

# The evolutionary origins of interpersonal grammar

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## 1. Introduction

This paper is concerned with a facet of the phylogeny of modern human language that has attracted rather little interest in the field of evolutionary linguistics. This is the evolutionary origins of interpersonal grammar, that component of grammar that is, broadly speaking, concerned with the construal and maintenance of socially meaningful relations among human beings (see e.g. Halliday 1970, 1979, 1985; McGregor 1997:74, 2017). Central components of interpersonal grammar include mood and modality (e.g. epistemic, deontic, illocutionary, and so on), polarity, presupposition and attention management, and information transfer (see Section 3.1 for further discussion).

A model is proposed in which – at some point in human evolution – interpersonal grammar emerged and crystallised from a particular mode of symbolic cognition. This mode of symbolic cognition served as a blueprint for interpersonal grammar and the types of grammatical relations that comprise it. This facet of grammatical semiosis is therefore motivated: it is neither radically arbitrary, nor is it coded in the human genome.

What is this mode of symbolic cognition that crystallised into interpersonal grammar? It is the symbolic construal of action on a material entity as a social or interpersonal act – symbolic, because the act on the material entity is not taken at face value, but stands for another act, a social one or an act on another person. For instance, someone might be burnt in effigy as an act of political protest; alternatively, burning a non-political figure in effigy might be intended to be construed as an act on that person, symbolic of destroying them. Burning in effigy is construed by both actors and observers as more than the mere physical act of burning an inanimate object. Similarly, in many types of sorcery, e.g. voodoo, someone is acted on symbolically by action on a doll or some other physical representation of the person. Destruction of a photograph of a person and marked public usage of

a culturally significant semiotic object (e.g. a national flag as a doormat) are also actions typically imbued with social meaning.

Acts such as the ones just outlined often result in a new state of the material entity acted on. The resultant state may also be imbued with social or interpersonal meaning, and it may be that it is this marked state, rather than the action itself, that is the symbolic phenomenon. One thinks, for example, of the practice of placing stamps upside-down as a form of anti-royalist protest, or to express intimacy. The act itself fades rapidly, but the resulting state takes on a novel social meaning in contrast with the meaning conveyed by the normal state of the entity.

For reasons that should become clear as the paper unfolds, I refer to this type of symbolic action and/or its result, and the cognitive system that fosters it, as *the performative semiotic*, invoking the idea that action on the physical object is interpreted as the performance of a purposeful action on a person. In the performative semiotic, the signifier is thus more abstract than the signifier of an ordinary sign, such as e.g. ☺, ♀, or a lexeme. For ordinary signs such as these it is the graphological or phonological form that serves as the signifier. For signs in the performative semiotic, by contrast, what constitutes the signifier is the action itself on the given material or mental entity, and/or the marked resulting state of that entity. For instance, in burning in effigy, the act of burning stands for destruction, the final state of the image for a desired state of the person or social institution concerned. In the words of Deacon (1997), we are the symbolic species; we are not satisfied with construing just objects as symbols, but extend it to actions and their resulting states as well.

This type of symbolic cognition is second-nature to humans, but possibly beyond the reach of all other species. As Gosden (2003: 90) puts it, we are perhaps “the only species to create their social relations through manipulating the material world”.<sup>1</sup> If this is so, this particular type of symbolic cognition must presumably have emerged somewhere in our lineage subsequent to its divergence from the apes. It belongs, I would argue, to the suite of principles of interaction comprising what Levinson has called the human interaction engine (Levinson 2006). Levinson

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1. Certainly one can find potential precedents in the animal world. For instance, the male bowerbird builds an elaborate nest to attract a mate. However, this would seem to be a genetically programmed behaviour, with mate attraction the presumed evolutionary explanation. There seems no reason to believe that the act of manipulating the twigs and other objects to construct the nest represents a semiotically significant act, or indeed that the final product constitutes a sign. Neither is it clear that the bowerbird's nest-building activity could be motivated by any social purpose other than mate attraction. Compare here the long and elaborate tail of the peacock, also with an evolutionary explanation in terms of mate attraction. There seems little reason to consider this to be a bodily sign in the same way that elaborate adornment of a person might constitute a socially meaningful sign, perhaps also motivated by mate attraction.

(2006) identifies as central components of this engine theory of mind, attention sharing and the Gricean maxims of cooperation. These, he argues, predated the appearance of language in our species, and formed one of the cognitive-interactive foundations that facilitated the emergence of modern language in its full glory. The same is true of the performative semiotic. But unlike Levinson's components, this one, the performative semiotic, exhibited an abstract structure that could be replicated in grammatical patterns. In other words, the performative semiotic was not just a precondition for language; it was also woven into the fabric of language.

Even if we are unique in enacting social relations through symbolic action on the material world, all species must act on – in some sense “manipulate” – the material world in order to survive. A number of species manipulate objects in the material world in order to act more efficiently on the world. They use objects as tools. Tool use has been observed in a number of species including, among others, some bird species (e.g. Hunt & Gray 2003), some monkey species (e.g. Haslam 2019) and chimpanzees (e.g. Goodall 1986; Hernandez-Aguilar *et al.* 2007). Although no longer regarded as unique to humans, the range and extent of tool use and production in our species clearly surpasses that in other species. Tool use and production have played a prominent role in evolutionary linguistics (see for instance Corballis 1983; Davidson & Noble 1993; Gibson 2012; Kimura 1993; Morgan *et al.* 2015; Wynn 2012). By contrast, the performative semiotic has, to the best of my knowledge, been completely overlooked in narratives of the evolutionary origins of human language, just as it has been massively disregarded in grammar – and linguistics generally. The arguments of this paper will, I hope, demonstrate the central place of this semiotic in these domains, and underline the need for further research.

The argument is structured as follows. I begin in Section 2 with a somewhat jaundiced overview of the contribution of functional linguistics to the evolution of interpersonal grammar. Following this, in Section 3, I elaborate further on the nature of interpersonal grammar, and develop the evolutionary story sketched above for this component of the grammar of human languages in the performative semiotic. In making my case I employ evidence largely from language ontogeny, but also to a limited extent from animal behaviour. In addition, I propose that the very nature of interpersonal grammar itself can be revealing of its phylogeny, much as synchronic characteristics of biological species can be indicative of their phylogenetic development. Section 4 winds up the paper with some conclusions and situates things within the bigger picture of the evolution of human language.

## 2. Functional and usage-based linguistics and the evolution of interpersonal grammar

The language evolution literature has exhibited rather little interest in the evolutionary origins of interpersonal grammar. This is perhaps unsurprising since it is only a few functionally oriented theories such as Systemic Functional Linguistics (SFL) – within which tradition the notion was first proposed by Michael Halliday (e.g. Halliday 1970, 1973, 1979) – and Functional Discourse Grammar (FDG) (Hengeveld & Mackenzie 2008) that recognise such a distinctive component of grammar. However, virtually every linguistic theory has some place for key components of interpersonal grammar including mood and modality. But these are not amongst the topics that have attracted much interest in investigations of language origins and evolution,<sup>2</sup> which has tended to focus on larger issues such as the evolutionary emergence of language as a whole system, or of the broad structural levels of phonology, morphology and/or syntax.

At this point it is essential to say a few words about the place of interpersonal grammar within the overall scheme of SFL (here I assume the standard Hallidayan version of the theory). In contrast with other functional theories of grammar, SFL does not merely assume external motivations for grammar. Rather, it proposes that grammar is organised in accordance with three broad groupings of functions that have been interiorised into the system of language and characterise its architecture (e.g. Halliday 1970; Halliday & Matthiessen 2014:30–31). These are referred to as metafunctions, and are assumed universal. Aside from the interpersonal, there are the ideational metafunction (concerning experiential or representational meaning and logical meaning) and the textual metafunction (concerning the way language is organised as a message-bearing phenomenon). These are not hierarchically related, but are simultaneously orchestrated. (By contrast, in FDG the interpersonal and representational are considered hierarchically layered.) SFL adopts a paradigmatic perspective on grammar, and sees the metafunctions as dividing the systems of options comprising the grammar of a language into relatively discrete and disjoint subsystems.

SFL has evinced little interest in language phylogeny, in contrast with ontogeny, which has formed a significant component of its research agenda since the 1970s. The little that has been said about the former appears to reflect the latter (Matthiessen 2004; Rose 2006: 82–83), invoking Ernst Haeckel's maxim that ontogeny recapitulates phylogeny. It has been suggested that language phylogeny

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2. By contrast, there is an enormous literature dealing with the evolution of mood and modality in human languages over historical time, in both grammaticalisation theory (e.g. Bybee *et al.* 1994; Davidse *et al.* 2010) and historical linguistics.

observes an “interpersonal first principle” (Rose 2006:89), as does ontogeny (Painter 2004). Two components of the “interpersonal first principle” are identified by these authors. First, they suggest that language did not develop initially as a system for expressing representational meanings concerning the world of experience, but rather in the service of interpersonal meanings. Second, novel developments in the system always begin in the interpersonal domain, and may then extend to the other domains.<sup>3</sup> Hence the linguistic resources for expressing meanings of other types – including representational meanings – derive from resources that were initially deployed in the expression of interpersonal meanings.

As to the first interpretation, it is unclear how the interpersonal metafunction could have absolutely preceded the emergence of other functional components of language, granted that it is identified only through the simultaneous paradigmatic organisation of grammar. As is frequently observed by adherents to the theory (e.g. Hasan 2015), clauses other than minor clauses expressing interjections cannot plausibly construct meanings of a single type in adult language. It seems equally difficult to imagine such monofunctionality in any communication system of a hominid ancestor that exhibited a genuine grammar (and so showed more than mere minor clauses), or indeed that interaction could have begun prior to any concern with the external non-interactive world. Reversing the words of Painter (2004:152) it is not the case that hominids first learnt to use language to communicate with and then learnt to represent the world. Surely both have always gone together hand in hand.

As to the second interpretation, no mechanisms are suggested whereby e.g. transitivity – the linguistic system concerned with the representation of events and participants in them – might have developed from a prior interpersonal system. More significantly for our purposes, no account is provided of how interpersonal components of language such as mood and modality may have arisen from the primordial soup of interactive language use. We are left entirely in the dark as to the processes by which the interactive functions of language became embodied within the system of language itself.

The crucial problem with the “interpersonal first principle” is thus that it confuses metafunction with mere function (see above). Especially in discourse on language phylogeny, it is essential to keep these two notions separate, to distinguish the etic level of functions and uses of language, and the emic level of the

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3. This claim is in places modulated as a statement of typicality. This does not save it from the criticisms below, and we are left wondering how typical this typicality might be, and whether some non-interpersonal phenomena may have arisen prior to interpersonal ones, and perhaps even evolved into them (as has been suggested by e.g. Traugott 2006, 2011 for the grammaticalisation of modality).

ways in which these uses are construed and have crystallised into the architecture of grammar. To maintain this distinction, I have elsewhere (McGregor 1997) renamed Hallidayan metafunctions *semiotic components*, highlighting that these phenomena are the linguistic resources for expressing the relevant meanings and functions in the grammar of a language. To avoid further confusion, I will also henceforth use the term *interpersonal* exclusively in reference to the relevant semiotic component of a given language, and the term *interactive* for the corresponding etic functions and uses. To return briefly to Rose (2006) and Painter (2004), what their arguments concern and possibly motivate is an *interactive first principle*, not an interpersonal first one. Grammatical semiosis of all three types may perhaps emerge in this interactive context.

In fact, however, Halliday's story of language ontogenesis does not presume an "interpersonal first principle", or confuse the emic semiotic components of language with etic functions that might be served by tokens of language use. Rather, he proposes a three-stage process in language ontogeny (e.g. Halliday 1975, 2004; Painter 1984, 1991; Torr 2015). The first phase, protolanguage, shows no grammatical structure as such, but comprises a system of signs that express various functions such as demands for objects or services. In the second or transitional phase, the system is reorganised such that these specific functions group together into two macrofunctions: the pragmatic macrofunction in which language is used to act on the world and expresses meanings related to speech act types; and the mathetic macrofunction in which language is used to reflect on and learn about the world. Initially in this phase, an utterance serves a single macrofunction; late in this stage, the two macrofunctions begin to combine in utterances. The third phase sees the emergence of full human language with its three simultaneous metafunctions. Halliday (1975:29, 53) suggests that the interpersonal metafunction arose primarily out of the ontogenetically earlier pragmatic macrofunction, while the ideational arose from the mathetic macrofunction (see below for some important qualifications).

Matthiessen (2004) advocates a model of language phylogeny with the same three developmental phases for the metafunctions. This, however, sheds no more light on the emergence of interpersonal grammar than Rose's proposal. The interpersonal allegedly arises from the pragmatic (Matthiessen 2004:81); the crucial development seems to be that it is now simultaneous with other metafunctions. It remains unclear precisely what novel features emerged in this stage, where they came from, and how the interpersonal metafunction resembles and differs from the pragmatic macrofunction. For instance, how and from what, did epistemic mood emerge (there seems to be nothing in the pragmatic macrofunction that might serve as a precursor), and why was it assigned to the interpersonal metafunction, given that its meaning shows more in common with the logical than the

interpersonal? Looking back further to the initial protolanguage stage, the pragmatic is linked to instrumental, regulatory and interactional microfunctions. But no mechanisms are proposed for this developmental unification that explain how we get from the specific microfunctions to the general macrofunctions.

Summing up, central to the SFL conceptualisation of the ontogenetic emergence of grammar is the development of metafunctions as abstract functional components that organise the system. This abstract functional system is understood to have arisen from earlier more concrete ones in which function is construed as use in context, in the protolanguage and transitional phases (Halliday 1975:54). Effectively, the notion of function has been extended from use of language to component of the linguistic system. Once the metafunctions were in place simultaneous expression of meanings of all three metafunctional types became possible. This is construed in SFL as the crucial step in the development of adult grammar; little attention has been paid to the processes by which the systems associated with the metafunctions elaborate and proliferate. No continuity is presumed with the systems of choices available for the corresponding macrofunctions. The systems of the adult grammar are presumed to shape the developmental trajectory of the systems in each metafunction. This target, of course, cannot be invoked in the phylogenetic story, leaving mysterious the development of each of the three metafunctions.

One of the few investigators to make any serious proposal about the evolutionary emergence of any component of interpersonal grammar is Michael Tomasello. Working within a usage-based linguistics, Tomasello has proposed a model of language evolution in which social cognition plays a fundamental role (e.g. Tomasello 1999, 2008, 2014). In his view, social cognition was a precursor to language: the final steps in the evolution of language were social-cultural ones, not biological ones. Language evolved into its modern form in the milieu of a suite of specifically (though not necessarily uniquely) human styles of social interaction, including cooperation and joint attention, and their cognitive underpinnings. Social cognition served as a circumstance facilitating the emergence of language in human life.

Tomasello (2008:239) proposes a sequence of developments from apes to modern humans in social cognition – effectively our interactive dimension – from requesting to informing and ultimately to sharing. These formed the conditions for the emergence of three different types of syntax, which emerged in a developmental sequence from grammars of requesting (emerging with the *homo* genus), to grammars of informing (with the earlier *sapiens*), to grammars of sharing (later *sapiens*) (Tomasello 2008:294). He speaks of three corresponding types of syntax, simple, serious, and fancy. These three types of syntax show different types of functional structure. Simple syntax, in Tomasello's view, involves parsing expe-

rience into events and participants represented by sequences of signs but lacks markers of the relation between them. For serious and fancy syntax, he proposes various types of marking relations (indicating roles in events, identifying participants in the joint attentional frame in serious syntax; and the relation among narrated events and participant tracking in fancy syntax). Surprisingly, however, the developmental scenario of Tomasello (2008: 243–317) makes no mention of the emergence of illocutionary mood, by means of which the three types of grammar might be expected to have been differentiated formally.

This lacuna is patched up to some extent in Tomasello (2014), where we find some suggestions pertinent to the evolutionary emergence of components of interpersonal grammar. Specifically, Tomasello (2014: 102–103) proposes an account explaining how indication of communicative motive (and thus speech act type) and how modal or epistemic modulations of the referential content of the message emerged. Specification of this sort of meaning, suggests Tomasello (2014: 102), was “something almost wholly new in the communicative process” – in early humans this type of meaning was left implicit or was expressed unintentionally in facial expressions and vocalisations. These expressions and vocalisations were not a part of the communicative act under the control of the communicator. The associated facial expressions and prosodies were the evolutionary raw material for the conventionalised expression of modal and epistemic attitudes. With this came the encasement of propositional content in “modal-epistemic” envelopes (Tomasello 2014: 103). Thus in Tomasello’s account grammatical expression of interactive meanings developed late, indeed much later than grammatical expression of representational meanings (see Section 3 below).

There is some degree of plausibility in this developmental pathway for the emergence of modality. However, it is not without difficulties. For one thing, it leaves unexplained how and why the types of gestural and prosodic expression of these interactive meanings came to be expressed and/or replaced by segmental vocal expressions. For another, it can be questioned whether the emergence of expression of mood and modal meanings was really so late. Tomasello (2008: 225) speaks of the existence, as early as the single word holophrastic stage in phylogeny, of means of marking different speech functions, different motives for speaking, by means of different intonation contours (see Section 3.2 below). It is not clear why epistemic and other types of modal meaning could not have been expressed in similar ways, and thus have been a part of the suite of communicative acts of early humans.

The novelty of explicit indication of modal meanings is also questionable, and other interpersonal systems may well have arisen very early. Once the communicative system came to show significant degrees of displacement (Hockett 1960), it would have been essential to codify certain attributes of the joint attentional frame that could not be simply read from the ongoing interactive situation by



the means that Tomasello discusses or left entirely to pragmatic inferencing. For instance, it would not have been enough to simply point at displaced referents at the centre of attention, either gesturally or by means of linguistic indexes. There had to be ways of addressing problems where expectations were not met. For communicative systems used largely for the here-now, with minimal displacement, problems in shared expectations and in what lies at the centre of each interlocutors' attention may not be particularly significant. But with increasing displacement, problems emerge progressively. It thus seems likely that grammars of information packaging and attention manipulation – components of the interpersonal semiotic (McGregor 1997:270–281) – of some degree of sophistication and realised prosodically by means of stress and intonation were in place early in the human proto-language (e.g. Givón 1995:437). It is difficult to imagine how this domain could have lain entirely outside of deliberate communicative acts.

Moreover, any communication system that shows relatively frequent displacement must surely show the capability of expressing negation – e.g. to highlight that something did not happen when it was expected to have happened – and to consistently distinguish affirmative from negative utterances. Negation may perhaps have had origins in something like the bodily situation Tomasello constructs: facial, gestural, or vocalisations accompanying the utterance, and scoping over it. But these could hardly have been consistently unintentional and merely probabilistically associated with utterances. They must have been under volitional control. It is not implausible that the grammar of negation formed a model for the grammar of mood and modality.

### 3. The performative semiotic and the evolution of interpersonal grammar

The primary message of the previous section is that the emergence of interpersonal grammar in human language is a completely different phenomenon from the emergence of interaction and interactive cognition in the human lineage and the child (see also Halliday 1975:54). In tracking the evolution of interpersonal grammar we are concerned with the genesis and subsequent development of a semiotic system within grammar that codes meanings of a certain type, not with the emergence of particular language functions in the sense of mere uses in context. In fact, interactive behaviour and cognition may have given rise to grammar belonging to semiotic components other than the interpersonal – as admitted by Halliday (1975:107): “perhaps the pragmatic function contributes to the development of transitivity specifically by creating the conditions for the representation of the causative element in the structure of processes”.

### 3.1 On the “shape” of interpersonal grammar

The metafunctions are understood in SFL as paradigmatically defined. My construal of the “metafunctions” as semiotic components (Section 2) builds on a suggestion of Halliday (1979) linking them to the syntagmatic rather than paradigmatic axis (McGregor 1997), as shown in Table 1. As I hope to demonstrate, this conceptualisation provides a better understanding of the evolutionary emergence of interpersonal grammar.

**Table 1.** The semiotic components and their modes of expression (McGregor 1997)

Semiotic component	Type of grammatical relation
Experiential	part-whole (constituency) relations; hierarchy; domination
Logical	part-part (dependency) relations; sisterhood
Interpersonal	whole-whole relations; action on
Textural	associative relations; links, ties, indices, markers

The experiential semiotic is characterised by grammatical relations of the familiar constituency type, in other words, part-whole relations. The logical semiotic is defined in terms of dependency relations between linguistic units, such as parataxis (as in *the farmer and her duckling*) and hypotaxis (as in *the farmer with her duckling*). Textural relations are associative relations, relations of predictability of something given something else, e.g. of a grammatical relation of a certain type given a marker. The interpersonal semiotic is construed in terms of action on a whole unit giving rise to another whole unit (see McGregor 2017). In effect, we enact interpersonal relations indirectly by acting on objects, here linguistic objects; we do things to other persons by doing things to words (including more complex linguistic units comprising words). We do things with words by doing things to words – cf. *How to do things with words* (Austin 1962). It follows that not just language, but also its structuring principles, grammar, is at least in part a mode of action. Interpersonal grammar is thus the performative semiotic grammaticalised.

There are two primary ways of acting on linguistic objects: by shaping or “manipulating” them, and by using them. These give rise to two primary modes of expression that are deployed in interpersonal grammar.

Shaping of linguistic objects refers to the various ways linguistic objects can be modified or deformed so that they better suit their interactive purposes. This can be done prosodically by modifications to size (e.g. length or duration), intensity (e.g. loudness, stress, pitch) or shape (e.g. intonation contour), or segmentally by modifications to order of linguistic items, or by inclusion of elements that scope over or frame a linguistic unit, such as negative or epistemic particles or enclitics. For instance, different illocutionary moods in English are marked by different orders of

key elements: *the farmer kissed the duckling*; *did the farmer kiss the duckling?*; *who kissed the duckling?*; *what did the farmer kiss?*; *kiss the duckling*; etc. These may be seen as different shapings of an inherently unordered configuration of these key units. In some languages, illocutionary moods are instead marked by morphemes. For instance, in Mandarin Chinese polar interrogatives are marked by a clause-final particle that has scope over the clause, specifying it as an interrogative. This particle does not serve in a meaningful constituency relation in the clause, as does the NP *the farmer* in the clause *the farmer kissed the duckling*. The interrogative particle shapes the clause in respect of its illocutionary mood; this contrasts with the grammatical function of *the farmer* as Agent, construing experiential meaning.

The second of the primary means of acting on linguistic entities is by using them. Table 2 shows the central components of this usage system as I currently understand it (McGregor 2017), along with indication of some of the interpersonal meanings they express.

**Table 2.** Overview of formal and semantic features of the usage-based phenomena (a revision of McGregor 2017: 219)

Phenomenon	Usage type	Interpersonal meaning
Optionality	Use X vs. don't use X	Joint attention: foregrounding and backgrounding
Repetition-based constructions	Reuse X	Joint attention, concerning presumptions – bringing some component of what is presumed to the foreground
Insubordination	Use X as though it is Y ( $\neg X$ )	Mood and modality: including illocutionary mood, desideratives, evaluatives, and evidentiality; also joint attention and propositional status
Quotation	Use X to demonstrate/depict rather than to describe	Evidentiality and other types of modal meaning such as distancing speaker from the quoted utterance

The first two phenomena relate to *the number of times* that a particular linguistic item is used in a construction. In optional systems – where the term is used specifically as per McGregor (2013a) in reference to situations where the omissible element may be present or absent without affecting the grammatical relation invoked – there is a contrast between use and non-use. In repetition-based constructions (such as nominal tautologies, presumption invoking existentials (McGregor 2013b), contrastive focus repetition (Ghomeshi *et al.* 2004), and so forth), the linguistic unit is used twice (rarely more often) in contrast with their single occurrence in an ordinary construction of apparently comparable shape.

The second two phenomena concern instead *how* the item is used. In insubordination, the item is used as though it were something else: a subordinate clause is employed as though it were a main clause. In quotation, the linguistic item is used in a marked fashion to represent more or less iconically an utterance or thought of someone, rather than to directly describe some segment of reality. In both cases, there is a normal manner of usage of the linguistic phenomenon and a marked manner of usage; they contrast in terms of how the linguistic item in question is construed interactively.

The syntagmatic reconceptualisation of interpersonal grammar has implications for what this semiotic comprises. As in SFL, central components of interpersonal grammar are mood and modality, those grammatical categories that are broadly speaking concerned with the indication of the speaker's degree of commitment to a proposition: their evaluation of its certainty or likelihood, its evidential basis, their attitudes and desires, the speech act type, and various other types of modification of the clause or its utterance.

Interpersonal grammar also includes systems relating to attention and information resources of language, including information packaging (McGregor 1997: 270–281) – which is placed in the textual component in standard SFL. These are interpersonal meanings in that they are concerned with the ways in which attention and information are managed in the interpersonal space of assumptions, presuppositions and foci of attention.<sup>4</sup> As indicated in Table 2, quotation is also construed as belonging to interpersonal grammar (McGregor 1997: 251–270), rather than to ideational grammar, the grammar of “projection” in Halliday (1985: 196). What is at issue in quotation is how the uttered words are to be taken as acts of meaning (as per Clark & Gerrig 1990; Clark 2016) as demonstrations or depictions rather than descriptions (cf. illocutionary mood as concerned with how the clause is to be taken as a speech act).

This subsection has presented an overview of a conceptualisation of interpersonal grammar in terms of a natural grouping of syntagmatic relations. We now attempt to show that this construal provides a window into the phylogenetic emergence of the interpersonal semiotic in the grammars of human languages.

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4. Compare also the incorporation of information distribution (Topic and Focus) as part of the Interpersonal level in FDG (see Butler, this volume).

### 3.2 A possible phylogeny for the modes of expression of interpersonal grammar

The shaping of a linguistic unit prosodically is perhaps the most obvious mode of representation of interpersonal meaning, and indeed it is this mode of representation that Halliday (1979) took to be paradigmatic. There is reason to believe that this aspect of grammatical semiosis has an extended evolutionary history, that can be traced back a long way in animal behaviour. Precedents in animal behaviour and communication systems are not difficult to find in the modifications of the shape and stance of the body and its positioning with respect to the bodies of other animals, modifications in the intensity, duration, and size of bodily gestures, and prosodic modification of vocal signs by loudness, length, pitch variations (e.g. high vs. low pitch) and the like (Darwin 1898). These are deployed in many animal species to modulate interactions with one another and sometimes with members of other species. For instance, in a number of species (including humans) relative size and positioning of the bodies of individuals conveys information about dominance relations – or can be interpreted as a challenge to existing dominance relations. A dog raises its hackles when threatened, for instance, thus giving the appearance of greater body size, hence warning another animal that it may be risky to engage with it. Lowering the pitch of a vocalisation can indicate an increased degree of threat or the like through the association of lower pitch with greater size. The intensity of a gesture or vocalisation such as a warning bark from a dog, or an alarm call from a vervet monkey, can likewise express immediacy and/or greater threat of danger, and thus how it is best acted on.

Prelinguistic infants also show similar prosodic associations. Intensity and duration of crying for instance are indicative of the degree of distress of the infant, and thus of the need for remedial action. Intensity and duration of smiling or laughter will be understood differently, though with a common meaning element of degree.

These associations between prosodic modification of the body and intra-individual emotions and inter-individual social relationships were, I suggest, the first step in the evolutionary development of the **interpersonal** semiotic in human language. They instantiate a dyadic actional frame in which action on the self, manifested through modifications of the body, serves to express emotions on the one hand, and actions on other individuals on the other hand. At this stage, modifications of visual gestures and audible vocalisations were simply physical consequences of modifications to the body, and were not construed as anything more than modifications of the body. They were not externalised, and had no separate existence as signs; they were behaviours with interactive potential but no genuine symbolic value (compare Halliday 2004:17). This may be the stage represented

by most natural communication systems of animals, such as the vervet monkey alarm calls referred to above. Externalisation and symbolic construal came later in evolutionary time.

The ontogenetic parallel is the early emergence of dyadic engagement in the infant, which Hobson (2004:76) takes to be the first step in the development of symbolic thought and language. At somewhere around nine to twelve months of age the child begins to engage jointly with a caregiver and an external object, the pair participating in bouts of triadic engagement with such objects (e.g. Hobson 2004:71; Tomasello 2003a:21, 2008:140). Tomasello (e.g. 2003a, 2008) has focused on joint attention and intention reading in this triadic frame comprising the two interacting persons and the object, and has argued their central place in the child's acquisition of language. But triadic engagement is not restricted to attention and intention reading from behaviours such as eye gaze and pointing, and the child also relates to other person's relations to things (and events) in the world through their emotional reactions as indicated by e.g. facial expressions (Frith & Frith 2007). Triadic engagement also plays a significant role in the phylogenetic origins of human language according to Tomasello (e.g. 1999, 2008:172), where it serves as a necessary condition for the emergence of language.

Triadic engagement represents, I would argue, a crucial early step in the development of the **performative** semiotic. Bodily behaviours directed towards external objects are instances of, and construed as, actions on these objects. Just as in the case of bodily behaviours that emerge in the dyadic actional frame, these bodily behaviours in the triadic frame at first are construed as simply behaviours. However, in contrast with the dyadic stage they are construed as external to the organism, and not a part of it. This is a first step in their ultimate construal as semiotic phenomena. This component of the story, however, remains largely ignored in the acquisition and evolutionary literature. In Tomasello's and Hobson's stories the triadic frame represents a mere setting within which the relevant behaviours are interpreted.

In what follows I first elaborate on the development of a fully-fledged interpersonal semiotic in grammar using bits and pieces from the performative semiotic. Most of the discussion is situated in the ontogenetic development of grammar. The focus is on analogical extensions and generalisations from the shapes of signifiers in the performative semiotic to signifiers in the interpersonal semiotic, as outlined in Section 3.1 (see especially Table 2). All of these analogical extensions are ultimately cut from the same fabric, namely triadic engagement, which in turn has its roots in dyadic engagement. It is important to stress that I am not presuming a separate-stage scenario in which the performative semiotic develops in its entirety first, then the interpersonal semiotic. It seems more likely that each

is made up of temporally overlapping component developmental stages that bootstrap one another.

Prosodic modification remains a fundamental mode for expressing interactive meanings in the triadic actional frame, by which I mean the triadic frame in which one of the interacting persons acts on the object. The SFL literature on language acquisition indicates that prosodic modification emerges early in the child's language system as a mode of expression of interactive meanings. Already in the transitional phase – which emerges sometime in the child's second year, i.e. following the emergence of triadic engagement – the three main SFL investigations of language development reveal that pragmatic and mathetic utterances are distinguished prosodically. In the case of Halliday's and Painter's sons, tone was used to differentiate these usage types (Halliday 1975: 28, 46; Painter 1991: 22–27), whilst in the case of Torr's daughter voice quality was deployed (Torr 2015: 254).

As we have seen, the standard interpretation is that pragmatic and mathetic usages lead to interpersonal and ideational grammar respectively. However, another interpretation is at least as plausible: the contrast between interpersonal and ideational grammar is already there, and both prosodies express interpersonal meanings. Thus all three investigators indicate clearly that by the time usages are explicitly coded prosodically what we have is effectively a two-term system of speech act types (e.g. Halliday 1975: 53, 55; Painter 1991: 23; Torr 2015: 254) – and not merely a binary contrast between context-dependent types of language use. These are pragmatic speech acts that demand a response (linguistic or non-linguistic) from the interlocutor, and mathetic speech acts that do not. In fact, Halliday comes close to acknowledging this interpretation in his suggestion that the choice between pragmatic and mathetic is an interpersonal one (Halliday 1975: 109, 2004: 34; see also Painter 1991: 29).

As Halliday has observed, the child is not using prosodic contrasts in the same way as in the adult linguistic system. Significantly, however, the child follows constraints in the types of meaning they associate with contrasting prosodies, which may perhaps have foundations in the widespread involuntary events that typify animal behaviour.<sup>5</sup>

The other way of shaping linguistic items interpersonally that was identified in the previous section is through segmental changes such as changes to order and

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5. What is at issue here is utterance level prosodic contrasts. Prosodic contrasts are also employed in languages at the lexical level, to distinguish words – e.g. stress in English, tone in Mandarin Chinese and Shua. They can also be employed at the morphological level, e.g. to distinguish different inflectional forms of words such as different case forms of nouns. This raises interesting questions in acquisition concerning how the child learns that certain prosodic contrasts are lexically or morphologically relevant whilst others are not.

inclusion of scoping elements. These processes presume the possibility of units that have the potential of occurring in syntagms, and thus may be presumed to be evolutionarily later than prosodic modifications, which apply to single isolated units. Similarly, they would seem to appear slightly later in ontogeny than prosodic modifications. Thus, according to Halliday (1975: 31–32, 70–71), late in the transitional phase, his son developed a formal contrast between declarative and polar interrogative constructions effectively like that of adult English, i.e. largely manifested in terms of order of subject and finite elements. This did not, however, express the illocutionary mood contrast of the adult language, but rather a contrast between whether the expressed information was shared with the interlocutor (declarative) or not (interrogative). Again, the meaning associated with the formal contrast is interactive in nature, concerning shared knowledge and/or experience.

Furthermore, according to Halliday (1975: 45), early in the transitional phase two types of syntagmatic structure existed in his son's language, involving a specific expression together with either a gesture or a general expression of the particular function. On the one hand, he employed for instance a negative gesture along with an expression such as [ndà] 'star' to express the meaning 'I can't see the star'. On the other hand, he employed a general expression with scope over a more specific one, as in e.g. [ɛ̀ lòu] + *hole* 'make a hole', where [ɛ̀ lòu] represents a general command.

These developments were possible – both ontogenetically and phylogenetically – only with the emergence of triadic engagement. Initially, the prosodic modifications were restricted to dyadic engagement, and what were effectively autonomic modifications of the body. It was only when triadic engagement with an external object emerged that the full semiotic potential of prosodic modification could be realised. With the emergence of triadic engagement the relevant manipulations could be interpreted as manipulations of the form-shape of linguistic signs, rather than as mere manipulations of the body. A wider range of meaning was thus freed up for expression, not just emotional and intensifying ones, but also meanings relating to attention and knowledge. The emergence of segmental manipulations in the expression of these meanings, as indicated above, followed prosodic modifications, and was possible only after signs had been distinguished from bodily behaviours, and could be acted on as though they were material objects.

What is crucial to the Hallidayan ontogenetic situations discussed immediately above is the fact that prosodic modifications and segmental changes acquired symbolic values. They were no longer mere behaviours that were interpretable exclusively within a given triadic frame, although they may still not have been fully independent of these frames in that a number of expressions were restricted in terms of their tone potential (Halliday 1975: 42; Painter 1991: 29–30). They had coded meanings, and significantly these related to the interactive domain. By this stage, dubbed



transitional by Halliday (1975), interpersonal grammar had already begun to emerge – a grammar formally expressed by prosodic and segmental modifications, and expressing meanings that relate to the construal of interrelations amongst individuals. This is not the full extent of interpersonal grammar, however, either in terms of formal possibilities or its semantic range.

How and when children begin to understand that actions on material objects generally can symbolically enact social relations and express interactive meanings has not, to the best of my knowledge, been subject to serious investigation. McGregor (2017:225) speculates that it is first bodily behaviours that are construed in this way, and that other more specific material actions on objects – such as e.g. burning in effigy, destruction of images of persons and other actions on and with these, voodoo, the Christian communion ritual, and retouching of artworks – admitted such construals only later in development. There is a reason for this apparently counter-intuitive developmental scenario from the less to more concrete. DeLoache (2004) provides a clue as to why this may have been so. She shows that the physical shape of a material sign such as a photograph or model can interfere with the child's construal of the phenomenon as a sign. The child can miss the sign status of the material object if it too closely resembles reality – if it is too iconic – and treat the object as though it were the real thing, and e.g. try to put on a photograph of a shoe. In the domain of material action, action that directly affects an object, as in the above examples, admits construal as non-symbolic material action, and this can distract from its symbolic status. For bodily behaviours directed towards objects in the classic triadic frame this confusion does not arise, and there is less likelihood that the behaviour will be interpreted as merely material (which of course it may be).

In the domain of language, material actions on signs include the prototypical ones mentioned above, prosodic modifications and segmental changes. Also likely to have been early in phylogeny and ontogeny was repetition of a linguistic unit. The sequential repetition of signs for interactive purposes in discourse is well known (e.g. McGregor 2017:209; Tannen 1987, 1989), and is attested in animal communication (see e.g. Terrace *et al.* 1979:894 on Nim Chimsky's multi-sign combinations). If repeated tokens of a single sign were combined in a single act of communication, this could have acquired a conventional meaning in contrast with a single use. English, like many other languages, shows a number of constructions that are fundamentally based on repetition, and that express interpersonal meanings relating to intensification and to attention and information (e.g. McGregor 1997:347–376, 2013b, 2017:209–222 *passim*). It is impossible to determine when such repetition-based constructions emerge ontogenetically, given the dearth of investigations. It would seem likely, however, that many of them (such as nominal tautologies and

presumption invoking existentials) are quite late. On the other hand, repetition of modifiers to express intensification could well emerge early.

Two other usage-based phenomena were mentioned in Section 3.1. One concerns the domain of optionality, where use of some grammatical marker contrasts with its non-use, and interpersonal meaning is associated with one or the other phenomenon (or both). The other was marked usage, use of the linguistic unit in some way that it was not designed for – and this has the potential to give rise to an interpersonal meaning associated with the marked usage. My guess is that these appeared late in phylogeny as grammatical phenomena expressing interpersonal meanings. They perhaps represent some of the last steps in the interpretation of action on a linguistic unit as an instance of acting on a person, with the potential of attracting and coding an interpersonal meaning.

Central to the proposals of this paper is the notion that action on objects within a triadic frame served as the analogical basis for interpersonal grammar. That is to say, the interpersonal semiotic is constituted by actions on linguistic units that replicate the symbolic actions on objects that comprise the performative semiotic. Indeed, it would be surprising if the performative semiotic had not been extended to linguistic units as paradigm examples of semiotic units. The triadic frame provides more than Tomasello admits. To be sure, this frame represents an essential step in the acquisition of language in the child, and was essential to the evolutionary emergence of human language. But it was more than a mere frame for the interpretation of intentions. It provided a model for the expression of interpersonal grammar via the performative semiotic, which provided the basis of the extension from doing things to things to doing things to others. Although there are a number of commonalities between the story I have presented of the emergence of interpersonal grammar and Tomasello's account of the emergence of modal categories in language there are important differences. In particular, I presume analogy to be the driving force, not the replacement of one modality by another. Even in modern adult human languages, gesture can express interpersonal functions. For instance, in Guugu Yimithirr, a negative gesture preceding a positive linguistic assertion can negate that proposition (Levinson 2006: 55). What happened in the evolution of human language was that ways of acting vocally on linguistic units were employed to enact interpersonal meanings, extending on usages that were already in place in animal communication systems.

#### 4. Conclusions

As Fitch (2010:2) observes, the complexity of language and the fact that it permeates all aspects of human culture, behaviour and cognition mean that we are still far from a comprehensive model of the system. As he puts it, we are like the blind men the Sufi poet Rumi described exploring an elephant. Evolutionary accounts of language have thrown light on the origins of some components of the system of language, but we are lacking in an account of the evolution of modern human language in its entirety. The present paper does not address the evolution of human language. Its scope and goals are much narrower, and what is targeted is the emergence of a particular component in the grammar of modern human languages, interpersonal grammar.

That sociality and interaction played a crucial role in the origins and evolution of human language has become increasingly acknowledged in recent years. As mentioned in Section 1, Levinson (2006) has proposed an interaction engine that preceded language and served as an essential cognitive foundation for it. Similarly, Tomasello has argued the necessity for the emergence of a type of social cognition that enabled the development of human culture, and human symbolic communication within it (e.g. Tomasello 1999, 2003b, 2008, 2014). Seyfarth *et al.* (2005) and Seyfarth & Cheney (2012) likewise propose that primate social cognition served as an evolutionary precursor to language, and that its evolution in primates might be used to track evolutionary stages in the emergence of human language. Somewhat different is Dunbar's (1996, 2010, 2012) grooming hypothesis, which, however, also assigns primacy to the interactive and social dimensions in the evolutionary emergence of human language.

The primacy of interaction in the evolution of human language is not, as we have seen, an argument for the primacy of the interpersonal component of grammar. I have proposed a possible scenario for the evolutionary emergence of interpersonal grammar in terms of a performative semiotic that is founded on a triadic frame in which individuals are mutually engaged in action on an object. I have suggested that this provides a better account than does the story offered by SFL. In particular, I have argued that the formal-syntagmatic (in presentia) construal of the interpersonal semiotic outlined in Section 3.1 permits a more motivated and nuanced evolutionary scenario than does the systemic-paradigmatic (in absentia) construal of SFL.

More generally, I would suggest that the syntagmatic-based construal also permits a better understanding of the evolution of at least two of the other three grammatical semiotics, the experiential and the textural. Thus a plausible evolutionary source for the experiential semiotic – defined in terms of part-whole relations – lies in parsing the world of experience into discrete elements (see e.g.

Byrne 2006; Comrie 2003; Tomasello 2014: 67, 71). The emergence of the textural semiotic may lie in associative relations that connect the utterance with its context of situation. What happened evolutionarily was that these relations extended to the utterance itself. This became necessary when the system of language reached a certain degree of complexity, and formal indexes of structure were required. (I believe that the same is likely to be true of the logical semiotic, but do not yet have a worked-through developmental scenario for it.) Grammar is thus not radically arbitrary, but is fundamentally conceptually motivated. It is this motivation that facilitates the acquisition of a system that is as abstract as grammar.

Admittedly there are gaps in the story I have proposed in this paper that need to be addressed in future research. Most seriously, the performative semiotic has been characterised in broad outline only, and very little is known about its ontogeny. Its phylogeny is also in need of study, and this is a domain where cognitive archaeology could be expected to make a significant contribution. My case for the evolutionary emergence of interpersonal grammar is founded on perceived parallels between the performative semiotic and the syntagmatic character of interpersonal grammar, ontogenetic parallels, and, to a lesser extent, animal behaviour. All of these demand further attention. I cannot at this stage argue that the analogies between the performative and interpersonal semiotic are indicative of fundamental links. I have presented acquisition narratives largely from SFL and Tomasello's usage-based approaches, these being the only approaches I am aware of that address issues relevant to the concerns of this paper. There is scope for further investigation of the ontogeny of the interpersonal and other grammatical semiotics informed by the syntagmatic approach advocated here, as well as for investigations of the acquisition of the more marginal and/or infrequent phenomena such as optionality, insubordination, and repetition-based constructions.

To conclude, I reiterate the importance of objects in human interaction, including in its evolution. This is widely acknowledged. Thus according to Halliday (1975: 83), in the transitional phase semiotic interaction between the child and other persons is channelled through objects, often symbolic ones. What I have argued in this paper is that interaction with objects is much more fundamental than this, and forms the very basis for the construal of interpersonal grammar. Despite the label, the interpersonal is fundamentally triadic in nature, not dyadic. To end the paper on a highly speculative note, I venture to suggest that crucial to our auto-domestication (e.g. Dugatkin & Trut 2017; Hare *et al.* 2002; Hare & Tomasello 2005) was that we tamed ourselves in part through acting indirectly on others via things, rather than by direct action on them. Perhaps the performative semiotic is an evolutionary spandrel that arose initially in the service of our auto-domestication.

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