

Interview with Vyvyan Evans
Interviewed by Christopher Hart

CH: *Your earlier research, as with much early research in Cognitive Linguistics, dealt with polysemy and prepositions. Has Cognitive Linguistics said all it has to say on prepositions or what further developments have there been?*

VE: I began work as a PhD student at Georgetown University a decade after George Lakoff's *Women, Fire and Dangerous Things* had been published. By that point Cognitive Linguistics was an established self-conscious intellectual movement; the journal *Cognitive Linguistics* was in its seventh year of publication, for instance. Lakoff's book was important in a number of ways, not least in providing Cognitive Linguistics with a philosophical basis and orientation. My PhD studentship involved working as a research assistant for Andrea Tyler. Tyler was interested in working on prepositions. But at that point, there had been no satisfactory account of how prepositions worked.

Traditional accounts in linguistics, which distinguished between content versus grammatical words, largely viewed prepositions as being, essentially, semantically empty. One difficulty with such a view is that prepositions do appear to be meaningful. For instance, while prepositions can operate in a range of domains: *on the table* (space), *on time* (time), *on the radio* (abstract), they also pattern with specific collocates. For instance, we can be *on duty*, and *in love* but not *in duty* and not *on love*.

Tyler had previously worked at the University of Florida (UF)—where incidentally I did my MA in Linguistics. At UF she ran a large Graduate Teaching Programme. She oversaw the training of graduate teaching assistants (GTAs), whose native language was typically not English, but who were teaching native English-speaking graduates. A formidable challenge for non-native GTAs was in mastering the correct usage of prepositions. Traditional accounts in the pedagogical grammar literature relied on rote memorisation. A preliminary review of the linguistic data had convinced Tyler that this couldn't be right. Hence, Tyler's entry point into Cognitive Linguistics was to seek a theoretical account that would be more amenable to English language teaching, and second language acquisition more generally.

When I began my PhD, Tyler had recently come across Lakoff's book, and the three increasingly influential case studies that it contained at the end. She and I focused initially on case study number 2, Lakoff's work on the English preposition *over*, which was based on his re-working of a famous MA thesis by his former student Claudia Brugman. What was important about this work was that Lakoff argued, in impressive detail, that the rampant polysemy of *over* was motivated. Lakoff invoked by-now familiar theoretical constructs from the cognitive linguistics canon—conceptual metaphors, image schemas, polysemy links, and so on—to provide a detailed and largely compelling semantic network for *over*. Cognitive Linguistics appeared to have the basis of an answer, and so we focused our efforts by developing a cognitive linguistics account of English prepositions.

However, other developments had taken place, in Cognitive Linguistics in the 1990s, which also informed our thinking. Important work had been carried out by Dirk Geeraerts which demonstrated that polysemy was not as clear cut as Lakoff assumed. Distinct sense boundaries appeared to be graded in nature, at least on the basis of available tests. And early empirical work in Cognitive Linguistics by Dominiek Sandra and Sally Rice suggested that fewer of the very fine distinctions that Lakoff had claimed were instantiated as distinct senses in semantic memory. Outside Cognitive Linguistics work on lexical semantics was also making breakthroughs. Research by James Pustejovsky showed that what he referred to as sense enumerative lexicons were logically and empirically implausible; and Lakoff's account was essentially that: it posited, in principle, an infinite number of distinct senses. In the Relevance Theory tradition, the importance of context and inferencing in meaning construction had received new emphasis. And in Cognitive Linguistics during the 1990s researchers such as Alan Cruse were emphasising the role of sense-boundary construal in

context. This led us to believe that the view of polysemy in prepositions as advocated by Lakoff was too extreme: it appeared not to accord with the empirical evidence.

There were other concerns we had with Lakoff's approach. Lakoff primarily invoked the construct of conceptual metaphor to account for the relationship between distinct senses in his network, and moreover, to account for the motivated nature of the network: the fact that senses were extended from more prototypical senses. Yet, conceptual metaphor predicts discontinuous jumps in terms of sense extensions. But this is not how language change occurs. New senses emerge gradually and only fan out to their full range of usage-contexts over time, showing an initially partial distribution. Work by, amongst others, Elizabeth Closs-Traugott, and Bernd Heine on the process of grammaticalisation, points to usage-based pressures applying, rather than conceptual metaphor, in terms of sense-extension. For instance, we know that the occlusion sense of *over* (e.g., *The clouds are over the sun*), emerged later in the history of English than the above sense (e.g., *The lamp is over the table*).

Tyler and I came to believe that sense extension essentially resulted from a type of reanalysis: a usage-context became reanalysed as a distinct sense, and then gradually was applied to an increasing range of contexts of use. For instance, in a sentence such as: *The tablecloth is over the table*, the 'above' sense of *over* is clearly invoked. After all, the entity designated by *the tablecloth* is above and over the table. But crucially, a consequence of the nature of the tablecloth, that it is larger than the entity it is above and over, is this. It covers and hence occludes the table from view. This inference of occlusion derives from this specific usage-context. Tyler and I contended that sense-extensions for prepositions, often—probably typically—arise from usage-contexts such as this in which a situated inference is reanalysed as constituting a distinct sense unit. Evidence for the existence of such new senses comes from contexts of use in which the original motivating context is wholly absent. The sentence, *The clouds are over the sun*, is one such example. Here clouds are not above, but rather below the sun—at least from our canonical earth-bound perspective. Here *over* relates not to an above relation, but rather to occlusion.

A further important line of work that inspired our perspective arose from the research of the late Claude Vandeloise. In a book published in French in 1991, and later in English in 1994, Vandeloise made a compelling case for thinking that prepositions encode functional information, rather than spatio-geometric information, per se. Vandeloise's point was that the spatio-geometric information arose as a consequence of the functional information encoded. What Vandeloise had in mind was that prepositions encode the functional relationships that hold between the entities related by the preposition. For instance, the English preposition *in* encodes a force-dynamic functional relationship of containment. The container exerts force over the entity contained by virtue of the spatio-geometric properties of the container—it involves a bounded landmark with an interior, a boundary and an exterior. This way of thinking of prepositions—the spatio-geometric information is immanent in the functional relation—allowed a semantic account of usages of prepositions which had previously defied analysis. For instance, in an example such as: *The flower is in the vase*, the flower is not literally in the vase. Rather part of the stem is in the vase. But by understanding *in* as encoding a force-dynamic containment relation, we see that *in* can be used to denote a support relation when part of the whole is enclosed by the container.

Tyler and I made a lot of headway in integrating these ideas, such that by the late 1990s we had a good account of many of the most frequent prepositions of English. The first public presentation of our approach to the semantics of English prepositions was a paper I gave at the annual LSA meeting in Los Angeles, January 1999. This was followed up by a paper published in *Language* in 2001 focusing on our reanalysis of *over*. In 2003 we published a book-length treatment with Cambridge University Press, which analysed around 16 prepositions.

Despite the important strides in understanding the nature of the polysemy, especially as it relates to prepositions, there is still much to do. A legacy of Lakoff's work is that much research, arguably the majority in Cognitive Linguistics to date, views prepositional polysemy, and polysemy more generally as relating to discrete sense units stored in semantic memory. My view, however, is

that the role of context and inferencing is too often underestimated. Alan Cruse has been a staunch advocate of the situated construal of sense-boundaries, a position which has much to commend it.

Moreover, Lakoff's work, while seminal, made judgements based on the analyst's intuition. Empirical methods now abound in Cognitive Linguistics that enable the empirical verification of theoretical accounts. These include psycholinguistic tasks, as well as, and crucially the use of corpora. But too many published accounts, for my taste, still assume that native-speaker intuitions are infallible when determining where sense-boundaries lie. Cognitive lexical semantics, if it is to realise its aspiration of flying under the colours of cognitive psychology needs to take empirical methods even more seriously than it has done so far.

Another aspect that has received scant attention concerns the phraseological nature of language—an issue, somewhat surprisingly perhaps, ignored by most major theoretical perspectives within Anglo-American linguistics. I believe that language is fundamentally phraseological—or to use another term, constructional—in nature. Language comes in chunks, and a large part of linguistic knowledge relates to the collocation and collocational nature of language. It is ultimately, a mistake, I have come to believe, to attempt to examine word senses in isolation, as if they could always, and in principle, be neatly associated with distinct lexical forms. Indeed, this was the 'mistake' that Tyler and I tacitly made in our early work—I now think we underestimated the phraseological nature of language. Distinct sense units, such as they are, often, it now seems to me, do relate to larger chunks, including phonetically implicit elements. For instance, the specific meaning of *by*, which can be paraphrased as 'when in the presence of' in *Paris is beautiful by moonlight*, is a consequence, in part, of the larger construction in which it is embedded, where a predicative construction 'NP is adj' is linked with a particular state of affairs by *by*. Notice that this 'sense' of *by* is distinct from an otherwise, on the face of it, similar construction: *John wrote (the letter) by moonlight*. In this latter sort of example *by* can be paraphrased as 'thanks to'. That is, here *by* has a facilitating sense. But the construction in which facilitating *by* is embedded is different. There is a regular 'NP V (NP)' clause which is linked to a facilitating state, 'moonlight', by *by*. A full account of polysemy in any lexical class, and especially as it relates to the so-called closed-class elements, such as prepositions, must consider the larger constructional units in which the lexical items under scrutiny actually occur. The use of corpora will doubtless help on-going and future research efforts in identifying the nature of sense boundaries, and how they interact with larger phraseological units.

Finally, an issue that remains largely neglected concerns the nature of the non-spatial senses for prepositions. In particular, there has been relatively little work that has examined the motivation for specific patterns in terms of the development of non-spatial senses adopted by different prepositions. I said earlier that *in* versus *on* pattern in slightly different ways in terms of their 'state' senses. But in fact, I think they probably each have a cluster of distinct state senses, which largely don't overlap. Research is required to identify the range of non-spatial senses associated with prepositions, and cognate lexical classes cross-linguistically. Moreover, falsifiable theoretical accounts are then required that provide a basis for beginning to understand the motivations for the sense-extension trajectories that we see. One possibility for differences in the quite different state senses seen for *in* and *on* in English might relate to the distinct functional and hence image-schematic properties of the underlying spatial senses that they derive from. This in turn will determine the range of semantic arguments that each sense can take. *On*, in its state sense, often co-occurs with states that require some level of volitional intentionality, and which are temporally bounded, as in: *The soldier is on duty*. In contrast, *in* co-occurs with states that are non-intentional, and which are less clearly temporally delimited, for instance: *The soldier is in love*.

CH: *Your principled polysemy approach to prepositions was positioned somewhere between 'vagueness' and 'full specification'. Can you say something about where on this cline you imagine the conceptual coding of prepositions to be?*

VE: Let me begin to answer this by outlining what I think the Principled Polysemy approach was about, and what its major innovations were. At the outset I should also point out that Principled Polysemy was not specifically restricted to prepositions. It constituted a methodological toolkit for establishing sense-units in any lexical class. Indeed, my 2004 book, *The Structure of Time*, applied this approach, with some modifications from the earlier work with Tyler, to the English nominal *time*.

As is perhaps implicit in what I have already said, the Principled Polysemy framework was primarily concerned with addressing perceived methodological weaknesses in early work in cognitive lexical semantics. It represented a principled methodology to achieve two distinct things. Firstly, it sought to accurately describe the nature and range of the distinct (albeit related) senses—what I came to call lexical concepts—associated with lexical categories such as prepositions. That is, we were concerned with providing a constrained (i.e., principled) methodology for establishing sense-units and thus sense-boundaries.

Secondly, we were concerned with accounting for how sense-units (lexical concepts in present terms), arise. We posited that the lexical concepts which populate a semantic network for a given lexical item are diachronically related, and the derivation of ‘new’ lexical concepts (i.e., sense-extension) is motivated. Both these issues required detailed analysis of the lexical representations associated with the various lexical concepts for a given lexical item.

The Principled Polysemy approach sought, above all, to develop clear decision principles that make semantic network analyses objective and verifiable. The decision principles sought to determine what counts as a distinct sense, and thus distinguish between senses stored in semantic memory—aka polysemy—and context-dependent meanings constructed ‘on-line’—aka vagueness; and they should establish the prototypical or central sense associated with a particular radial category. The second point is important because cognitive linguists have not always agreed about the central senses of categories. It isn’t necessary to go into the details of the various decision principles posited—those are detailed in various venues in print.

Principled Polysemy posited two kinds of lexical concept which populate a prepositional polysemy network. The first kind, the proto-scene, is primarily spatio-geometric in nature. Moreover, the proto-scene corresponds—for most of the prepositions Tyler and I surveyed—to the historically earliest lexical concept associated with a given prepositional form. Nevertheless, proto-scenes include a functional element, reflecting the way in which proto-scenes are ordinarily used. That is, language users typically employ proto-scenes in ways which draw upon the functional consequence of interacting with spatial scenes of certain kinds in particular humanly relevant ways. Thus, linguistic knowledge on the part of language users associated with proto-scenes appears to involve more than simply knowing the particular spatio-geometric properties encoded by a particular form.

The second sort of lexical concept—the remainder of the senses in a prepositional polysemy network—we hypothesised as being motivated by, and ultimately derived from, the proto-scene. This said, we observed that the derivation is often complex and indirect. These derived lexical concepts we referred to as *sense-extensions*. These ‘new’ lexical concepts, we argued, were derived by virtue of the process of re-analysis (what we termed pragmatic strengthening) due to experiential correlations of the sort described above for the development of the Occluding Sense from the Proto-scene (i.e., the Above Sense). This gives a rough overview, I think, of the kind of model we were proposing.

In terms of research on lexical representation, there is a traditional distinction between ambiguity and vagueness, which, more or less, occupy opposing end-points on a continuum of lexical specification. Ambiguity involves two or more distinct meanings associated with the same form. In contrast, vagueness involves distinct meanings that are a consequence of context. For instance, the lexical form *uncle* can refer to either paternal or maternal brother. The distinction arises from context rather than being due to a distinct sense-unit stored in semantic memory. The phenomenon of polysemy can logically be accounted for by either an appeal to lexical ambiguity: the same form

has two (or more) distinct meanings stored in semantic memory. Alternatively, it can be accounted for in terms of vagueness, there is a single meaning and the divergences in meaning are construed in context. Lakoff's approach to *over* tended to take an extreme form of ambiguity that has come to be known as a sense-enumerative or full-specification approach to lexical representation. On Lakoff's account, even the most granular of details are held to relate to a distinct sense stored in semantic memory. The problem, in essence, with Lakoff's account was that it radically underestimates the role of context. In contrast, an approach that assumes that meaning is always constructed on-line, using context to infer meaning, assumes a radically impoverished mental lexicon. Such an approach is sometimes termed monosemy, as it assumes a single abstract underlying representation. In the lexical pragmatics tradition, it sometimes appears, to me at least, that some pragmatics scholars seek to deny that polysemy is a conceptual phenomenon, assuming that meaning is largely (indeed, possibly always), a consequence of on-line pragmatic processes operating on a single underlying representation. Both perspectives are, in my view, untenable.

Some representations, probably quite a lot, have to be entrenched in semantic memory. Language *qua* semiotic system involves conventional representations, and forms are associated with multiple, often related meanings (polysemy). While there are difficulties with the Principled Polysemy model, some of which I have subsequently addressed under the aegis of LCCM Theory, I nevertheless believe that prepositions, and indeed, the polysemy exhibited by other lexical classes is most accurately modelled as somewhere intermediate between the two extremes of a SEL and an extreme form of lexical pragmatics, or vagueness. Word senses must exist, if language is to be useful as a system of conventions.

That said, I now think that the view of Principled Polysemy was somewhat overly simplistic. It assumed that word senses were neatly circumscribed, discrete entities. But word senses are contingent in part on a larger linguistic context: there is always a degree of semantic inferencing, and words are part of larger constructional units, as I suggested earlier. For instance, *I want a beer* versus *I want a pizza* are different senses of 'want'. The meaning is constructed on-line in context, and the nature of the 'want' is slightly different. Moreover, words probably have a spectrum of meaning, rather than a discrete, identifiable sense in any case. When does *over* stop being *over* and become *above* in terms of the semantic territory it designates, for instance?

Tyler and I argued that prototypical *over* relates to an above relation when the entity being related is somewhat proximal to the landmark. In contrast, *above* relates to a relation that is somewhat distal. But there is no discrete cut off point when a relation stops being *over* and becomes *above*. This is a matter of degree and context. There is a degree of fuzziness in word meaning, in part due to the nature of language use. And communicative intention plays a role in how word meaning is interpreted. Hence, I firmly believe that pragmatics and the study of semantics can never truly be separated.

CH: *You are responsible for the Theory of Lexical Concepts and Cognitive Models (LCCM Theory). Can you tell me how LCCM Theory emerged, where it sits relative to other encyclopaedic views of meaning, and how the theory has developed?*

VE: I began working on LCCM Theory in 2005, and the first public presentation of the theory was in May that year, at the University of Portsmouth in England, where Jörg Zinken had invited me to give a guest lecture to the School of Psychology. The theory, as I originally envisioned it, was, in part at least, an extension of my earlier work on Principled Polysemy. The version of Principled Polysemy that Tyler and I had ended up with in our 2003 book *The Semantics of English Prepositions*, had some shortcomings that meant that the methodology couldn't be applied as robustly to other lexical classes, one of my major research goals. I refined the methodology for my 2004 book, *The Structure of Time*. But at that point it was clear to me that work in cognitive lexical semantics needed to better mesh with the constructional approaches to grammar that were being developed, most notably in the seminal work of Ron Langacker, and the later work of Adele Goldberg in her development of a 'cognitive' Construction Grammar. Cognitive linguistic approaches to grammar

assumed what Melanie Green and I dubbed the Symbolic Thesis in our 2006 textbook *Cognitive Linguistics*—the study of meaning is inseparable from form. Yet until this point, cognitive approaches to grammar handled semantics in something of a piecemeal way. Goldberg assumed a version of frame semantics to undergird her constructional approach. In contrast, Langacker posited complex domain matrices. The latter approach failed to address the detail of linguistic semantics that Tyler and I, and others had been uncovering. Moreover, Langacker's approach in essence blurred the distinction between what might properly be thought of as linguistic semantics and non-linguistic knowledge representation. For reasons I'll come to, it is important, I think, to keep the two distinct.

As a consequence, I sought to go beyond providing a mere methodology for identify sense-units (or as I now prefer) lexical concepts, although LCCM Theory does include the version of the Principled Polysemy lexical concept identification procedure, found in the 2004 book. Consequently, the first major aim of the LCCM approach was to develop an account of lexical representation, one that would mesh with constructional accounts of grammatical organisation. This was achieved by developing the theoretical construct of the lexical concept.

A lexical concept is a bundle of linguistic semantic content. It includes knowledge about collocational and colostruational attributes of a semantic unit, *and* what I termed the semantic 'parameters' encoded by a lexical concept—schematic units of information as to how the form is used, and to what it refers.

In addition, LCCM Theory sought to develop a principled approach to the mechanisms whereby linguistic semantic composition occurs. While a significant research effort, in *Cognitive Linguistics*, has been expended on developing accounts of semantic composition involving conceptual mechanisms, and non-linguistic knowledge (for instance Blending Theory, Mental Space Theory, and to some extent Conceptual Metaphor Theory), almost no research, up until that point had focused on the way in which lexical units combine into larger units. The closest that had been achieved involved Langacker's approach to the way in which predicates are integrated forming larger grammatical units, in his *Cognitive Grammar* framework. LCCM Theory tackled this problem by providing a set of principles that offer a programmatic starting point for examining how linguistic units are integrated in service of linguistically-mediated meaning construction.

The third and final overall aim of the approach was to lay out a theoretical framework for better understanding how lexical concepts, and the larger informational characterisations resulting from the composition of lexical concepts, interface with non-linguistic, which is to say, conceptual knowledge units. These I refer to as Cognitive Models in the theory. Hence, LCCM Theory assumes a principled distinction between linguistic knowledge (semantic structure) and non-linguistic knowledge (conceptual structure). The two theoretical constructs associated with these knowledge types, the lexical concept and cognitive model give the theory its name: the Theory of Lexical Concepts and Cognitive Models.

It has often struck me that theoretical linguistics sometimes fail to appreciate exactly what psychology can reveal in terms of the nature of knowledge representation—in part, this is a consequence of the ignorance that many linguists have, including cognitive linguists, as to what psychologists do, and the state of the art in cognitive psychology. But it is also striking how badly psychologists need linguists. Recent accounts of knowledge representation, for example, the Language and Simulation Systems Theory or LASS, developed by Larry Barsalou and colleagues, appears to largely equate linguistic semantics with conceptual structure. On this account, which is not atypical in psychology, language is devoid of semantic representation, and is essentially just form. One of the points of LCCM Theory is to make the case for a distinct level of semantic representation—a point obvious to any linguistic semanticist—one that is distinguishable from conceptual (= non-linguistic) representation.

There are various reasons for thinking that language must have a level of semantic structure that is distinct from conceptual structure. And, amongst other things, I develop these in my 2009 book, *How Words Mean*. The central argument I make in this regard, in *How Words Mean*, is the

following. For language to serve as an executive control system on conceptual structure, it must be able to nuance conceptual representations. To be able to achieve this, it must have a representational type that allows for the parcellation and hence enforced construal of non-linguistic knowledge. This amounts to a nuancing or packaging of non-linguistic content for communicative ends. But to be able to do this, there must be a representational format (i.e., a semantics) external to the conceptual system that facilitates this packaging.

For instance, the distinction between a noun versus an adjective, e.g., *redness* versus *red* provides a means of nuancing or parcellating conceptual structure for slightly different communicative ends. These forms encode distinct parameters, THING versus PROPERTY OF THING, which provides semantic content independent of the conceptual system, and helps parcellate the conceptual content relating to our experience of the hue that falls on a specific part of the colour spectrum.

In short, I argue that the semantic representation that is unique to language relates to a highly schematic sort. And in so doing, I am assuming, as with many cognitive linguists, that grammatical structure (e.g., lexical classes) encode meaning, albeit of a schematic kind.

CH: *You have recently been working on the domain of TIME and specifically temporal frames of reference. Can you say something about this research and what has it revealed about the function of conceptual metaphor, especially in the domain of time, although more generally too?*

VE: A major concern, arguably the major concern of *How Words Mean* was theory construction, and working out the architecture of LCCM Theory. This necessarily reduced the scope for detailed application to linguistic and conceptual phenomena. In my most recent research I have returned to the domain of time. In part, this is intended as a means of making good on what that earlier 2009 book promised, and to provide a book-length application of LCCM Theory, using time as the arena of enquiry. This was intended so as to illustrate, I hope, the utility of LCCM Theory. This book, *Language and Time*, represents, in effect, a detailed case study which examines how to deploy the tool-kit and perspective provided by LCCM Theory. As such, it can be viewed as a companion to *How Words Mean*.

The study in *Language and Time* applies the two theoretical dimensions modelled in LCCM Theory. These provide an account of lexical representation, and the linguistic and non-linguistic processes necessary to account for linguistically-mediated meaning construction. I present a detailed linguistic taxonomy of temporal frames of reference. I use the methodology provided by LCCM Theory to identify linguistic units and lexical concepts for temporal reference. I then address the issue of figurative language and thought in order to establish the way in which meaning construction applies in expressions that encode temporal frames of reference. I examine the nature of figurative language in order to work out the relative contribution of different types of knowledge for understanding how interpretations of temporal reference arise. I do so by making use of the way meaning construction is modelled in LCCM Theory. Hence, an important aim of this research has been to demonstrate the way in which LCCM Theory can be applied to figurative language, and in particular, metaphor.

The central claim I make is that time is a phenomenologically real experience that we perceive via interoceptively real, subjective experience. I argue that the hallmark of temporal reference is *transience*—an idea which I borrow, develop and expand from the earlier work of philosopher Anthony Galton. Transience is an inalienable aspect of temporal experience, which concerns (temporal) passage, and comes, I propose, in different types. Time, as a domain of experience is multifaceted, and my work includes extensive reviews of findings in both neuroscience and various branches of psychology which support this contention. I believe that our temporal frames of reference, which are cognitive entities, are anchored to transience

Previous research within Cognitive Linguistics has sometimes, in my view, perhaps too blithely, appeared to assume that time in many respects patterns after space. And recent research has sought to apply frames of reference that have been established for the domain of space, to time.

A frame of reference, incidentally, involves three logical entities: a figure (which is the entity being 'located', or fixed, in the case of time, a reference object (which does the locating/fixing), and an origo (or perspective point), which anchors the reference object to some coordinate system. But I think researchers, as they begin to delve more deeply into the nature of reference frames in the domain of time will begin to realise that a straightforward application of frames of reference from the domain of space can only get us so far in understanding temporal reference. A theme of my 2004 book was that time is distinct and distinguishable from space. And this is a theme I pick up and develop further in this new book.

The argument is basically this: the underpinnings of our ability to compute temporal reference are fundamentally temporal in nature. This doesn't mean, of course, that I think space is not important for representations of time. It is. The behavioural evidence, based on an array of psycholinguistic and psychophysical tasks tell us that it is. That said, the onus on the analyst is to figure out what space brings to the table, so to speak, and what is inalienable to time. This is a recurring issue that I grapple with in the new book. I think, ultimately, that the notion of transience as a theoretical construct must be incorporated into an account of temporal frames of reference, if we are to get to grips with our ability to fix events in time.

This work on time, what is inalienable to time, and to the nature of meaning construction in the domain of time, led me to a re-appraisal of the role of conceptual metaphor in meaning construction. Indeed, as LCCM Theory provides an approach to the detailed study of the role of linguistic semantics in the construction of meaning, it was clear to me that a logical next step should be to examine the nature of figurative language, deploying LCCM Theory to do so. And the domain of time offers arguably an ideal laboratory for exploring this issue.

Just as it has become, over the years, increasingly clear to me that language encodes a specialised type of meaning, one that is distinct, and altogether more schematic from the rich conceptual representations or simulations, that abound in our conceptual systems, it now seems to me that much of linguistic meaning is not directly motivated by conceptual metaphor. This doesn't mean that I think conceptual metaphor to be unimportant for meaning construction. Nor does it mean that I think that conceptual metaphor does not guide, in some, perhaps large part, the types of meaning-construction processes evident in language. Rather, the conclusion of LCCM Theory, as testified by its principled separation between lexical concepts (semantic structure) and cognitive models (conceptual structure), is that the linguistic meaning, qua lexical concepts, forms a semiotic system that is distinct from (albeit interdependent with) non-linguistic knowledge representation (including conceptual metaphors). The conclusion I have reached is that conceptual metaphors do not directly influence the linguistic processes of semantic composition—what I refer to as lexical concept integration, in LCCM Theory. Rather, they influence the way in which the outputs of that compositional process interface with non-linguistic knowledge—a process I refer to as interpretation, in LCCM Theory. The upshot is this. LCCM Theory argues that care must be taken in what we should and shouldn't claim for conceptual metaphors, and their role in meaning-construction. Conceptual metaphor is important, but it is but one of the knowledge types that is involved in meaning construction.

Ultimately, the separation that I assume between the linguistic and conceptual systems relates to evolutionary pressures. Humans, along with many other species, have conceptual systems: the repository for concepts. A conceptual system is essential for many everyday functions, including navigation in space—one of the most complex computational challenges facing all higher-order species—perception, categorisation, action, interaction, learning, choice, and so on. Language is, in evolutionary terms, far more recent. While human language has its basis in the evolutionary trajectory that resulted from the separation between our hominid ancestors, our nearest Great Ape cousins around 6 million years ago, language in its current spoken form cannot be much older than 170,000 years or so, when anatomically modern humans emerged. Language is so effective, in terms of facilitating communication, as it provides an executive control system on the representations that inhere in our evolutionarily far older conceptual system. And while the conceptual system did not

arise for purposes of communication, language did. It allows access to concepts. More than that, it serves to modulate our concepts, and facilitate their externalisation for purposes of situated communication, in service of the experience of local, and context-bound communicative intentions. It stands to reason, therefore, that the semantics associated with language, while reminiscent of the embodied nature of non-linguistic representations, is of a different order. I believe that semantic units, aka lexical concepts, are qualitatively different from non-linguistic concepts. They are schematic and digitised, rather than analogue—which is the form that non-linguistic concepts take. Lexical concepts are specialised for their utility in the time-pressured symbolic (signed-gestured) medium that facilitates linguistic expression. And as language interfaces with rich analogue non-linguistic knowledge representations, it bootstraps these rich representations in service of linguistically-mediated communication.

CH: *What do you see as the most important contributions of Cognitive Linguistics and the most important directions it needs to take?*

For me, there are four significant achievements associated with the cognitive linguistics enterprise. The first involves a re-appraisal of the nature and role of meaning, rendering it central to the study of language and mind. From where we now are this might sound surprising. After all, meaning is, more than anything, the Holy Grail of language science. Yet, up until the 1980s, mainstream theoretical linguistics in the Anglo-American tradition largely eschewed the study of meaning. Chomsky had successfully re-configured how linguists thought about the relative importance of meaning, successfully arguing that what was central to language was syntax. Meaning was largely ignored, allowing analytic philosophy to extend its tentacles into the study of natural language. The importance of pioneers such as Fillmore, Fauconnier, Lakoff, Langacker and Talmy was to show that grammar cannot be studied without giving meaning a central place. All cognitive linguistics approaches to grammar assume that grammar involves a symbolic relation between units that couple form and meaning. This has led, over time, to a sea-change in how the study of grammar proceeds, with a by now a seemingly bewildering array of different approaches to grammatical organisation, which assume that grammatical organisation cannot be properly studied unless the study of linguistic semantics is taken seriously. This, in my view, is a major achievement. Meaning cannot be ignored by linguists just because it is fuzzy, or hard to grapple with. This abdicates responsibility, and leaves the terrain open for other disciplines which do not have the specific expertise or unique perspective that linguists bring to the table in studying language.

The second achievement concerns embodiment. Cognitive Linguistics has been in the vanguard in advancing the embodied cognition agenda, at least a decade in advance of the rest of cognitive science. Lakoff and Johnson were advocating experiential realism, and the notion of embodiment, in 1980, a decade before Varela, Thompson and Rosch's landmark book, *The Embodied Mind*: the latter paved the way for the development of the embodied perspective in cognitive science. And as a consequence, various cognitive linguistics theories that enshrine the embodied basis of knowledge and conceptual structure, most notably Conceptual Metaphor Theory, and Cognitive Grammar have come to exert a far-reaching influence beyond Cognitive Linguistics. Today, the notion of the embodied (or grounded, or situated) cognition is widely viewed as a way of 'doing' cognitive science, which, for many cognitive scientists has replaced the earlier mind-as-computer metaphor, leading to a different way of thinking about cognition, and raising different sorts of questions and challenges.

The particular view of embodiment that has been developed in Cognitive Linguistics rests on linguistic evidence, which reflects aspects of conceptual structure and organisation. But such evidence can sometimes, nevertheless, be misleading. For instance, the linguistic data suggests that representations for time are in some sense parasitic on representations for space. Indeed, much of the conceptual metaphor tradition has assumed, until relatively recently, that time is an abstract domain of experience, vis-à-vis space. Yet recent findings from cognitive neuroscience, some of which I review in my forthcoming book, *Language and Time* in fact reveal the opposite.

Representations for time are largely grounded in terms of temporal experience types, and brain mechanisms for processing different aspects of temporal experience, unrelated to those that are responsible for processing sensory-motor experience. To be sure, temporal representations appear to become linked with spatial representations in an asymmetric way. But it remains an open question as to how and, importantly, why this happens. And there are at least two competing neuroscience-based theories: one based on an underlying magnitude system, and one based on an underlying mental timeline perspective. In both cases, the parietal cortex appears to be the venue where representations for space and time become linked in the brain.

The upshot is that linguistic data provided by cognitive linguists must be, and now can be integrated with findings from other cognitive science disciplines that have caught up with the radically pioneering perspective provided by Cognitive Linguistics. A proper level of convergence of evidence from different data types will allow, I believe, Cognitive Linguistics, as it moves forwards, to grapple and ultimately begin to definitively answer some of the larger research questions that it has raised.

A consequence of highlighting the centrality of meaning and the embodiment of mind perspective is this: Cognitive Linguistics is succeeding in establishing as myths some of the dogmas that preceded it in mainstream theoretical linguistics. These myths include the dogma that there is a Universal Grammar, that language is innate—in the sense of being biologically pre-specified in the microcircuitry of the human brain—and that language is an encapsulated module of mind. These myths relate to the speculative linguistics and psychology traditions most notably associated with the work of Noam Chomsky and Jerry Fodor. For instance, developmental psycholinguists such as Mike Tomasello, who have been influenced by cognitive linguists, have demonstrated that language emerges developmentally, being constructed in piecemeal fashion, and not at all as predicted by the nativists' agenda.

Of course, Cognitive Linguistics has not single-handedly begun to help in banishing these myths. Linguistic typology, since its advent in the 1960s, has done much to undermine the notion of a Universal Grammar. While some contemporary typologists, most notably Bill Croft, have been heavily influenced by cognitive linguists, others, for instance, Steve Levinson haven't been. And other disciplines have also played a key role. Neurobiology, for instance, has revealed that the human genome doesn't have the coding power to enable a biological pre-specification for language to be laid down in the microcircuitry of the human brain at birth.

And finally, Cognitive Linguistics has facilitated the integration of the study of language with recent work in cognitive science. In large measure this is precisely because Cognitive Linguistics has placed the study of meaning on centre stage, and assumes the embodiment of meaning. Much contemporary work across the cognitive sciences is sympathetic with this perspective, one that is not assumed by other established traditions in linguistics, for instance, Generative Grammar. Hence, Cognitive Linguistics readily lends itself to much contemporary research on the mind carried out in cognitive science by non-linguists. This has facilitated a better-informed study of language by cognitive scientists, and has allowed, in turn, Cognitive Linguistics to benefit from research expertise from outside its base in linguistics. Psychologists and neuroscientists are increasingly adopting the cognitive linguistics worldview as their basis for how language works, and for empirical investigation, which is to the benefit of cognitive linguists, whose theories are being road-tested by researchers with the experimental know-how to investigate the claims being made. This will only be to the benefit of Cognitive Linguistics.

There are doubtless a range of future directions that Cognitive Linguistics could and probably should travel in. I'll mention just three here which I believe to be particularly pressing. First, I believe Cognitive Linguistics requires a rapprochement with research in the pragmatics tradition. I think cognitive linguistics approaches to meaning could benefit from a better understanding of some of the recent research in the neo-Gricean tradition, such as the work of Relevance theorists. Too often, theoretical approaches to linguistic semantics, and theoretical approaches to conceptual structure (including Conceptual Metaphor Theory and Blending Theory)

tend to underplay, in my view, the role of inferencing and context, in the construction of meaning. A better awareness of the findings and perspectives of the most recent research in pragmatics, often ignored in mainstream Cognitive Linguistics, sometimes, perhaps often due to ignorance of these perspectives, would provide a more rounded understanding of this critical dimension of linguistic semantics.

Another weakness that I often see in cognitive linguistics approaches to meaning is a lack of awareness by many active cognitive linguists of the important work done in various branches of psychology on knowledge representation. Many cognitive linguists are unaware, for instance, of the mushrooming study of semantic simulation, which is an important complement to cognitive linguistics approaches to linguistic semantics—Ben Bergen’s recent book, *Louder than Words*, should be required reading for all cognitive linguists, for instance. Indeed, my own work on LCCM Theory assumes a version of the simulation semantics story: I contend that lexical concepts interface with cognitive models, thereby facilitating (non-linguistic) simulations.

And finally, further advances in empirical methods are required. Cognitive Linguistics still remains too theoretical, and hence too empirically narrow—ironic perhaps to be pointed out by someone like me, who is a diehard theoretical cognitive linguist! In any case, Cognitive Linguistics is surely further along than most, or indeed all, major perspectives in the Anglo-American tradition in embracing empirical methods. And this is as it should be for a perspective that aspires to fly under the colours of cognitive psychology.

CH: *You are in the process of writing two popular books. What is the motive behind this?*

VE: I’m writing a book under contract to Oxford University Press provisionally entitled ‘A Window on the Mind’. This book is essentially an overview and synthesis for a general audience of the major findings and achievements of cognitive semantics. The book is divided into two parts. The first part addresses the cognitive linguistics approach to conceptual structure and organisation, including issues relating to embodiment. The second is concerned with meaning, and provides an overview of the major findings relating to the way in which language interfaces with mind in the construction of meaning. Although there have now been a number of books, from a broadly cognitive linguistics perspective that are accessible to a general audience, I wanted to do something slightly different with this book. My aim is to provide a single book-length treatment of the major, as I see it, contributions of cognitive linguistics to the study of meaning and what light is shed on the nature of the human mind. This involves surveying a broad range of (cognitive linguistic) approaches, perspectives and findings. And, I also wanted to re-evaluate the relative success of the various approaches, providing critiques where I feel these to be warranted, which perhaps might serve as challenges for on-going and future research. In so doing, my aim is not to write a textbook, but specifically to bring the cognitive linguistics approach to meaning and mind to a wider more general audience, showing what it offers and what it has achieved.

The second book has a somewhat different motivation. That book, provisionally entitled, *The Language Myth*, is under contract to Cambridge University Press. It is a self-conscious rebuttal of the speculative traditions of linguistics and psychology as embodied in the work and tradition associated with Noam Chomsky and Jerry Fodor, and as retold in the works of Steven Pinker, especially *The Language Instinct*, and *How the Mind Works*. Indeed, many lay readers may be forgiven for thinking that Pinker’s books have provided the definitive statement on these issues, and represent consensus and worse—from the perspective of someone like me—established fact.

The Language Myth is organised around the conceit of myths and their corresponding realities. Each chapter seeks to answer a specific question, which gives the chapter its title, e.g., Is language innate? Are there language universals? Etc. Each chapter presents the reasons for thinking in the affirmative, before providing evidence which reveals the affirmative answer to be what I term a myth. I then present a usage-based alternative. This book is very much an attempt to set the record straight, and is written for the benefit of readers outside the academy, as well as students

and others from cognate disciplines, who may not be aware that there is more to say on these matters than is contained in the works of Pinker.

CH: You are the founder and current President of the UK Cognitive Linguistics Association. What is the state of Cognitive Linguistics in the UK? (strengths, weaknesses and the future)

VE: After receiving my PhD in December 2000, I returned to the UK to take up a post at the University of Sussex in 2001. My entire postgraduate career—supervised, in addition to Tyler, by Mark Turner and Joe Grady—had taken place in the USA. Upon my return to the UK—I’m a British citizen—I found the context of academic linguistics in the UK somewhat different. For one thing, theoretical linguistics departments were largely formalist in nature, and there was a high saturation with linguists who had been trained from a generative perspective. I think it’s probably accurate to say that in 2001 you could have counted the number of academic linguists with PhDs, employed in UK universities, and who self-identified as cognitive linguists, on one hand.

The situation since then has changed, although not as dramatically as I would have wished, 12 years ago when I began my postdoctoral career. For one thing, there are now fewer departments of linguistics in the UK than there were then. There are two major reasons for this. One has been due to closures. Indeed, the department of Linguistics where I began my postdoctoral career, at the University of Sussex is now closed. But another reason has been the trend among UK higher education institutions, which has had accelerated over the last decade or so, to integrate academic departments into larger academic resource units, often referred to as ‘Schools’. These Schools typically tend not to be based around a single subject discipline, but integrate several, typically cognate disciplines, although sometimes not. In part this reflects the reality that much contemporary research is cross-disciplinary. Another is a consequence of budgetary constraints faced in the HE sector in the UK, and an attempt to achieve economies of scale, both in maximising student recruitment and in terms of budgetary effectiveness. The upshot is that theoretical linguistics is not as salient as it perhaps once was, in the UK, in terms of its institutional delineation.

This change, is also reflected in the UK’s periodic research assessment exercise, the latest incarnation being referred to as the Research Excellence Framework (or REF), which assesses the quality of research at UK HEIs, and uses this assessment to determine how public money destined to support research should be allocated to the UK’s HEIs—pretty much all universities in the UK are publically funded, including Oxford and Cambridge. In the current REF exercise, linguistics research is assessed together with research relating to the study of modern languages—there is no longer a separate unit of assessment for linguistics, as there had been for previous periodic research assessment exercises.

While at the University of Sussex, I realised that what the UK needed was a platform to help raise the profile of Cognitive Linguistics, and to provide a basis to support PhD students, and others interested in developing cognitive linguistic research agendas in a UK context. In part, this meant attracting cognitive linguists from outside the UK who could provide input into the development of Cognitive Linguistics in the UK, particularly as we were starting from such a weak position.

I organised a conference in 2005, labelled *New Directions in Cognitive Linguistics*, and named *1st UK-Cognitive Linguistics Conference*, after the fact. An Association was inaugurated at this event, and Chris Sinha, a high-profile and senior cognitive linguist who had newly arrived from Denmark taking up a post at the University of Portsmouth on the south coast of England, was invited to serve as inaugural President. We agreed that the conference series would be biennial, to alternate with the *International Cognitive Linguistics Conference* series, and a constitution and Governing Board were appointed. The blueprint we adopted, for that and later UK-CLCs, was to make the conferences as high profile as possible. Naturally this meant securing high profile keynote speakers, but also making the events stand out in other ways, in terms of exciting theme sessions, vibrant social agendas, and so on. The original event at Sussex attracted 120 delegates. Since then, with subsequent conferences having been held at the Universities of Cardiff, Hertfordshire, and most recently at King’s College, University of London, the series is now attracting significantly higher

numbers, with 400 delegates registered at the most recent event. The next UK-CLC conference will take place at the University of Lancaster in 2014, and the UK will host the ICLC in 2015 at the University of Northumbria.

A further way in which I attempted to boost opportunities and the profile of Cognitive Linguistics in a UK context was with the creation of a new journal, *Language & Cognition*. In 2007, I became President of the UK-CLA, and entered negotiations with Mouton de Gruyter to establish a new journal, sponsored by the UK-CLA. *Language & Cognition* was published for the first time in 2009, with a team of six General Editors (myself, Seana Coulson, Daniel Casasanto, David Kemmerer, Laura Michaelis, and Chris Sinha). Chris Hart joined as a General Editor in 2012, making a team of seven. The rationale for the journal was to do something that didn't then exist, and, explicitly, not to be a journal narrowly focusing on cognitive linguistics—already well-served by the *Review of Cognitive Linguistics*, and of course, *Cognitive Linguistics*.

Language & Cognition was conceived as representing the full range of subject disciplines targeting the development and organisation of language, and its relationship with other aspects of cognitive function. Hence, the journal encourages submissions of interdisciplinary, empirical, comparative, methodologically advanced research in linguistic cognition. Published papers embrace a wide variety of research methods, including behavioural experiments involving children and adults, studies that investigate the neural substrates of language, statistical analyses of linguistic corpora, ethnographic studies and machine-learning experiments. At the same time, *Language & Cognition* publishes high quality theoretical studies, whether they are informed by empirical research or provide conceptual tools for experimentalists. Accordingly, the journal is open to contributions from any theoretical perspective and methodological approach which bears on the scientific study of language and its relationship with cognition.

Since its inception, the journal has grown rapidly. In its first three years of operation, the journal appeared as two issues of circa 300 pages per year. In years four and five it appears as 4 issues of circa 400 words per volume. And from year six onwards, the journal will move to a new publisher, Cambridge University Press, where it will continue to grow, and will reach an even wider audience.

In addition to these initiatives, the financial success of the UK-CLA has meant that the Association can now offer a three year, fully-funded PhD studentship for a UK-based PhD candidate in Cognitive Linguistics. And the UK will be hosting the first Summer School in Cognitive Linguistics, to take place at Bangor University in July 2013, in part supported by the UK-CLA.

Since its inauguration in 2005, the UK-CLA has provided a focal point for research in Cognitive Linguistics in the UK. While the overwhelming majority of UK-CLC delegates still come from overseas, there are nevertheless two established and sustainable centres of cognitive linguistics research at UK HEIs: these are Bangor University (where I am currently Professor of Linguistics), and Northumbria University. In addition, there are many more self-ascribed cognitive linguistics researchers based in the UK than previously, and many more who are sympathetic.

Despite the unquestionably positive impact of the UK-CLA, and some of its initiatives, the number of active cognitive linguists in the UK, as well as the proportion of academic linguists who are cognitive linguists remain below levels seen in other countries with active cognitive linguistics associations, especially compared to other some other EU countries with comparable populations. This remains a cause for concern. However, training programmes such as masters and PhD programmes in Cognitive Linguistics, and other training opportunities such as summer schools will, I hope, help in this regard.

Key works:

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