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Cognitive linguistics

Bodo Winter and Florent Perek

A brief history

Cognitive linguistics is an interdisciplinary branch of linguistics that studies the

intersection of language structure, language use, and the mind. Cognitive linguistics

is not necessarily a monolithic, unified theory of language as much as a body of

work that is brought together by a particular outlook on language. Historically at

least, much work in cognitive linguistics saw itself in opposition to Chomskyan

linguistics. The Chomskyan view of language accepts a modular view of the mind

(Fodor, 1983), within which language is seen as an informationally encapsulated

cognitive system. In contrast, cognitive linguists assume a less modular view,

emphasizing interactions between different levels of linguistic analysis (e.g.,

between syntax and semantics, cf. §4), as well as interactions between language and

other cognitive systems, such as those used for perception and action. Another tenet

of Chomskyan linguistics that cognitive linguists largely disagree with is the idea

that language is predominantly innate. Instead, cognitive linguists take a usage-

based view of language acquisition, i.e. language is fully learned from exposure

thanks to domain-general cognitive abilities, without relying on any cognitive

blueprints that are specific to language or any kind of innate language ability (Bybee & Hopper, 2001; Lieven, 2016; Tomasello, 2009).

Lakoff (1990) characterizes cognitive linguistics in terms of two primary commitments, the "Generalization Commitment" and the "Cognitive Commitment" (p. 40). Of these, we focus here on the Cognitive Commitment, which is arguably more important for characterizing the field. According to Lakoff's Cognitive Commitment, an adequate theory of language or the mind must be cognitively and neurally realistic, in line with evidence from other fields, such as cognitive psychology and neuroscience. As an example of this, consider Eleanor Rosch's influential work on prototypes (Rosch, 1975; Rosch & Mervis, 1975), according to which category structure is graded (rather than discrete), organized around radial categories where central members (the prototypes) are better members of the category than less central members. For example, a robin is a more prototypical bird than a penguin, and in Rosch's model, is assumed to be closer to the center of a category. This work has been hugely influential in cognitive linguistics, which used Rosch's work to reject the notion that categories are defined in a hard-cut manner by distinctive features, as was common in Chomskyan-inspired approaches to semantics. The incorporation of Rosch's work into cognitive linguistic theorizing is an example of how the "Cognitive Commitment" was applied in practice.

As pointed out by Dąbrowska (2016), however, cognitive linguists did not always apply themselves fully to the cognitive commitment, focusing mostly on a few key results, such as Rosch's work on prototypes. Moreover, researchers have

sometimes contented themselves with saying that their cognitive linguistic theories were in line with existing psychological and neuroscientific evidence, without actually demonstrating this empirically. Moreover, Dąbrowska (2016) notes that cognitive linguistics disproportionately appeals to a select group of empirical findings, such as Rosch's results on prototypes, without necessarily incorporating new evidence from the cognitive sciences. It is also important to stress that there are other approaches that also see themselves as being "cognitive", such as Chomskyan linguistics; after all, Noam Chomsky was highly influential in the "cognitive revolution" in psychology in the 50's and 60's (Chomsky, 1959). Thus, identifying cognitive linguistics as uniquely paying attention to results from cognitive science is not a useful way of characterizing the field, and it does not do justice to other theoretical approaches that do the same.

Perhaps the best way to characterize cognitive linguistics, then, is to look at what type of work is commonly conducted under the banner of cognitive linguistics, and what specific theoretical approaches have been developed over time and are considered to be the "canon" of cognitive linguistics. Seeing language as being non-modular and heavily interacting with other cognitive systems has led to a number of different theoretical approaches that drive research to this day. In this chapter, we highlight conceptual metaphor theory (§2), cognitive semantics and frame semantics (§3), and construction grammar (§4) as three canonical domains of cognitive linguistic inquiry. These by no means exhaustively characterize cognitive linguistics, but they help to get a flavor of the type of work that is commonly understood to

characterize the field. In addition, we discuss research on gesture (§5) as one specific growth area for cognitive linguistics, to highlight some newer research. Throughout these sections, we point to work where cognitive linguistics intersects with applied linguistics.

2. Conceptual metaphor theory

Conceptual metaphor theory is one of the core branches of cognitive linguistics (Gibbs, 1994; Kövecses, 2002; Lakoff, 1990; Lakoff & Johnson, 1980, 1999). In their 1980 book *Metaphors We Live By*, Lakoff and Johnson (1980) made the observation that rather than being merely a poetic device confined to specialized literary discourses, metaphor is part and parcel of everyday speech and writing. Lakoff and Johnson (1980) aimed to provide an account of the systematic patterns of how metaphors were used in everyday discourse. They noticed that many different kinds of metaphorical expressions appear to reflect the same underlying conceptualization. For example, the English language consistently uses spatial terms to talk about temporal concepts, as in expressions such as *Christmas is coming*, *Halloween is ahead of us*, *We are quickly approaching the deadline*, or *We have already moved past that phase of the project* (Evans, 2004; Moore, 2014). The fact that not just one expression but several expressions seem to reflect the same connection of space and time led Lakoff and Johnson (1980) to propose that there is an underlying SPACE IS TIME metaphor that first and foremost exists in the mind. This conceptual metaphor is assumed to exist independently of language, but motivates linguistic expressions such as the one

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listed above. This outlook on metaphor is fundamentally "cognitive linguistic" because it describes a connection between language (metaphorical linguistic expressions) and thought (underlying conceptual mappings).

Early work on conceptual metaphor theory was criticized for its circularity (Murphy, 1996, 1997): a conceptual mapping, such as SPACE IS TIME, was inferred from a set of linguistic expressions, and this conceptual mapping was subsequently used to "explain" why the linguistic expressions follow a common structure. There are many different ways to answer this circularity concern (Gibbs, 1996), chiefly by performing experiments in which speakers' behavior demonstrates the existence of cognitive associations predicted by metaphor theory without directly using metaphorical language in the task (e.g., Boroditsky & Ramscar, 2002; Casasanto, 2008; Gibbs, 2013; Gibbs et al., 2004; Meier et al., 2007; Meier & Robinson, 2004; Schubert, 2004; Winter & Duffy, 2020; Winter & Matlock, 2013). With respect to the SPACE IS TIME metaphor, for example, it has been shown that changing the visually displayed length of a line on the screen influences people's judgments about how long the line is displayed (Casasanto & Boroditsky, 2008), thus supporting the idea that space and time are connected in the mind, not just in language.

Additional evidence that breaks free from the circularity concern uses multimodal data. Conceptual metaphors have been found in co-speech gestures as well (Cienki & Müller, 2008; Müller, 2009; Woodin et al., 2020), such as when moving the hands forward or backward when talking about the future or the past respectively (Casasanto & Jasmin, 2012; Walker & Cooperrider, 2016). The fact that

not just linguistic expressions, but also gestures reflect the conceptual spatialization of time is further evidence in support of an underlying mapping that gets expressed via different communicative channels. Additional nonlinguistic evidence for the conceptual nature of metaphor comes from the analyses of pictures, commercials, and films (Forceville, 2002; Ortiz, 2011; Sobrino, 2017; Winter, 2014). All of this work can be seen as supporting the core tenet of conceptual metaphor theory, which is that linguistic metaphors are at least partially based on underlying conceptual mappings.

Conceptual metaphor theory is also one of the primary reasons why cognitive linguistic approaches generally assume that the mind is "embodied," which refers to the idea that higher-level processes such as language are deeply connected with and sometimes even driven by lower-level processes such as those used for perception and action (Gallese & Lakoff, 2005; Gibbs, 2005). Consider the metaphor often paraphrased as MORE IS UP, thought to underlie a large range of constructions that use vertical expressions to talk about numerical quantity, such as _high_ number, _low_ number, _rising_ prices etc. This conceptual metaphor, too, is supported by nonlinguistic experimental evidence (for a review, see Winter et al., 2015) and gestural evidence (Winter et al., 2013). Cognitive linguists propose that the use of vertical terms to express quantity concepts is motivated by the fact that we frequently encounter a correlation between verticality and quantity in the real world, such as when putting cookies on a pile, where 'more' correlates with 'up' (Grady, 1997; Lakoff, 1987; Littlemore, 2019; Winter & Matlock, 2017). In that sense then, conceptual metaphors

such as MORE IS UP are seen as embodied, i.e., directly motivated through language-external perceptual experience.

The use of the term "embodiment" in cognitive linguistics is however not without its critics (see discussion in Bergen, 2019), and it has also been pointed out elsewhere that it is hard to exactly pin down what is meant by the term, especially since it is used very differently by different researchers (e.g., A. D. Wilson & Golonka, 2013; M. Wilson, 2002). The extent to which the mind and language are embodied is still hotly debated in cognitive science (Goldinger et al., 2016; Hickok, 2014; Mahon & Caramazza, 2008), and similarly, it is still unresolved to what extent abstract thought actually depends on embodied metaphors (Haser, 2005; Winter & Yoshimi, 2020), and to what extent abstract thought can exist independently of metaphor.

These open issues notwithstanding, conceptual metaphor theory has profound implications for various branches of applied linguistics. Some work within the cognitive linguistic tradition has looked at how language- and culture-specific metaphors may cause misunderstanding in the classroom (Littlemore, 2001b); other work has looked at metaphoric competence as a target of second language acquisition itself (Littlemore, 2001a; Littlemore & Low, 2006), and as something that should be directly taught. Metaphor has also been hugely influential in discourse analysis (Cameron & Deignan, 2006; Semino, 2008), including critical discourse analysis (Charteris-Black, 2011; Hart, 2008). Experimental work on what are called "metaphorical framing effects" furthermore shows that metaphor can change

people's political opinions. In a now-classic study, Thibodeau and Boroditsky (2011) presented participants with descriptions of fictive cities in which crime was metaphorically described either as a beast or as a virus. When participants were asked what the city council should do to fix its crime problem, they recommended different policy solutions, such as more law enforcement in the beast condition. That metaphor can directly affect decision making has now been demonstrated for numerous domains, such as climate change (Flusberg et al., 2017). Metaphorical framing is also investigated with respect to health communication, including the discourse on the COVID-19 pandemic (Semino, 2021; Wicke & Bolognesi, 2020).

3. Cognitive semantics and frame semantics

Cognitive linguistics see meaning as conceptualization (Geeraerts, 2006; Lakoff, 1987), with particular linguistic expressions involving particular construals of the described state of affairs. These construals are often perspectival (Verhagen, 2007), that is, seen from a particular vantage point. Studying meaning as conceptualization deviates from the kind of truth-conditional semantics that is more closely affiliated with the Chomskyan tradition. As an example of how cognitive linguists emphasize the types of conceptualizations that linguistic expressions evoke, consider the pair of expressions *The fence runs along the road* and *The fence is next to the road*. Both of these can be true descriptions of the same scene, but only one of them uses motion language. Cognitive linguists suggest that the first sentence, which uses the motion verb *run*, implies a dynamic construal of a static scene, what is called "fictive" or

"abstract" motion (Langacker, 1999; Talmy, 2000). Experimental evidence suggests that people actually perform mentally simulate either an unfolding path or mentally scanning along the path with their inner eye when reading or listening to fictive motion sentences (Blomberg & Zlatev, 2015; Matlock, 2004; Richardson & Matlock, 2007).

Another cognitive linguistic approach to the study of meaning is frame semantics (Fillmore, 1982). Whereas lexical concepts are considered distinct from encyclopedic world knowledge in many approaches of the Chomskyan tradition, frame semantics breaks this divide, emphasizing that "a word meaning can be understood only with reference to a structured background of experience, beliefs or practices, constituting a kind of conceptual prerequisite for understanding the meaning" (Fillmore & Atkins, 1992, pp. 76–77). This structured background of experience is described in terms of frames. The COMMERCIAL TRANSACTION frame for example, includes such things as a buyer, a seller, the goods, and money. Some sentences may instantiate all of these frame elements, such as *The shopkeeper charged the man £1 for the milk*, where the underlined portions correspond to the buyer, seller, money, and goods "frame elements" of the COMMERCIAL TRANSACTION frame. Other sentences can omit certain frame elements, thereby backgrounding certain elements of a described scene. For example, the sentence *The man bought the milk for £1* omits the seller, whereas *The shopkeeper sold the milk for £1* omits the buyer. By virtue of accessing the same COMMERCIAL TRANSACTION frame, however, we recognize that these two sentences can be descriptions of the same scene from different

perspectives. Frame semantics has led to the development of FrameNet (Ruppenhofer et al., 2016), a database of such frames as the COMMERCIAL TRANSACTION frame that has found applications in computational linguistics (e.g. Gildea & Jurafsky, 2002) and language teaching (Boas & Dux, 2013).

4. Construction grammar

Construction grammar is the main cognitive linguistic approach to grammatical description and theory (Fried & Östman, 2004; Goldberg, 1995; Perek, 2015). The term is best taken as referring to a family of tightly related approaches rather than one unified theory, such as Cognitive Construction Grammar (Goldberg, 2003; 2006), Radical Construction Grammar (Croft, 2001), Embodied Construction Grammar (Bergen and Chang, 2005), Sign-based Construction Grammar (Sag, 2012), and Fluid Construction Grammar (Steels, 2011), to name only a few. Langacker's (1987, 1991, 2008) Cognitive Grammar should also be subsumed into the construction grammar family, although it was developed somewhat independently and uses quite a specific descriptive apparatus. These many "flavors" of construction grammar largely agree on their core principles, and mostly diverge in aspects of detail, such as the notation they use, the emphasis that they put on precise formalization, and the specific domain of application that they were designed for (for example language typology for Radical Construction Grammar, or language evolution research for Fluid Construction Grammar). However, it is important to recognize that one can

use construction grammar as a theoretical framework without subscribing to any of these strands in particular, by following their common principles.

There are three central tenets shared by all construction grammar approaches: (i) linguistic knowledge is best described in terms of direct pairings of form with meaning (or function[1]), aka *constructions*, (ii) constructions can be defined at any level of generality and complexity, (iii) constructions are related to each other by inheritance links, and sometimes other kinds of links, into a vast network of constructions. These three tenets and how they relate to each other are discussed in more detail below. There is a fourth tenet that is not explicitly shared by all approaches but can be seen to underlie the three other tenets: (iv) grammar is usage-based, in that it emerges through, and is likewise constantly shaped by, actual situated language use (see Ellis, this volume; Tomasello, 2003; Bybee, 2006; 2010; Perek, 2015). In a usage-based approach, grammar is seen as "the cognitive organization of one's experience with language" (Bybee, 2006: 1), which helps to connect grammatical theory with general-domain cognition.

Earlier Chomskyan approaches to grammar (e.g., Chomsky, 1965) are based on a strict separation between syntax and the lexicon, with the former containing rules to capture the grammatical behavior of classes of lexical items listed in the latter. Much of the research that laid the groundwork for construction grammar (e.g.,

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[1] The meaning of constructions often goes beyond propositional, descriptive meaning, and is commonly made to include aspects of semantic interpretation that are traditionally considered within the realm of discourse and pragmatics, such as information structure and construal. Therefore, some scholars find the term "function" more fitting when referring to constructional meaning (e.g. Goldberg, 2003).

Fillmore et al., 1988; Kay & Fillmore, 1999) was focused on the study of expressions that are problematic for the Chomskyan view (Taylor, 2012). For example, the expression *let alone* (cf., Fillmore et al., 1988) can be analyzed as a coordinating conjunction when it seems to link two noun phrases as in *I don't eat fish let alone sushi*, but it can also be used with remarkable flexibility in syntactic contexts where no other conjunction can be found, e.g. *It would surprise me if John could pass the test, let alone Bill*. In some cases, *let alone* connects strings of words that are not even constituents in the conventional sense, e.g., *You couldn't get a poor man to wash your car for two dollars, let alone a rich man to wax your truck for one dollar* (examples from Fillmore et al., 1988). This means that the rules governing the grammatical behavior of *let alone* are idiosyncratic: they cannot be defined as general rules of syntax, and must be described separately from other areas of grammar.

Another example of such a "syntactic idiom" is the so-called *way*-construction (Jackendoff, 1990; Goldberg, 1995), as exemplified by such sentences as *The explorers hacked their way through the jungle* and *She talked her way into the club*. There is nothing remarkable in the syntactic structure of these sentences: they consist of a noun phrase subject, a verb, a possessive determiner, the noun *way*, and a prepositional phrase. However, both sentences convey the idea that the subject referent undergoes motion (literal or metaphorical), while none of the words (in particular the verb) entail motion on their own; besides, the motion interpretation does not arise if the determiner preceding *way* is not a possessive co-referent with the subject (Goldberg, 1995; Perek, 2018); for instance, compare *He dug a way out of prison* (no motion

entailed) to *He dug his way out of prison* (motion is entailed). Therefore, the meaning

of motion can be seen as being conveyed by the syntactic pattern described above,

and thus a form-meaning pair can be posited.

Early case studies of this kind showed that a constructional analysis is needed

for expressions that straddle the border between lexicon and syntax, but they were

also quick to point out that the same type of analysis can be extended to structures

that are perfectly regular and predictable, such as those described by traditional

phrase-structure grammar (Fillmore et al., 1988). A prime example of this is

Goldberg's (1995, 2006) influential work on argument structure constructions

(ASCs), a family of basic clause-level constructions that define how the arguments of

verbs are morphosyntactically expressed (see also Perek, 2015). For example, the

caused-motion construction (Goldberg, 1995) pairs the syntactic pattern { Subject –

Verb – Object – Locative PP } with the notion that the subject argument causes the

object argument to move to a certain location, e.g., *He put the pizza on a plate*. ASCs

can be combined more or less flexibly with different verbs, and contribute their own

constructional meaning to the sentence, as can be seen for instance when a verb like

sneeze is used non-conventionally in the caused-motion construction, e.g. *He sneezed*

the napkin off the table (Goldberg, 1995, p. 9).

Constructions come in many shapes and sizes. They can be simple, like

lexical items and bound morphemes (e.g. plural *–s*, agentive *-er*), or complex, like the

idiom *pull one's leg* or the caused-motion construction, which consist of several

identifiable components. Each of a construction's components, or "slots", can be

more or less specific, either fixed to a certain form (e.g., *way* in the *way*-construction), restricted to a closed set (e.g., the possessive in *pull one's leg*), or open to a wider range of items (e.g., the verb in the caused-motion construction), with many degrees in between. Constructions can be defined at any level of generality, and more general constructions (e.g., caused-motion) are linked to their more specific instantiations (e.g., caused-motion with the verb *put*) through inheritance relations, forming a taxonomic hierarchy. Some scholars also include other kinds of relations in the network besides inheritance, such as synonymy (Goldberg 1995) and alternation (Cappelle, 2005; Perek, 2012).

Construction grammar has proven to be a popular approach to grammatical description, and over the years has seen use in various domains of applied linguistics, such as the study of second language acquisition (Ellis, Römer and O'Donnell, 2016), clinical linguistics and aphasia (Hatchard, 2021), natural language processing (Steels, 2012), and foreign language teaching (De Knop and Gilquin, 2016). In language teaching in particular, there is a growing body of research showing how a constructional approach could benefit language learners (Wee 2007; Holme 2010a, 2010b; and the contributions in De Knop and Gilquin, 2016). As argued by Patten and Perek (forthcoming), construction grammar is consistent with many of the most recent developments in language pedagogy, and Littlemore (2009: 169) suggests that construction-based language instruction provides "a sort of middle ground between the categorical yet inadequate traditional 'grammar rules' approach and the more accurate yet potentially overwhelming 'lexical' approach".

In recent years, the field has also seen the advent of 'constructicography', the lexicography of constructions (Lyngfelt et al. 2018), which aims to find, describe, and document constructions in various languages, and to build constructicons: comprehensive inventories of fully described constructions in a given language, typically stored in electronic form. As we are writing this chapter, constructicon projects in various languages are currently in progress at various stages of development: English (Perek and Pattern, 2019; Fillmore et al., 2012), Swedish (Lyngfelt et al., 2012), Brazilian Portuguese (Torrent et al., 2014), German (Boas and Ziem, 2018), Japanese (Ohara, 2013), and Russian (Janda et al., 2018). In addition to increasing the descriptive coverage of construction grammar studies and providing the approach with wide-scope empirical validation, constructicon research lines up with the growing interest in construction-based language teaching, and in fact supports the wider adoption of construction grammar in the classroom: indeed, if constructions are to be adopted more widely as a teaching approach, teachers and learners need descriptions of what constructions there are to be taught and learned, especially those that are most useful to language users. Accordingly, several of these projects have explicit pedagogical aims (Perek and Patten, 2019; Patten and Perek, forthcoming).

5. Gesture research

Cognitive linguistics is a continuously expanding discipline that intersects with various other subfields of linguistics. For example, whereas much past work in

cognitive linguistics paid very little attention to the social dimension of language (Divjak et al., 2016), more and more work within cognitive linguistics calls for a closer consideration of sociolinguistics (Croft, 2009; Geeraerts, 2016). Here, we cannot do justice to all of the possible extensions of cognitive linguistics. Instead, we highlight one of relatively more "modern" cognitive linguistics that showcase how the field continues to grow into new directions, specifically, gesture research. This area of research has been identified as a key growth area for cognitive linguistics (Cienki, 2016), especially as it interacts with cognitive linguistic theorizing at multiple different levels.

When people speak, they almost always also gesture. Many researchers studying gesture view co-speech gestures as being part of language production rather than a process that is separate from it (Goldin-Meadow, 2005; Kendon, 2004; McNeill, 1992). This view finds a natural home within the cognitive linguistic tradition with its focus on seeing language as an open-ended system that is connected with other cognitive systems, such as gesture. Moreover, gesture research has been influential in work on conceptual metaphor theory because, as mentioned above, it is one of the key sources of evidence for conceptual metaphors that does not exclusively depend on language (Cienki & Müller, 2008). Metaphorical gestures have been identified in many different domains besides SPACE IS TIME metaphors (Casasanto & Jasmin, 2012; Walker & Cooperrider, 2016), including discourse focused on numerical information (Winter et al., 2013; Woodin et al., 2020),

mathematical discourse (Marghetis & Núñez, 2013; Núñez, 2004, 2008), or transgender discourse (Lederer, 2019).

Research on metaphorical gestures has shown that gestures can completely change the interpretation of an utterance. Consider the following question: *Next Wednesday's meeting has been moved forward two days. What day is the meeting on now?* This question is ambiguous and has two possible answers (McGlone & Harding, 1998), either *Monday* or *Friday*, corresponding to two different perspectives on the SPACE IS TIME metaphor (Boroditsky & Ramscar, 2002). We can think of time either as moving towards us (as in the expression *Christmas is coming*), or we can think of us as moving through time towards temporal events (as in the expression *We are approaching Christmas*). Several experiments have demonstrated that the interpretation of the Next Wednesday question fundamentally changes as a function of gesture, with forward-moving gestures (the speaker moves the hands away from the torso) leading to much more *Friday* responses than backward-moving gestures (Jamalian & Tversky, 2012; Lewis & Stickles, 2017; Winter & Duffy, 2020).

Gesture also interacts with grammar. Cognitive linguists, for example, analyze grammatical aspect as involving different dynamic or static construals of temporal events (Langacker, 2008), with the English imperfective (e.g., *They were dancing*) involving an "unbounded" construal of an event in contrast to the perfective (e.g., *They danced*), which involves a "bounded" construal. This difference in conceptualization has received extensive experimental support (e.g., Fausey & Matlock, 2011; Matlock et al., 2012), and crucially, aspectual distinctions are also

reflected in co-speech gestures (Duncan, 2002; Hinnell, 2018; Parrill et al., 2013). For example, imperfective constructions may go together with longer and more repeatedly iterated gestures. The interaction between gesture and grammar is also pursued in work on multimodal construction grammar, which extends the idea of form-meaning pairings to include co-speech gestures at the form pole (Cienki, 2017; Mittelberg, 2017; Steen & Turner, 2013; Zima & Bergs, 2017). In fact, there is evidence that certain expressions co-occur with gestures the majority of time. For example, Woodin et al. (2020) found that in a sample of more than 500 speakers, metaphorical expressions of numerical quantity, such as *tiny number*, co-occur with gestures up to 80% of the time. Finally, given the ubiquity of gesture and its potential to reveal people's conceptualization, gesture research is also highly relevant for applied linguistics, with work exploring its role in second language acquisition and classroom interactions (Gullberg, 2010; McCafferty & Stam, 2009).

4. Outlook

Cognitive linguistics looks back on a big tradition of work that encompasses various aspects of language. The field has generated much insight into how language is structured and how it is used, at different levels of linguistic organization, chiefly syntax and semantics. However, as argued above, cognitive linguistics is more of a framework than a unified theory; it is not as monolithic as Chomskyan linguistics, with multiple different theoretical approaches, such as construction grammar, conceptual metaphor theory, and frame semantics, being loosely connected via a

shared vision of language as a usage-based system that is best characterized by its interactions with other cognitive systems. From this open-ended view of language stem new lines of inquiry for empirical research, such as looking at how gesture reflects conceptual metaphors and meaning distinctions predicted by cognitive theories of grammar. Throughout these further extensions into new territories, cognitive linguistics continues to be relevant for applied linguistics, including such domains as education, second language acquisition, and political discourse.

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