CHAPTER 9

CASE IN COGNITIVE GRAMMAR

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9.1 INTRODUCTION

THE present chapter is devoted to cases in Cognitive Grammar (henceforth CG). Cognitive approaches to cases are numerous, and by no means restricted to CG. Some other cognitive approaches are treated in separate chapters in this handbook (e.g. Wierzbicka, Chapter 10). In this chapter, I will start by framing views on grammatical forms common to various cognitive approaches in the framework of earlier research on the same topic (§ 9.2); I will then briefly survey the context out of which CG originated (§ 9.3); and proceed to illustrate more specifically relevant assumptions within the CG framework (§ 9.4). Finally, I will provide some diachronic evidence for the CG approach to cases (§ 9.5).

9.2 TRADITIONAL APPROACHES

In cognitive approaches, language is viewed as an integral part in the whole of human cognitive capacities, rather than a separate module; furthermore, it is

assumed that language can be externally motivated. A consequence of this as-
sumption is that meaning is viewed as being pervasive. According to cognitive
approaches, grammatical forms are meaningful elements. This assumption is not
new to linguistics: historical linguists of the nineteenth century have devoted long
discussions to topics such as the meaning of the accusative, etc. In early historical
linguistics, that cases had meaning was an assumption that hardly needed to be
argued for. Meaning was also viewed as the major explanation of change: for
example, case syncretism (which, in a diachronic perspective, indicated merging
of different cases over a period of time, and not synchronic polysemy)[1] was viewed
as dependent on similarity in the meaning of the cases involved, in very much the
same way as in CG (see § 9.4.5.1 and 9.5.1).

Works devoted to cases flourished in the late nineteenth to early twentieth cen-
tury, and case meaning was among the favourite topics of the Neogrammarians.
These works were in large part theoretically naive. scholars did not usually adduce
general principles that could support their assumptions, partly because, as already
remarked, the fact that meaning had a central role in grammar was considered
self evident, as was the idea that language could be externally motivated. As an
example, one can quote Delbrück (1867: 50–1), who explains the extension from
comitative to instrumental meaning as due to the fact that 'the instrument is
the entity in whose conjunction we bring about an action', thus foreshadowing
Lakoff and Johnson's 'companion metaphor' (see Lakoff and Johnson 1980: 135),
or Wackernagel's explanation of the frequent polysemy involving location and
instrument, which he connected with the existence of specific instruments which
are also containers, like e.g. quivers (see Wackernagel 1922: 304–5).[2] Because the
work of the Neogrammarians was grounded on deep knowledge of the languages
they investigated, it would be worth trying to benefit from their insight as much
as possible.

In the 1930s, the tradition of research on case meaning was taken over by the
European Structuralists, who produced a significant number of studies on this
matter, this time with an elaborated theoretical background. Among them the most
influential remain Hjelmslev's *La catégorie des cas* (1935), and Jakobson's *Beitrag zur
allgemeinen Kasuslehre* (1936).

Jakobson (1936) still constitutes the basis for research on Russian cases. Jakob-
son did not see himself as outside the lines of traditional research, but rather
framed his work in earlier ones. The main difference between his (as well as
Hjelmslev's) work and the Neogrammarians' lies in Jakobson's assumption that
cases built a system, and that consequently their meanings had to be investigated

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[1] See Luraghi (2000) on the meaning of 'syncretism' in the tradition of historical linguistics.

[2] Delbrück expressed his views on the relation between comitative and instrumental in reference
to the Old Indic instrumental case, which can encode both semantic roles. Wackernagel's discussion
of location and instrument does not concern a case marker, but a derivational suffix, Ancient Greek
-tro-, which can form both instrument nouns and nouns denoting location.

in relation to each other. A major point in Jakobson's study of cases (as well as in many other contemporary or earlier studies) is constituted by his interest in finding a 'general meaning' of each case (*Gesamtbedeutung*). Jakobson quotes Hjelmslev, who thought that the 'basic meaning' (*signification fondamentale*) was a concept that explained all concrete uses of a certain case marker. This approach proves somewhat rigid when tested on a large mass of data, but it remained the most effective, until the model of radial categories was worked out by Lakoff (1987).

The Structuralists' approach was certainly less naive than traditional approaches from the theoretical point of view, but, seen from a CG perspective, it had the disadvantage of focusing the analysis of case meaning on oppositions within the system, rather than on the substance of the meaning itself. Note however that this does not per se mean that grammatical meaning is conceived as substantially different from lexical meaning, since a goal of structuralist semantics was to show that lexical meaning could also be organized in the same way.

9.3 EARLY COGNITIVE APPROACHES: 'DEEP' CASES

In early generative grammar, little if no attention was paid to morphology. The phonological component was conceived as linking directly with the syntactic component, so that bound morphemes such as case markers were seen as mere by-products of mapping rules that produced the surface structure of sentences. The idea that especially inflectional morphology was not worth being investigated was so strongly entrenched in American theoretical linguistics that even after a number of cognitively oriented linguists started reacting against generative grammar it took some time for them to understand its real importance.

The prehistory of CG dates back to the 1960s with generative semantics. In 1968, the word 'case' was brought to the forestage by Fillmore's influential paper *The case for case.* What Fillmore called 'cases' or, with a more accurate label, 'deep cases', corresponded to what is nowadays known as semantic roles, and had nothing to do with case markers. Even if cognitive semantics highlighted the importance of meaning, the fact that all grammatical forms had a meaning that could explain their usage took one more step to become commonly accepted.

Interestingly, research on the semantics of cases (intended as 'surface' cases) continued directly out of Jakobson's work especially among scholars working in the Slavic linguistic tradition, even when they were aware of Fillmore's theory of 'deep cases', as shown for example in Wierzbicka (1980).

9.4 Cases in Cognitive Grammar

In the last decade, quite a lot of research has been devoted to cases within the framework of CG. In the following sections, I will briefly summarize some assumptions that must be kept in mind in order to understand the CG analysis of case meaning (9.4.1–4); I will then proceed to illustrate a number of recent studies devoted to cases within the CG framework.

9.4.1 Radial categories

Radial categories have been described in Lakoff (1987). They are a type of prototypical categories. Radial categories have a central subcategory, that displays all features relevant to the category. Non-central subcategories 'are not specialized instances of the central subcategory, but rather are variants of it...These variants are not generated by the central model by general rules; instead, they are extended by convention and must be learned one by one' (1987: 91). This means that one does not automatically know what the actual members of a radial category will be; the features of the central subcategory, however, albeit not determining which subcategories will be generated, explain why those that actually exist could be generated: 'The central model determines the possibilities for the extensions, together with the possible relations between the central model and the extension models' (ibid.).

The relevance of radial categories to the study of case meaning has been highlighted by Janda (1993), who especially pointed out the fact that radial categories are internally structured, thus offering a very insightful model for semantic extension. Especially in the case of highly polysemic items, such as cases, the fact that the various meanings can be related with a central model, but differently located within the complex structure of the category, enables one to 'seek as much detail in [one's] description as desired without endangering the integrity of the category. The network may become increasingly intricate, but by virtue of the fact that its structure is based on interrelationships, constant reference is made to the prototype and those members closest to it' (Janda 1993: 6).

By considering case meaning as having the structure of a radial category, one can avoid long lists of unrelated 'functions of cases', as in many reference grammars, while in the meantime not being forced to consider all meanings on the same plane and equally related to each other in such a way as to build a unitary fundamental meaning.

9.4.2 Polysemy vs. homonymy

A frequent trend in the structuralist tradition has been to set up various homophones in cases where grammatical forms are used in different functions.

A consequence of positing radial categories is that CG can minimize the number of homophones, and assume that polyfunctionality of a form is better explained as due to polysemy. In her analysis of the meaning of the genitive, Nikiforidou (1991: 196) further remarks that assuming structured polysemy, rather than homonymy, allows one to 'provide an explanation for the different status of each meaning (central vs. peripheral)'.

Under the assumption that polysemy is based on a structured network of relations among meanings, Langacker (1991: 379) can easily prove pointless a common argument against the idea that cases are meaningful, i.e. that it is impossible 'to isolate any single meaning that is clearly appropriate for a particular case in all its occurrences'.

9.4.3 The meaning of grammatical forms

It is commonly said that, whereas lexical forms convey lexical meaning, grammatical forms like bound morphemes convey grammatical meaning. This may be a practical way to put it, but it is important to understand that two types of meaning referred to as grammatical and lexical are not qualitatively different: grammatical forms are meaningful in very much the same sense in which lexical forms are meaningful, the only difference being that the meaning of grammatical forms is more abstract.

Langacker (1991) has a number of illuminating remarks regarding case meaning (see also above, § 9.4.2). Focusing on cases other than the nominative and the accusative, Langacker remarks that 'It is quite evident that the oblique cases [like dative, instrumental, locative, ablative, etc.] make a definite semantic contribution in many (if not all) of their uses . . . If the subject- and object- marking cases depart somewhat from this model, it is only by virtue of the abstract nature of their meaning' (1991: 379–80).

This passage makes clear that what can look like a difference between lexical and grammatical meaning is only a matter of increasing abstractness: indeed this follows naturally from our knowledge about grammaticalization processes. According to grammaticalization theory, lexical forms may acquire new meanings through metaphoric extension, whereby the extension often implies that one specific feature of the original meaning is magnified, with a gestalt effect (see Lakoff 1977, Heine et al. 1991: 43), and other features become irrelevant. This loss of parts of the original meaning results in semantic bleaching: the meaning of a form becomes increasingly general and abstract, as for example in the case of Late Latin *casa* 'home', which has become the French preposition *chez* 'at', preserving only the feature of location out of the original meaning. Consequently, new grammatical forms rise out of lexical forms, and following semantic bleaching phonological autonomy may be lost, so that once autonomous forms may become clitics and later bound morphemes. In

the case of case markers, there is clearly a continuum between independent adverbs (often derived from nouns), adpositions, and cases, as shown by cross-linguistic evidence: different languages may have adpositions that encode functions encoded by case markers in other languages (for example, French has the preposition *de* where Russian has the genitive case).

Another argument against meaningfulness of cases, which is adduced by functional linguists of various orientation, is that 'case is often *governed* by a verb, preposition, or construction' (Langacker 1991: 379), and it is frequently thought that if an item is obligatory in a certain syntactic environment it does not convey meaning. As Langacker points out, however, obligatory does not mean meaningless: 'A morpheme's failure to provide independent semantic content does not imply that it is semantically empty, but only that its contribution is redundant; all composition involves semantic overlap, and full overlap is an expected limiting case' (ibid.).[3] The importance of this remark cannot be overestimated: that governed forms have no meaning has been a commonplace argument in the description of cases in recent decades, for example in the framework of valency grammar and of Simon Dik's Functional Grammar (see for example Pinkster 1990). Because traditionally oriented research on the ancient Indo-European languages are based on the assumption that grammatical forms are meaningful, and that there is basically no difference between lexical and grammatical meaning (see § 9.2), the Functional Grammar approach to cases was held by its proponents as an advancement over the antiquated idea that cases had meaning (which indeed reached out to the origins of comparative linguistics, much in the same way as the theory of grammaticalization, see Heine et al. 1991: 5–8).

9.4.4 Trajector–landmark asymmetry

In CG, the relation set up by a case is regarded as an instantiation of the trajector–landmark (or figure–ground) asymmetry: an entity with a relational profile (the trajector/figure) is foregrounded with respect to another entity, which serves as reference point, and is backgrounded (the landmark/ground). The asymmetry is connected with salience of the two entities involved. In Langacker's words, landmarks 'are naturally viewed (in prototypical instances) as providing points of reference for locating the trajector' (Langacker 1987: 217), as for example in *the book on the shelf*: a shelf is a bigger and much more stable entity than a book, which can easily be moved. So it is so to say natural that the book is chosen as landmark

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[3] Heine et al. (1991: 28) points out that 'whereas "concrete concepts" are autosemantic,… grammatical concepts have been described as … acquiring semantics by combination with other concepts': Langacker's remark on the role of semantic overlap can also apply to this distinction and show that while it may be true that the role of the context for the understanding of the meaning of a specific form is maximized with grammatical forms, it is also important with lexical forms, and it is essentially the same type of phenomenon, with only a difference in degree.
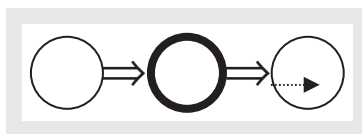
Figure 9.1.

(or ground). In an NP as Latin *domus patris* 'father's home', the genitive case of *patris* establishes a relation between a trajector (*pater*) and a landmark (*domus*), in very much the same way as English's. The trajector–landmark asymmetry is central to any type of relational predication in the framework of CG (see Langacker 1987: 217f.).

The specific case marker (or adposition, in languages without cases) profiles a certain relation between the trajector and the landmark. This can be represented as in Figure 9.1, from Langacker (1991: 404), which represents the meaning of instrumental *with* in an English sentence like *Floyd broke the glass with a hammer*. In this Figure, 'the schematic conception of an action chain . . . designates a participant characterized in terms of the *instrument* role archetype' (Langacker 1991: 405).

9.4.5 Some examples

In the introduction of her (1993) book on the Czech dative and the Russian instrumental, Laura Janda quotes a remark by Anna Wierzbicka, who in 1980 wrote that 'cases have fallen on hard times'. Looking back to the last twenty-five years, one can remark that things have changed dramatically. Research on cases has grown, in various theoretical approaches, mostly due to the progress of language typology, and its influence on linguistic theory. The CG framework proves particularly insightful for the study of cases, because of its theory of meaning, as expounded in the preceding sections. Consequently, there are now numerous CG-oriented studies on cases in different languages. In the following sections I will only survey a few, in order to point out what I think are the more relevant contributions CG can give to a general understanding of this matter.

9.4.5.1 *The genitive*

Nikiforidou (1991) devoted a long paper to the meaning of the Indo-European genitive, focusing on different languages (Classical Greek, Latin, Old English, and Medieval French). It may be argued that the sample could easily have been made more significant by the addition of some other languages in which the genitive plays an important role (Old English and Medieval French are certainly not among the best representatives of languages with cases in the Indo-European family); fortunately, however, Classical Greek and Latin offer quite typical examples in this

respect. Nikiforidou is not aware of traditional descriptions of cases that could have proven in accordance with her analysis (her critique of earlier studies basically refers to the mid-sixties Structuralists),[4] but apart from minor flaws, her description of the meaning of the genitive is a good example of how case meaning is structured.

Nikiforidou shows how different functions of the genitive are based on metaphorical meaning extensions. Starting with alienable possession, Nikiforidou argues that the meaning of the genitive can extend to inalienable possession, based on the metaphor 'parts are possessions', by which the possessor–possessee relation is mapped onto the whole–parts relation (1991: 170). A further metaphor, according to which 'wholes are origins' explains why in certain languages (notably Classical Greek) the genitive may extend to relations that are typically encoded by the ablative in other languages (1991: 173). Similar metaphors are shown to explain all possible meanings of the genitive, in accordance with the structured polysemy model (see § 9.4.2).

A merit of Nikiforidou's paper is that it also addresses the issue of diachrony. Cross-linguistic synchronic affinity between the genitive and the ablative shows that diachronic syncretism of the genitive and the ablative in pre-literary Greek follows 'a natural direction of change' (1991: 195), and in general 'the same semantic network set up for synchronic polysemy, can...be shown to be (at least partly) relevant to semantic change as well' (ibid.).[5] This is of course a tenet of traditional descriptions of case syncretism, see below, § 9.5.1.

9.4.5.2 *The Czech dative and the Russian instrumental*

In the Russian tradition of linguistic analysis, cases have never really been ignored, and among Russian cases, the instrumental has been a favourite of several scholars within various theoretical frameworks. Thus, Janda's (1993) book *A Geography of Case Semantics*, devoted to the Czech dative and to the Russian instrumental, draws on a long series of earlier analyses. In her description of case meaning, Janda makes use of the radial category model, showing that the complex and apparently random array of functions of the Russian instrumental can be captured by four image-schemas, that can be shown to build a network. The network has the 'conduit instrumental' (instrumental of means) as its centre. This is the prototype, and it is related to the 'instrumental of setting' (instrumental of space and time) and to the 'attributive instrumental' by either foregrounding or backgrounding the instrumental, or by focusing either on the participant or on the event. The fourth image-schema is the 'comitative and proximate instrumental'; it is derived in a

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[4] There is a short reference to Jakobson (1936) (quoted in the 1984 reprint), in whose regard Nikiforidou (1991: 156) writes that she cannot 'evaluate the Russian examples', so her critique remains quite vague.

[5] See Luraghi (1987) for a similar explanation and further references.

similar way as the other two image-schemas, but it is related with image-schemas 2 and 3, rather than with the prototype (Janda 1993: 139–41).

To describe case semantics, Janda makes extensive use of the type of graphical representation used by Langacker and illustrated by means of Figure 9.1 above. Some examples are the schema of the indirect object dative and the free dative in Czech, given here in Figure 9.2(a) and (b) respectively (from Janda 1993: 53).

Janda's sophisticated analysis constitutes a very convincing example of how our knowledge about human cognition can implement the description of grammatical meaning, achieving new insight without necessarily rejecting all previous scholarship. Much to the contrary, Janda shows that her analysis of the Russian instrumental is in accordance with Jakobson's, even if the theoretical framework is different, and similar explanations are reached under quite different assumptions.

9.4.5.3 *German cases*

German has a rather reduced case system, mostly used for encoding grammatical relations; the meaning of German cases is more abstract than the meaning of Russian or Ancient Greek cases, and one would expect their semantic contribution
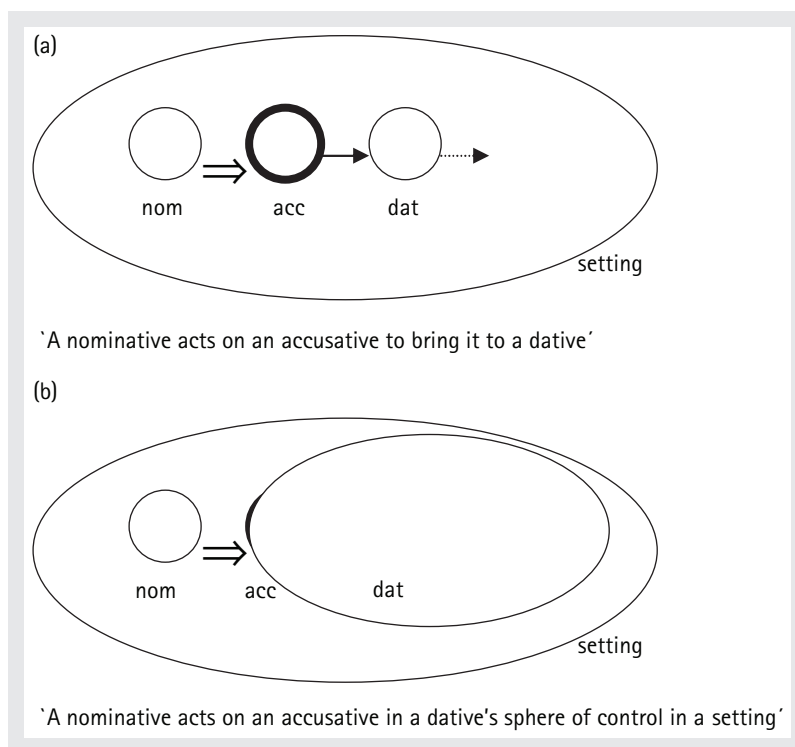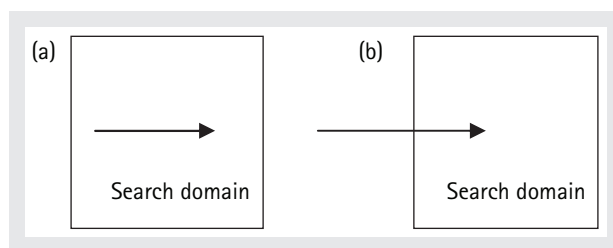

Figure 9.2.

Figure 9.3.

to be highly conventionalized. Smith (1993) analysed the meaning of the accusative and the dative, both when used on the clause level and when used as complements of prepositions. According to Smith, the accusative case 'signifies, in its prototypical sense, the physical movement of a TR[ajector] along a path which makes contact with a significant aspect of the L[and]M[ark]' (1993: 533), while the dative variously signals a 'departure from ACC[usative]' (*ibid.* 534). Smith shows how all usages of the two cases can be brought back to these prototypes.

   Smith's analysis of what he calls '2-way' prepositions is especially illuminating. Two-way prepositions are prepositions such as *in*, which may take either case, as in *Ich fahre in die Stadt* 'I drive into town (direction)' vs. *Ich fahre in der Stadt* 'I drive inside town (limits of motion)'. To explain the difference, Smith makes use of the concept of search domain: while the dative indicates that the trajector is wholly located in the preposition's search domain, the accusative indicates that the trajector moves along a trajectory which starts outside the search domain, and penetrates its boundaries. Ultimately, 'DAT[ive] and ACC[usative] signify unchanging state vs. change of state', two meanings that can be 'motivated as extensions from the prototypical senses of the cases' (1993: 540).

   In order to represent the difference between the dative and the accusative with two-way prepositions in terms of search domain, Smith uses the image schemas in Figure 9.3 (from Langacker 1991: 403). Figure 9.3(a) represents the dative: the search domain is completely inside the landmark; while figure 9.3(b) represents the accusative: the trajector moves from outside the landmark to its inside.

9.4.5.4 *The Classical Greek accusative*

In Luraghi (2003) I analysed the meaning of the Ancient Greek cases and prepositions. In § 2.2.1 I argued that the accusative case basically signals total affectedness. This feature can explain both the function of the accusative as direct object marker, as well as possible alternation with other cases with certain verbs (for example, the alternation with the partitive genitive, which signals partial affectedness, or with the dative, which indicates that there is no change of state). Total affectedness also explains spatial uses of the accusative, as the accusative of direction, and, through

the notion of fictive motion (see Talmy 2000: 136), the so-called 'accusative of extension', which is used in reference to a stretch of space (not necessarily with verbs of motion) or of time. For example, the accusative occurs with verbs such as *apékhesthai*, 'to be far from', and indicates a distance.

In Classical Greek the accusative also had a wide adverbial usage, in which it encoded area, as in *pódas ōkùs Akhilleús* 'feet-ACC swift-NOM Achilles-NOM = Achilles swift-foot', or in expressions such as *diaphérein phúsin* 'to be different nature-ACC = to be different in nature'. This usage of the accusative is related to the accusative of extension, moved to an abstract plane.

As already remarked, the notion of total affectedness explains possible alternation between the accusative and the genitive, in occurrences such as *pínein oínon / oínou* 'to drink wine-ACC / wine-GEN = to drink (all the) wine / some of the wine'. On the plane of spatial relations, the same opposition motivates the occurrence of either case with prepositions: while the accusative conceptualizes a stretch of space without further implications on its internal structure, the genitive conceptualizes space as constituted by sub-parts. Accusative landmarks are continuous, while genitive ones are discontinuous, in the terms of Talmy (2000). Consequently, a trajector moving inside an accusative landmark does not follow a straight path, which can be described in a precise manner, but moves around randomly; much to the contrary, a trajector moving inside a genitive landmark moves along a clearly defined path, and can always be tracked down. This difference lies at the basis of alternations such as *dià dôma / dià dṓmatos baínein* 'through hall-ACC/GEN walk = to walk around in the hall / straight through the hall' (see Luraghi 2003: 169–71).

9.5 DIACHRONY

Perhaps the best argument in favour of a CG-oriented analysis of case meaning comes from diachrony. Even if historical consideration of semantic extension is not necessarily among the premises of a cognitive study of case semantics, when pursued it proves extremely important and fruitful, for several (related) reasons:

a) it can provide evidence for some assumed paths of semantic extension (see above, § 9.4.5.1);

b) it can help avoid too strong generalizations (e.g. that semantic change always goes in the same direction);

c) it can explain some otherwise hardly understandable phenomena, such as relative markedness.

9.5.1 Merging of cases

The Indo-European languages attest to various extents a process of reduction of their case system, traditionally called 'syncretism' (see fn. 1). It is generally assumed that cases did not simply disappear, but rather merged with other cases: this process can partly be demonstrated on morphological grounds, whereby the exponent of a certain case in a given language corresponds to the exponents of two or more cases in some other language(s).

As has also been pointed out by Nikiforidou (1991), quoted above, § 9.4.5.1, case syncretism can be shown to be in accordance with predictions about semantic extension that follow the model of structured polysemy purported by CG, for example in the case of syncretism of the ablative and the genitive. Radial categories can help us understand even more complicated instances of syncretism. As an example, I will illustrate the merger of the Indo-European dative, locative, and instrumental in Ancient Greek.

In the oldest Greek documents, the Mycenaean tablets, there is most likely only one series of exponents that continue the Proto-Indo-European locative and dative. The two cases had merged, as they did in some other languages (e.g. Hittite). In the languages that preserve it, the locative indicates a location where an event takes place. As opposed to other local cases, the locative denotes a static relation. The dative prototypically denotes experiencer, i.e. the semantic role of a human being who is affected by an event, but does not undergo a change of state. Again, the relation is static: this is the common feature of the locative and the dative, that can explain both polysemy (as in the case of the German dative, see § 9.4.5.3, which also has the functions of a locative within prepositional phrases) and merger, as in the case discussed here.

Mycenaean Greek had a separate instrumental, which later merged with the dative-locative: this is the situation attested in all other Greek sources, starting with the Homeric poems. Syncretism of the dative-locative with the instrumental can be explained if we take the locative meaning as starting point. As already remarked in § 9.2, some referents have the peculiarity that they can be conceptualized as instruments or as locations: among them, one can think of means of transportation or body parts (for example, even in a language like Russian, which has a separate instrumental case, one would commonly used the preposition *na* 'in' with means of transportation: *poexat' na poezde, na mašine* 'to go by train, by car, lit.: in train, in car').[6] Thus, the meaning of the Classical Greek dative constitutes a radial category, with the location schema at its centre.

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[6] The tendency for body parts to be conceived as containers while used as instruments is especially clear in ancient Greek, see Luraghi (2004a).

9.5.2 The direction of semantic extension

It is not always easy to find enough diachronic evidence to say that a case has acquired a certain meaning later than another. In some Indo-European languages there is at least one clear instance of semantic extension of a case, i.e. the extension of the instrumental case to encode agent of passive verbs. The reason why we can be sure that the instrumental meaning is older, while the agentive meaning is later, is that comparative evidence points toward a late development of passive diathesis. Besides, the instrument of agent only exists in a small number of languages (Indo-Iranian and, partially, Slavic); in Hittite, a language in which early sources offer no evidence for the existence of passive diathesis, the instrumental of agent only occurs in comparatively late texts, while the instrumental of instrument is attested from the beginning.[7]

The semantic extension instrument > agent contradicts the (putatively unidirectional) scale of semantic extension posited in Heine et al. (1991: 159). According to the authors, there is a universal tendency for spatial relations to precede all other types of relation, followed by relations involving human beings, and then by relations involving inanimate entities, which can be summarized as:

> *spatial relation > human relation > inanimate relation*
> (from Luraghi 2001).

In Luraghi (2001) I have argued that evidence from Australian languages allows us to reconstruct the opposite direction of semantic extension, i.e. from agent (ergative case) to instrument, in accordance with the predictions in Heine et al. (1991). This extension can be motivated by a metaphor, according to which 'an instrument is an agent': the metaphor is based on the feature of ultimate control over the event.[8] Thus, the extension attested in the Indo-European languages remains to be explained. In Luraghi (2001) I tentatively suggested that this extension could be motivated by a metonymy, rather than a metaphor, but the matter needs further investigation.[9]

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[7] For further discussion see Luraghi (1986) and (2001).

[8] Note that the metaphor involves personification, much in the same way as the well-known 'companion metaphor', discussed in Lakoff and Johnson (1980). As for the feature of control, shift from agent to instrument is made possible by a gestalt effect: obviously, only the agent can fully control an event, the instrument can exert control only if one abstracts from other features typical of agents, like intentionality. Based on a similar gestalt effect we can say things like *the key opened the door*, treating an instrument as if it were responsible for an action.

[9] In general the bearing of metonymy on semantic change seems to be underestimated in CG-oriented studies of the meaning of grammatical forms.

9.5.3 Relative markedness

In his critique of Lakoff and Johnson's 'companion metaphor', Stolz (1998) notes, among other things, that, whereas the meaning extension seems to only lead from comitative to instrumental, there is morphological evidence for derivation of comitative markers from instrumental ones. Stolz mentions the Australian language Alyawarra, which has an instrumental suffix *-ila*; and a comitative *-ila-linga*, derived from the instrumental by addition of another suffix. Such a state of affairs is also common in the Indo-European languages: for example, in Latin instrument is encoded by the ablative case, and comitative by the ablative with the preposition *cum*, in Russian instrument is encoded by the instrumental case, and comitative by the instrumental case with the preposition *s*, and so on.

The Indo-European languages, that allow far reaching diachronic analysis, show that there is no contradiction in the fact that the comitative is more marked than the instrumental, while cognitively preceding it. Indeed, there is evidence for the semantic extension from comitative to instrument, but apparently after the extension, comitative tends to receive extra marking, in much the same way as one often says 'together with' in English, rather than simply 'with' to denote comitative.[10]

9.5.4 From polysemy to homonymy?

Above I have illustrated the complex syncretism that led the Classical Greek dative case to also encode relations that are typical of the locative and the instrumental. I have argued that locative was at the centre of the category. Note that in this way, locative provided an otherwise missing link between instrument and dative. However the discussion above does not tell the whole story. The extent to which the dative could encode location was indeed very limited already in Homeric Greek; later, in Classical Greek prose, the dative without prepositions only encoded the functions of the dative 'proper' (recipient, beneficiary, experiencer, and the like), or the functions of the instrumental. The locative meaning was limited to the prepositional dative, and even with a number of prepositions the association of dative and locative had lost motivation (see Luraghi 2003 for the details). Now the question arises if, once the centre of a radial category is lost, its peripheral members are still recognized as belonging to the same category, in other words, whether we can still regard such cases as instances of polysemy, or should better regard them as (secondary) homonymy.

Perhaps the Greek dative case is not the best example in this respect, since, as I said, part of the locative meaning survived with prepositions; in any case, the dative disappeared and was variously substituted by prepositions (or by the genitive in

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[10] I do not have space here to review the evidence, but see Luraghi (2001).

the case of pronouns), so the study of its semantic development cannot be pursued further. However, the question remains: if some historically attested semantic extension loses motivation, can it give rise to homonymy? In Luraghi (forthcoming) I have suggested that such a process can explain the development of the Greek preposition *metá*, which could mean 'with' (with the genitive) and 'after' (with the accusative) in Classical Greek. The two meanings can be shown to be related when they originated out of the original meaning 'among' in Homeric Greek, but the centre of the category was lost, and the two meanings became so disconnected that in Medieval Greek the preposition underwent two phonological developments: on the one hand, it continued the older form when it had the meaning 'after', on the other, it changed to *mé* when it had the meaning 'with'. The latter is the only form that survives in Modern Greek.

The above example deals with a preposition, rather than with a case, but similar evidence can most likely be found in the development of case markers as well. I think that the fact that we regard polysemy as the normal situation of grammatical forms (or better, of any linguistic item) should not necessarily imply that there is no possible development by which two meanings become so far from each other as to make a synchronic association impossible for speakers, i.e. as to generate homonymy. Indeed, I view it as a challenge of CG to set limits to the explanatory power of semantic extension: possible creation of homonymy looks very much like one of these limits.