatical stratum is organized as a paradigmatic system,

i.e. a typology of signs, at the semantic level, different generalizations and diversifications emerge in a *topological* way (seeing links and bringing meanings together in ‘zones’ that cross-cut the lexicogrammatical paradigms). This type of semantic interface allowing interlocking diversifications with other strata is referred to as a “**topological semantics**” (see Taverniers 2019).

2.3.3 *The textual metafunction as engendering interfaces*

While in proto-language there are one-to-one couplings between micro-functions and their expressions, a hallmark of adult language is that each utterance is *plurifunctional* in that each utterance ‘means’ ideationally, interpersonally and textually at the same time. What is striking in this metafunctional interplay is that the *textual metafunction* is the odd one out. It is regarded in SFL as a second-order metafunction, or one that enables the other two to come together in one utterance (Matthiessen 1992). That is, the combination of interpersonal and ideational patternings is the basis for texture, and at the same time, it is the textual metafunction that orchestrates the metafunctional interplay. This special nature of the textual metafunction is also clear in the description of language development (cf. Halliday 1975). While the interpersonal/ideational complementarity emerges from earlier micro- (and macro-)functional distinctions in proto-language and the transitional stage, in adult language, it is through the textual metafunction that the plurifunctionality of each utterance is possible (Halliday 1975). This has an important corollary in relation to what constitutes ‘context’ in metafunctional terms. Whereas the ideational and interpersonal metafunctions interface with extralinguistic reality, and in doing so, provide a semiotised context as an interlevel, the textual metafunction interfaces with language itself; textual patternings create new interfaces between language and context. These different interfaces are summarised in the following subsections, and Section 3 expands on the consequences of these interfaces for the metafunctional organisation of the text.

2.3.4 Size-based semantics: The text as an interface

As the metafunction that interfaces with language itself, the textual metafunction construes the *text itself as an interface*. In other words, the unfolding discourse becomes a context for each utterance that is enclosed within it. This is the view that is taken in Martin's 'discourse semantics' as an interlevel (Martin 1992). Modelling discourse semantics as an interlevel follows from a recognition that there are discourse patternings (and hence, meanings) which are larger than the individual utterances in a text. Importantly, discourse does not 'consist of' (i.e. is not composed of) utterances; discourse is 'realized' by utterances, or, more specifically, discursive patterning disperses across a text.

In Martin's model of discourse semantics, this dispersed realization of discourse patterning is factored out metafunctionally, and thus the three metafunctions are interpreted as contributing to text cohesion. This type of semantics embodied in Martin's model of 'discourse semantics' is called a "**size-based semantics**" in Taverniers (2019).

2.3.5 Genre as an interface?

As the second-order metafunction, the textual metafunction orchestrates the division of labour between the metafunctions in making language functional in context. There are two dimensions to this conception of the textual metafunction: the functioning of language in context, and the way in which this is achieved. These dimensions have been linked to different but related facets of the textual metafunction, which can be summarized as follows:

- *rhetorical mode* (or rhetorical purpose) — i.e. "what is being achieved by the text in terms of such categories as persuasive, expository, didactic, and the like" (Halliday 1985b: 12);
- "the symbolic organisation of the text", including its organisation in relation to a particular 'text type', *register* or *genre*;
- the degree to which *language is engaged* in relation to *other media*;
- the type of language involvement including *channel* (spoken or written, and combined and mixed forms);

- the degree of *context dependence* (in recent interpretations referred to as “presence” (e.g. Martin & Matruglio 2020)).

These different facets of the textual metafunction and contextual mode have been dealt with in various ways in SFL — the lack of consensus about ‘genre’ and ‘rhetorical mode’ being cases in point (cf. Hasan 1995; see Bowcher this issue). What can be mentioned here, is that for Martin, just as textual cohesion is reinterpreted as a separate stratum (viz. discourse semantics, which is refactored metafunctionally (cf. 2.3.4)), *genre* is not seen as related to the textual metafunction or Mode only but is regarded as a stratum, i.e. an interface, in its own terms, which has interpersonal, ideational and textual contributions (realized through Field, Tenor and Mode aspects of context, referred to as ‘register’ in Martin’s (1992) model). It is in this sense that ‘genre’ (however it is defined or positioned, a point we will return to below) is included as an interface — albeit with a question mark — in this narrative on the expanding stratified model of language.

So we have arrived at a culmination point in this narrative, where we find not only *semantics* and *discourse/text* as interfaces, but also different *genres* of text. This area proves particularly intricate and challenging to model, as can be seen in the lack of consensus on the place of ‘genre’ and ‘register’ in the SFL architecture — an issue which strikes at the heart of the tension between the Hallidayan and Martinian models of SFL. In the present narrative, the challenge of where to place ‘genre’ and ‘register’ — language ‘variants’ which can be referred to as semiotic ‘constructs or ‘formations’ — in the SFL architecture(s) becomes already clear in relation to **stratification** and **(meta)functionality**. It will remain to be seen what is added to this picture if the dimension of **instantiation** is also brought in, in the next move in our theoretical exploration (Section 3).

2.4 Intermediate conclusion & outlook

So far, the exploration of language-in-context has included a discussion of stratification, metafunctions, and the move from protolanguage to the adult language system, the latter being plurifunctional. The upshot of the story so far is that the result of this latter move is not

just an internal **stratification** of the content plane as such, but the *potential wedging in of multiple semantic interfaces*. There are different semiotic types of such semantic interfaces, which are complementary and may be simultaneously relevant. In the above discussion of stratification and metafunctions, it further appears that the **textual metafunction**, as a reflexive and second-order function, plays a role in engendering interface levels in order to enable language to function in different contexts.

If all these interlevels are indeed ways in which language interacts with context, the notion of ‘context of situation’ is an essential step but is only one part of modelling the context(s) at work in meaning-making. Also, the disparate views in the SFL literature on different aspects of those interfaces, in relation to the intermediate ‘semiotic constructs’ that can be recognized (register/genre/etc.) and in relation to semiotic dimensions, as hinted at in Section 1, indicate the difficulty that is experienced in modelling the roles of such interfaces, and especially, in understanding their interaction. This is not surprising, because this challenge strikes at the heart of the problem of understanding language in context as an interplay between **three** key theoretical dimensions in the SFL model of language: **stratification**, **metafunctions** and **instantiation**. Hence, any systematic attempt at understanding the interplay between different interface levels in language in an SFL framework will have to include these three dimensions.

As has become clear, the dimensions that have mostly been prioritized are those of **stratification** (the very place of context as a stratum) and **metafunctions** (the context-metafunction hook-up). In a more full-fledged account of context(s) at work in the *moment* of interaction, the dimension of **instantiation** needs to be brought in, i.e. the dimension that captures the relation between, on the one hand, language as systemic meaning potential and, on the other hand, an actualization of this potential in an instance of meaning-making in a specific setting.

3. Adding instantiation to the picture

3.1 Setting the scene: Instantiation in SFL theory

As the term for the potential–instance or system–text relation, instantiation is defined as the move from the general systemic potential to a specific instance of language use. It is integrated in the SFL architecture as a cline of generalization, which is most clearly reflected in the postulation of various intermediate points between the *systemic* potential on the one hand and actual language use as *text* on the other. The ‘points’ on this cline are language variants as more general or more specific types of language/text that recur in types of contexts. In this sense they are ‘situated’ subpotentials (e.g. Halliday & Matthiessen 1999: 376). Thus, types of context are likewise postulated to be ‘positionable’ as intermediate points between two extreme points, viz. a general context of culture and a specific context of situation. The way in which variants ‘function’ in the types of contexts in which they work is modelled metafunctionally (cf. the language-metafunction hook-up referred to above). Various ‘types of language’ can be articulated along the continuum, such as ‘register’ and ‘code’.

As situated subpotentials, such ‘types of language’ are characterized and modelled in probabilistic terms (Halliday 1991). Probabilities attached to the options in semantic and lexicogrammatical networks indicate how likely it is that these options are selected in a certain type of language variant, e.g. a register. The hypothesis is that the probability profile of a variant thus indicates what choices work in the type of context in which this variant occurs.

The hierarchy of instantiation is seen as relevant for each stratum (i.e. it is intrastratal), and hence instantiation is modelled as cross-cutting stratification. In visual representations, stratification is presented vertically (with ‘lower’ and ‘higher’ strata), and instantiation is depicted as a horizontal cline. Halliday thus postulates the straightforward two-dimensional scheme that is often taken as a reference frame for thinking about stratification in relation to instantiation. And while Martin adds genre as an additional stratum

to the model, he maintains this two-dimensional representation of stratification and instantiation as cross-cutting vectors (cf. Martin 1992).

3.2 Anchoring instantiation in time: The link with semogenesis scales

In contrast to the synoptic modelling of instantiation as the relationship between groupings of texts at various scales of abstraction, I want to approach instantiation here as the *process* of moving from potential to instance. Instantiation as a *process* of actualization concerns the *dynamic* nature of language as *actually* ‘happening’ (in a specific context), and hence, this perspective on instantiation brings us to the dimension of **time**: ‘happening’ means ‘unfolding *in time*’. The text as the opposite end of the meaning potential is a good starting point to appreciate the crucial role of this unfolding through time since each act of meaning-making is actualizing the system by selecting options *throughout unfolding text*. The dynamic process of text unfolding through time is referred to as *logogenesis* in SFL. This is only one of three main types of semogenic processes or semogenesis (Halliday 1990), the other two unfolding in different time scales or ‘**semogenesis scales**’, as I will call them: *ontogenesis* or the development of language and hence of repertoires of language variants in the individual language user through their lifespan, and *phylogenesis* or the evolution of a language or a language variant through history. Thus, in attempting to shed more light on the interaction between the fundamental semiotic dimensions of stratification, instantiation and metafunction in the SFL architecture, I want to bring instantiation back to its anchorage in *time*. That is, *instantiation* is brought into the mix by conceiving of it in relation to *semogenesis*.

It is useful, at this point, to reconnect with Firth’s original conception of context, which played an important role in how Halliday theorized language-in-context. For Firth ‘context of situation’ is an environment “in which, in a sense, whole stretches of personal biography and cultural history are involved, and in which past, present and future all meet” (Firth 1957/1935: 18). It is striking that ‘time’ has not featured more prominently in SFL’s conception of ‘context of situation’, given that Firth’s definition strongly highlights temporal dimensions: “personal biography”, “cultural history”, “past, present and future”. I believe that

if Firth's broad outlook on context of situation (emphasized in "whole stretches" and "all") is not fully borne out in the current SFL model of context, this is because of the challenge of getting to grips with 'time' — a phenomenological challenge addressed briefly within SFL in O'Donnell's (1999) work on dynamic modelling in context and in Zhao's (2010) work on multimodal discourse analysis (2010), but also within interactional sociolinguistics (e.g. Blommaert's 2007 concept of layered simultaneity), as well as by philosophers and other human scientists.

3.3 From interfacing semantics to mediating processes

In connecting instantiation to semogenesis, the three types of semantic interfaces, each with their specific type of semiotic organisation, are interpreted from a dynamic perspective. The focus is on *processes* of interfacing, and how these processes are at play in the different scales of semogenesis. This section discusses how intricately these processes are related (and at the same time, how multiple semantic interfaces occur together), precisely because of the working of time, which (i) is bidirectional (Janus-headed) and (ii) operates on different depths or scales.

3.3.1 *Historical priming (probability-type-1) & semiotic mediation in phylogenesis*

The linking of probability with time in its past and future directions is nicely captured in two alternative names for models of language variants on the basis of probabilities (of selections): *norms* are set on the basis of recurring instances (frequency) in the past, with these norms predicting the *probability profiles* of what is likely to be instantiated again under the same circumstances in the future. In other words, norms are Janus-headed just like time: they are the result of history and they prime future use. Therefore, this type of probability-setting which is a norm-setting process at the level of phylogenesis can be referred to as **historical priming**.

Any 'single language' (such as English, French, etc.) is the result of such phylogenetic, historical priming. As a historical *tradition* (cf. Coseriu 1988), a language can

be further divided into stages, e.g. Early Modern English. As a *technique* (toolset), a language's lexicogrammatical system consists of conventionalized (and hence mostly arbitrary) content-expression pairings. At a wider temporal horizon than the phylogenesis of a linguistic system, it is possible to recognize *general* techniques/tools that are shared by (groups of) languages (cf. the search for language universals at the level of lexicogrammatical constructions), and in a very wide zoom, (the) 'functions of language' in general (i.e. 'metafunctions' in SFL). The size-based interface levels of discourse semantics and genre are equally the result of historical priming, and their discursive characterization indicates how they have come to be shaped and 'conventionalized' as levels of patterning and as mediating tools. Some types of discourse semantic structuring are directly related to the dialogic nature of language (e.g. the role of the interpersonal metafunction as carrier of textual organization, with the unfolding of turns in interaction). Other types of discourse semantic patterning are conventionalized as the result of writing or literacy. At a yet higher size-based interlevel, this discourse-semantic mediating dynamic in turn interacts with further normative but 'ever-temporary' stabilizations of 'text' structures in various types of semiotic constructs, which go under various names, such as 'registers' (Halliday, Matthiessen) and 'genres' (Hasan, Martin), 'ways of meaning', 'semiotic styles' (Hasan 1984), discursive formations (Foucault 1969), codes (Bernstein 1971), etc. Such intermediate semiotic constructs connect texts to the (types of) socio-cultural contexts "in which such texts can occur, do occur, and make sense" (Lemke 1995: 26).

3.3.2 *Topological re-articulation in logogenesis and ontogenesis*

Topological interfacing refers to the process of interlocking generalization and diversification (cf. 2.3.2) underlying the emergence of a new content level — i.e. a connotative semantics — in *logogenesis*. This new connotative meaning appears on top of and by virtue of existing signs established in paradigms (e.g. at the lexicogrammar). In this sense, 'topological' meaning is complementary to the 'typological' meaning of paradigmatic categories (Martin & Matthiessen 1991).

For instance, in metaphor, topological mediation is based on the former semiotic experience of (the literal, conventional sense of) the source domain. That is, a concept can only be used metaphorically if its conventional, denotative sense is clear (cf. Taverniers 2002). This is what characterizes, semiotically, a connotative content layer in Hjelmslev's sense, or **topological re-articulation** as it will be called here. It refers to a stretching or negotiation of existing, traditionalized, norms and as such, this topological re-articulation process is the converse of historical norm-setting. This is a key tension in language, and a time-honoured one in linguistics, which is here interpreted in terms of probability-setting versus topological re-articulation (also see Bartlett *in press* for an evolutionary SFL account).

The link with time first of all lies in the tension between phylogenetic and logogenetic processes themselves, and the possibility that the newly articulated meaning, when repeated (i.e. shared) often enough, becomes part of the 'code'. However, there is another link with time at a different semogenesis scale. The process of topological re-articulation is also the locus of creativity; it is what characterizes meaning-making as a creative process. This creativity, the coupling and decoupling of levels of meaning, is done by the individual, and it is this aspect that brings in a different time scale: that of the semiotic biography of a person, i.e. *ontogenesis*. The creative topological links that a person makes in actual meaning-making are based on their previous semiotic experiences — ideationally (making sense of the world, phenomenologically), interpersonally (connecting and engaging with people and different possible stances, modally and attitudinally), and textually (participating in different types of texts and genres, with further effects and processes that we will turn to below).

3.3.3 *Intermediate summary & outlook*

This section has proposed a new way of considering the interplay of different instantiation processes in the time scales of PHYLOGENESIS (see 3.3.1) and LOGOGENESIS (see 3.3.2), and how those scales are related through this interplay. **Historical norm-setting** (in phylogenesis) shapes norms as techniques for **semiotic mediation** between language and context. Those

norms are negotiated in logogenesis, where they are partly bolstered and partly stretched through **topological re-articulation**. This stretching of the norm has the potential to become part of the phylogenetic code. In this sense, historical norm-setting and topological re-articulation are two complementary instantiation processes which interact through different semogenesis scales. The two types of semantic interfaces involved in these converse processes are *probability-based semantics* and *topological semantics*.

The following subsections explore the intricacies of the interaction between these instantiation processes in more detail.

3.3.4 Discursive priming (probability-type-2) in logogenesis

The moment of logogenesis, as the primary locus of instantaneous (short time scale) meaning-making, is the point (in time) where various mediating processes interact together; or, in terms of stratification, it is the point at which attractors from various interfacing strata merge together in the act of meaning-making. Along with the *longue durée* effects of phylogenesis, the creative topological re-articulation possibilities, and the interplay with ontogenesis (See Section 2.3.4), there is a local dynamics of priming which also exerts its influence: over the span of a text or interaction, previous utterances prime following utterances. In addition to various types of ‘priming’ (constructional, lexical, syntactic, etc., cf. Szmrecsanyi 2006), this process is studied under diverse labels such as ‘semantic cues’ or ‘semantic prosodies’ and ‘interpersonal alignment’ (cf. Mackenzie 2014 on a ‘a dialogic FDG’, and in the West Coast functionalist tradition, Du Bois 2014 on ‘a dialogic syntax’). In SFL, the phenomenon is further explored in relation to the interpersonal metafunction, where the sharing of value judgements between interactants over the course of dialogue (referred to as “bonding” in Martin 2010, 2019) has a priming effect on how interactants interpret subsequent meanings. What we find here is a process that is similar to phylogenetic priming or historical norm-setting but that works on the local scale of the unfolding text itself. It can be referred to as logogenetic norm-setting or **discursive priming**.

3.3.5 Size-based stratification: Discourse semantics, genre & other semiotic formations

The interface stratum of discourse semantics, as a structural model of unfolding text, can now be characterized as a schematic representation of the topological and discursive priming processes that are at work in logogenesis. On the one hand, as indicated above, discourse semantics is a re-articulation of meanings available from lower structurings (lexicogrammar) at the text level (e.g. lexical chains contributing to the cohesion of a text, based on lexemes which are scattered through different clauses which constitute the text). On the other hand, the size-based, higher-order patterning is carried by ideationally and interpersonally unfolding text, and these are schematic priming patterns (lexical relations of synonymy, hyperonymy, etc. in the ideational domain; negotiation structure and attitudinal prosodies in the interpersonal domain).

The higher-order patterning of genres or, more generally, semiotic formations, can be defined in a similar way. Genres in this broad sense are connotative contents that are realized in dispersed places in underlying systems (e.g. they can be associated with specific lexis, with ways of realizing speech functions, etc.). Interpretive frames as semiotic formations in the broader sense (such as ideologies, theories, sciences in various disciplines, etc.) also exert a priming effect on the unfolding discourses that are part of them and further perpetuate (or contest) them. At this level, processes such as cultural cueing (e.g. ‘racist cues’) or ‘root metaphors’ are at play, and it is in relation to those that ‘ideological priming’ is at work.

3.3.6 Ontogenesis

While at the level of logogenesis (cf. Section 2.3.1), and in the size-based interfaces that model texts and higher-order patterns (cf. Section 2.3.2), the two instantiation processes of probabilistic norm-setting and topological re-articulation, or norm-stretching, are complementary, the difference between them collapses in ontogenesis or the scale of a person’s semiotic biography. This scale forms the backdrop for a person’s individual and shared creativity in language. This creativity resides in the various ways in which the

individual escapes the existing norms through topological interfaces, or connotative content layers. The role of ontogenesis here is that those topological uncouplings and recouplings are based on a person's previous semiotic experiences. Looking at the dynamics within the ontogenesis scale, the processes of topological re-articulation and discursive priming are no longer different: they are one and the same process of the person making new connections (topological re-articulation) on the basis of their individual, subjective semiotic biography (priming; probability effect). It is in this combined process that individuals interact with the longer timeframes of shared traditions in which they participate.

The role of a person's semiotic biography in meaning-making was briefly hinted at above in relation to metaphor. Another type of creativity which is anchored in the language user's semiotic biography is the metadiscursive negotiation of perceived norms (including the phylogenetic norms of a language) and previous instances of language use. This type of positioning of the 'subject' in live discourse is the focus of the tradition of French 'metapragmatics' or 'enunciative pragmatics' that goes back to Bally's *linguistique de la parole* (or theories of '*énonciation*', which is understood, following Benveniste (1974: 80), as the process of 'putting a language to function in an individual usage act'). In this tradition the positioning of the subject is theorized as intersubjective engagement (cf. Culioli's (e.g. 1999) enunciative theory) with perceived norms — in a language system and from a person's previous encounters. This process is seen in the metalinguistic framing of utterances (by markers such as, "if I can put it that way" — i.e. the individual negotiating 'norms') and the 'appropriation' of signs with their histories in the broadest sense of Bakhtin's concept of 'heteroglossia', including topological linking to texts, text types, frames of interpretation, and hence also the possibility of mixing those in the individual's creative meaning-making. This mixing is yet another instantiation of topological re-articulation and applies to lexicogrammar, discourse semantics and genres/semiotic formations (cp. Thibault 2004a: Ch. 6). Bakhtin's notion of heteroglossia can be seen as an overarching term for the type of topological meaning-making based on personal semiotic biographies (in this sense, 'metaphor', too, can be seen as an instance of heteroglossia).

The contribution of this ontogenetic scale to the moment of meaning-making is that it brings in the individual with their personal semiotic experiences (cumulatively: as a semiotic biography), with their own subjective scale of priming through this biography, and with their creativity to topologically mix attractors in novel meaning-making. In relation to the other scales, the role of ontogenesis is that of a meso-dynamics; and evidently, within this ontogenesis, there is also a meso-historical norm-setting for the individual, which meshes together with the norm-setting of a language (and size-based mediation levels) and the very local discursive priming of logogenesis. In short, this meso-level dynamics brings in a person's subjectivity in meaning-making, and the person's creative engagement with norm-setting processes in phylogenesis and logogenesis, in interaction with their own ontogenesis. This is what constitutes 'learning' — hence the notion of a person's semiotic biography as an extension of 'language development' which is ontogenesis in a narrower sense.

4. Theorizing & modelling instantiation in interaction with stratification and metafunctions

4.1 Multiple interfaces with complementary mediation processes in different semogenesis scales

The picture that emerges in my proposal to add the dynamics of instantiation to the story of stratification and metafunctions (see Section 2) is one in which, in the moment of meaning-making, *multiple* content levels (or semantic interfaces) mesh together through complementary mediating processes that are at work in different semogenesis scales. The three complementary semiotic designs for semantic interfaces distinguished in Taverniers 2019, viz. probability-based, topological, and size-based stratification, are here further elucidated in terms of the semogenic dynamics through which they emerge as interfaces. **Norm-setting** on the one hand, and **topological re-articulation** on the other, were characterized as two converse mediating processes, while **size-based stratification** is the emergence of a new level of symbolic organization through interactions between discursive norm-setting and topological re-articulation. Different types of norm-setting as instantiation

process have been distinguished in relation to different semogenesis scales. In phylogenesis, there is historical norm-setting whose effects apply to all symbolic levels of language, including lexicogrammar, discourse semantics and genre/semiotic formations. In live logogenesis, in addition to those *longue durée* effects, a local norm-setting is at work, referred to as discursive priming. Topological re-articulation, or the input of the individual's creativity in logogenetic meaning-making applies to all symbolic levels. The individual's creativity with language is an engagement with perceived or *learnt* norms and *previous* acts of meaning, and is thus anchored in, and in its turn further constitutes, their individual semiotic biography or ontogenesis. Viewed from the ontogenetic scale, topological re-articulation and priming are facets of one and the same heteroglossic process of meaning-making.

4.2 Suggestions for modelling the interaction in the SFL architecture

The new theoretical modelling introduced in this article is one with multiple semantic interfaces in the stratified model, which resonate with interacting instantiation processes at the moment of meaning-making, and in which different time scales mesh together. What is the upshot of this theoretical exploration for the SFL architecture? I would like to highlight three suggestions here, each of which is intended to inspire further research.

[1] *Instantiation* is not a one-dimensional cline, but can be theorized as a multi-dimensional space, and this is because of the role of time, and interacting time scales. There are multiple 'intermediate' semiotic constructs that have a mediating role, and in which norm-setting processes (historical and discursive) and topological re-articulations interact. It is not possible to position different intermediate semiotic constructs on one cline (as pointed out by Bartlett 2018). Even the 'point' or 'instantiation level' of single language traditions is not clearly positionable on one scale, as some mediating constructs are higher than the level of single language traditions (e.g. politeness phenomena, written language phenomena (*Schriftlichkeit*), etc.), and there are sophisticated connections and overlaps between types of language formations. In the moment of meaning-making, these and their mediation processes intricately interact because they unfold in a multitude of time scales that mesh together.

[2] **Stratification** models should have room for multiple semantic interfacing levels.

In this way, the model allows the impingement of instantiation in complex ways within the stratification organization itself, i.e. in the interaction between strata. The stratified model is a hypothesis on how language is ‘at work’ between two ‘material’ levels: what is audible/visible on the one hand, and what people do ‘in reality’ on the other hand. Stratification is a theoretical abstraction, and a very powerful one, to make sense of meaning-making in context through different levels of encoding as semiotic interfaces. As such, stratification is both an abstract model of ‘language in general’, i.e. language from the systemic perspective, and an abstraction of the instance of linguistic meaning-making. But in both cases, it has to take into account the instantial and the dynamic in order to capture how language is ‘at work’, the adaptivity of language as a metastable open system, and the dynamism of interaction, with the intricate working together of instantiation processes: norm-setting, topological re-articulation, and semiotic mediation, which ‘render’ multiple semantic interfacing levels. Metastability (of the language system) and dynamism (of interaction) are two sides of the same coin: they are models that recognize the role of time in language and languaging.

Thus, the stratified model with multiple semantic interfaces is one that accommodates and is responsive to the role of instantiation. A stratified system is not instantiated ‘*en bloc*’ — as one whole, and new interface levels do not just appear ‘on top of it’; instead, these interfaces are wedged in, in-between lexicogrammar and context. It is because of this that the role of instantiation has to be reflected in the stratified model, and that instantiation cannot just be ‘another’ abstract semiotic cline that cross-cuts with stratification but never impacts its internal organization.

[3] **Metafunctions** steer the interaction between stratification and instantiation, with the textual metafunction playing a special role as a secondary, reflexive function, through which language interfaces with itself and brings forth mediating semiotic formations. Whereas the interpersonal and ideational metafunctions interface with non-linguistic reality

(while semiotizing it, cf. Section 2), the textual metafunction interfaces with language itself and deals with how language achieves what it does in context. There are two dimensions to this, which are generally seen as main aspects of the textual metafunction. (i) The textual metafunction deals with ‘how much language’ is used, and this can be further expanded as ‘how much mediation’ is involved, how several levels of semiotic formations are engaged. (ii) Starting from discourse-semantics, further mediations mobilize the other two metafunctions, thus the textual metafunction is at work here in its role of orchestrating ideational and interpersonal resources together in unfolding text. In this sense, the further levels of mediation are all results of the emergence of ideational and interpersonal metafunctions from the proto-linguistic micro-functions, and the appearance of the textual metafunction as a new one. This entails the view that the textual metafunction is here interpreted as taking a central place, in the model of SFL, and in theorizing the relation between stratification, instantiation and metafunctions.

5. Conclusion

This article has proposed a new theorization of context in SFL, one where context is regarded as an interplay of different interfacing semiotic strata, and a meshing of multiple complementary and interacting processes of mediation which are at work at different scales of semogenesis. Paradoxically, on the one hand, the complex picture of multiple mediations that is sketched here is much wider than the current conception of ‘context of situation’ in SFL, while on the other hand, this large intricate picture is actually wholly implied in the concept of ‘context of situation’ itself, which comprises ‘Mode’ as the reflexive nature of language interfacing with itself via a ‘second-order’, textual metafunction. In engaging with the wider conception of ‘context of situation’ sketched here, any endeavours to model contextualized language use in SFL by carefully plotting the coordinates of context of situation as an exercise in ‘registerial cartography’ (e.g. Matthiessen 2019) could become part of a larger

project of ‘contextual tectonics’ which incorporates the various interfacing levels and processes engendered by the context variable of Mode.

The focus of this article has been the question of how meaning-making is embedded in ‘context’ and this has been approached, not by zooming in on how context is analysed in actual text, but from a theoretical perspective considering the basic dimensions through which language is modelled in SFL, viz. stratification, instantiation and metafunctions — thus focusing on a *phenomenology* of language in context. While the operationalization of such theoretical conceptions in the analysis of language itself is unquestionably important, there should be an interaction between the larger theoretical picture and actual analysis, with the two informing each other. In this sense, the broader theoretical picture that is sketched here could be used to ‘inform’ what to look for in studying (and further theorizing) actual language in context. It is useful to point again to the role of the scale of ontogenesis as *a person’s semiotic biography*. This scale is the backdrop of *a person’s creativity* in the moment of making meaning. In exploring instantiation in terms of different semogenic processes, the creative topological re-articulation in acts of meaning-making was defined as the converse of norm-setting (which works in all scales, but which is what characterizes the *longue durée* effect of a language system on meaning making). In developing this complementary dimension of ‘instantiation’ (i.e. one that is not identified with just ‘probability-setting’), and more squarely recognizing individuals’ creativity in language in interaction with their semiotic biographies, SFL could connect with other (broadly functionalist) frameworks which highlight instancial norm-setting by language users. For instance, recent studies in (‘radically usage-based’) construction grammar focus on the longer ontogenetic scale of norm-setting in persons’ lifespans (e.g. De Smet 2016; Noël 2019). French enunciative pragmatics based in Culioli’s work focuses on the ‘miniature’ norm-setting and negotiation in momentary *énonciations* or acts of meaning-making (e.g. Angermuller 2014). The scales of meaning-making concentrated on in those theories are candidates for enriching SFL’s modelling of language in context in terms of register (as in the Halliday-Matthiessen strand) and genres (as in the Martin strand).

The way in which contextualization is here theorized as multiple interfaces reflecting mediating processes can be further embedded in relation to the paradigm of emergentism in the humanities (Thibault 2011), which advocates a view of meaning-making as dependent on attractors in multiple (space-)time scales, from cosmological and evolutionary time to the nanoscale of online memory in interaction (cf. Gibbs & Santa Cruz 2012; MacWhinney 2015). In sociolinguistics, especially as connected to linguistic ethnography, the notion of ‘scale’ is further interpreted in terms of space as well as time (cf. Blommaert 2007, 2015; Slembrouck & Vandenbroucke 2020). Such spatio-temporal scales are further candidates for a comprehensive contextual tectonics. The conception of ‘spatial’ scales in relation to semiotic affordances or opportunities, and the degree of access to them, resonates with SFL work on socialization, ‘individuation’ (for Martin 2010) and language pedagogy.

A further development of the picture sketched in this article would benefit from engaging with the various strands of work sketched above. Concepts which have been integrated into SFL, and which can be used as a bridge in connecting with this emergentist paradigm, include metaredundancy (e.g. Lemke 1984; Halliday 1991) and layered simultaneity (cf. Blommaert 2007; Bartlett 2017, in press). Both of these concepts are attempts to capture stratification in terms of intermediate levels or ‘interfaces’, and can be related to connotative semiotics in Hjelmslev’s sense.

This article set out to break open a ‘standard’ SFL view of language-in-context with the dimensions of instantiation and stratification cross-cutting, as suggested by Halliday, by re-connecting to Firth’s rich concept of ‘context of situation’, which inherently includes **time**. By bringing in semogenesis, the Hallidayan two-dimensional model was multi-dimensionalized in terms of different space-time scales which mesh together in the act of meaning-making. This opening up engenders a whole agenda for further SFL research that engages with frameworks highlighting interacting (space-)time scales — in theorizing language-in-context through the semiotic dimensions of stratification, instantiation and metafunctions, especially in understanding the role of the textual metafunction and the

context variable of Mode, and in modelling context (of situation) for the study of actual language practices.

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