SEMANTIC STRUCTURE, RELATIONAL NETWORKS, AND DOMAINS OF REFERENCE[1]

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ABSTRACT. *In this paper we make use of some of the conceptual tools provided by Cognitive Linguistics in order to discuss the issue of knowledge organization. We start off from the account provided by Ruiz de Mendoza (1996), who fleshes out the key ideas of the network organization model postulated by Langacker (1987). In Ruiz de Mendoza's account a semantic characterization consists of what he terms a general definer, which is a kind of semantic invariant, plus a number of prototypical instantiations of the definer. The instantiations are accessed relationally. Our own account tries to improve on Ruiz de Mendoza's initial insights by making his proposal compatible with Langacker's notions of* base *and* profile*, and by organizing the resulting description in the form of sets of converging cognitive models, a proposal made by Lakoff (1987) which is fully compatible with the network characterization. To illustrate our view we offer an analysis of the concept of 'mother', which has been variously studied by a number of linguists working within the cognitive paradigm. Our analysis is mainly based on Lakoff's account, but we further structure each converging model in terms of the domains on which it is potentially profiled. This has the advantage of providing a much richer characterization which facilitates the instantiation process.*

1. INTRODUCTION

The need for an encyclopedic conception of semantics (Haiman 1980) is one of the main points of emphasis of the research programme in cognitive linguistics (see Langacker 1987, 1990; Lakoff 1987, 1989). The study of meaning has for decades been

a rather neglected aspect of linguistic studies; the emphasis upon formal characteristics of language systems has often deviated attention from the evident fact that we make use of language in order to mean something (to others or to ourselves). Linguists within the structuralist tradition either have excluded semantic issues from the realm of linguistics because they were too complex to be the subject of rigorous scientific analysis (e.g. Bloomfield), or have otherwise attempted to apply Aristotelian principles of categorization in order to account for the meaning of lexical items in terms of discrete sets of (usually binary) contrastive features which reflect necessary and sufficient conditions for category membership, as is the case with Leech's (1981) structural semantics and Coseriu & Geckeler's (1981) lexematics. (For a critical review of the objectivist paradigm, see Lakoff 1987; Taylor 1989).

As a reaction to this oversimplified approach to meaning phenomena, cognitive linguists generally argue for an encyclopedic semantics in which all kinds of background knowledge may take part in the characterization of lexical meaning. It is believed within this paradigm that language cannot be understood independently of other cognitive processes, that meaning is a matter of conceptualization, and that individual meanings are to be dealt with in terms of (usually complex) cognitive structures rather than objective feature bundles. In this paper, we shall first review how these common theoretical principles have been variously implemented in three groundbreaking proposals, namely Fillmore's *frames* (Fillmore 1975, 1982, 1985; Fillmore & Atkins 1992, 1994), Lakoff's *idealized cognitive models* or ICMs (Lakoff 1987, 1989), and Langacker's notions of *domains* and *conceptual networks* (Langacker 1987, 1990). Ruiz de Mendoza (1996, 1997) has developed Langacker's ideas into a relational model for the systematic formalization of our encyclopedic knowledge; in this framework, lexical access to a semantic network takes the shape of a schema with general defining conditions (one or more invariant definers), which can be conveniently instantiated in each case through the activation of further relations. We shall try to refine the theoretical underpinnings of this model by looking at the semantic configuration of the concept 'mother', which has been described by Lakoff (1987) as a cluster of converging cognitive models. In doing so, we shall first justify the necessity of assuming a slightly modified version of the notion of general definer proposed by Ruiz de Mendoza. Later, we shall carry out a tentative proposal of how part of our knowledge about mothers may be arranged in a conceptual network for its potential use in language processing; it will be postulated here that profiling processes within each of Lakoff's converging models are necessary if we want to provide them with the sufficient degree of internal structure to be explored, in a cognitively plausible manner, by means of the orderly instantiation of relations.

2. COGNITIVE APPROACHES TO SEMANTIC CONFIGURATION

It is the primary tenet of encyclopedic semantics that, contrary to the atomistic view inherent in checklist theories of meaning, a concept cannot be efficiently tackled without reference to the larger mental structures in which it is embedded; the importance of global knowledge patterns seems to be confirmed by long-standing proposals in a variety of related disciplines, such as artificial intelligence (Minsky 1975; Schank & Abelson 1977), cognitive psychology (Rumelhart 1975), and discourse analysis (van Dijk 1977; Tannen 1979). The approaches to semantic configuration outlined in this section constitute the main attempts within cognitive linguistics to plausibly systematize world knowledge in order to account for its use in language processing and conceptualization.

In Fillmore's words, frames are "specific unified frameworks of knowledge, or coherent schematizations of experience" (Fillmore 1985: 223). Frames are cognitive constructs which list stereotyped attributes of entities and relations between them. One oft-quoted example is the "buying frame". In it there is a buyer, a seller, some merchandise and somewhere (typically a market) where the transaction takes place. It does not make sense to invoke any element of the frame without calling up the others; this happens because of the unified nature of frames as signalled in the quotation given above. For Lakoff (1987: 64) frames are but one form of what he calls *idealized cognitive models* or ICMs. He also distinguishes other cognitive models, like *image schemas*, and *metaphor* and *metonymy*, each of them being characterized by a different structuring principle. Thus, metaphors and metonymies are derived from conceptual mappings (or sets of correspondences) between conceptual domains; image schemas are very general abstractions over spatial experiences; and frames are characterized by their propositional structure.

Langacker (1987, 1990) understands *domains* as cognitive contexts for conceptual characterization and goes on to make a distinction between *basic* and *abstract domains*. The latter correspond roughly to Lakoff's propositional ICMs. The former are concepts like time and space which cannot be reduced to other more fundamental structures. For Langacker a semantic characterization, which is made against a number of different domains simultaneously, consists of a *profile* and a *base*. The base is the cognitive structure against which the designatum of a semantic structure is profiled. For example, the concept of Monday is profiled in the domain of the seven-day week, which is in turn understood in the domain of the day-night cycle, which is ultimately understood with reference to the primitive notion of time.

In a discussion of how knowledge is organized in our minds, Langacker has made a fairly programmatic proposal which has later been expanded by Ruiz de Mendoza (1996, 1997). Langacker claims that the conceptual entity designated by a symbolic unit is a

point of access to a network. Its semantic value is the set of relations in which this access node participates. In this conception, 'cat' and 'cheese' can be represented together since the concept of 'cheese' figures directly in that of 'cat' (cats chase mice, and mice eat cheese). Ruiz de Mendoza notes that Langacker neither makes any specific proposal as to the form of a relational network nor discusses the number and kind of relations which make up a network. In Ruiz de Mendoza's account the point of access to a relational network is what he calls a *schema definer*. A definer is a generic semantic invariant which may be instantiated by means of the activation of any number of a limited set of relational arcs[2], each instantiation being a source of prototype effects. For example, a 'party' may be defined as a hosted social gathering where people expect to have fun by taking part in a number of merry-making activities. This specification is the definer for 'party'. Now, some instantiations of the merry-making definer like certain types of party games, music, and dancing are prototypical, while other potential instantiations, like playing football or badminton, would belong to the periphery of the concept. Once all the instantiations for a concept have been carried out and arranged by degrees of prototypicality, we come up with a full description of a propositional ICM.

3. LEXICAL ACCESS TO A CONCEPTUAL NETWORK: THE CASE OF 'MOTHER'

In order to see how a relational network is organized into a propositional ICM, we shall now turn our attention to how it applies to the concept of 'mother', which has been discussed by Lakoff (1987) in terms of what he calls radial categorization. This account has been critically reviewed from fairly different standpoints by Wierzbicka (1996) and Ruiz de Mendoza (1996). In what follows we shall revise their positions and propose our own alternative description.

Lakoff argues that the category 'mother' is a cluster of five converging models: the birth model (the mother gives birth to her children), the nurturance model (the mother takes care of her children), the marital model (the mother is typically married to the father), the genetic model (the mother supplies part of the genetic material of the child), and the genealogical model (the mother is the child's closest female ancestor). In Lakoff's view, none of these models characterizes the concept of 'mother' by itself. This means that it is not possible to identify a set of necessary and sufficient conditions for

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2. Ruiz de Mendoza (1996) has distinguished thirteen internal and five external potential relations in which a concept may participate. He defines each internal relation according to whether there is control and/or dynamism in the state of affairs resulting from their propositional formulation. External relations are the result of various cognitive operations of comparison, contrast, analogy, and classification which may be applied to concepts.

membership in the category 'mother', since different kinds of mothers (i.e. biological, surrogate, adoptive, etc.) are more or less prototypically considered as such via the relationship with the ideal case in which the five models converge. There may also be conventionalized extensions of the model carried out by means of metaphoric or metonymic mappings. For example, the metaphorical expression *Necessity is the mother of invention* makes use of the birth model while *He wants his girlfriend to mother him* exploits the nurturance model.

According to Wierzbicka (1996: 154-155; see also Wierzbicka 1980: 46-49, Goddard 1998: 62-63), Lakoff's analysis is hardly convincing. In her view, this kind of account is symptomatic of the frequent misuse of the notions of prototype and fuzzy categorization (taken from work in experimental psychology by Rosch and her collaborators, e.g. Rosch 1977) in contemporary semantics. Thus, the main objection raised by Wierzbicka is that it is indeed possible to determine a semantic invariant for *mother*, as allegedly proved by her own definition of the word:

X is *Y*'s mother. =
(a) at one time, before now, *X* was very small
(b) at that time, *Y* was inside *X*
(c) at that time, *Y* was like a part of *X*
(d) because of this, people can think something like this about *X*:
  "*X* wants to do good things for *Y*
  X doesn't want bad things to happen to *Y*".

Although Wierzbicka is right in pointing out that some of the models characterizing 'mother' are more central than others, still we find a number of major flaws in her analysis. First, she seems to suggest that components (a)-(c) in the above definition provide the invariant for the concept. However, these components are but one of the submodels –although a central one– which contribute to our understanding of 'mother' (i.e. the birth model) and can hardly be said to be used in *every* usage of the concept. Component (d), in turn, is formulated –following her customary way of devising definitions to deal with prototypical meaning– as a mental rather than an actual meaning ingredient. This distinction between mental and non–mental components is dangerous, to say the least, since meaning is more a matter of subjective perception or interpretation than an objective piece of reality. Also, component (d) is but a specification of another of Lakoff's converging submodels (i.e. the nurturance model). Second, the semantic characterization provided by Wierzbicka lacks reference to an important part of our knowledge about mothers. This is due to the fact that her formulations in terms of primitives are so generic that they do not really say much about what we know about mothers. For example, a mother typically suckles her offspring and walks them in the

sunshine, which may be seen as doing a good thing for them, but does not typically buy them lottery tickets, which might also be good for them. In addition to this, the rest of the submodels mentioned by Lakoff are not even hinted at in her definition.

The main problem with Wierzbicka's proposal has been identified by Hilferty (1997: 53), who points out that "the concept in question is not really defined relative to any domain of knowledge". Indeed we may observe that the reductive paraphrase analysis employed in her definition reveals an atomistic interpretation of meaning phenomena which overlooks the fact that concepts require more general knowledge structures for their characterization. This becomes all the more evident when we realize that, in order to make sense of her definition, we have to supply those framing structures ourselves. The analysis in terms of semantic primitives may be a useful tool for cross-linguistic comparisons, but there is no adequate proof that this extra processing effort is justified when it is a single language (in this case, English) that is under consideration.

Ruiz de Mendoza & Pascual (1998) have also noted that some of the submodels (the birth model and the nurturance model) seem to figure more prominently in our notion of 'mother'. In addition, Ruiz de Mendoza (1996) aptly points to the absence, in Lakoff's account, of some kind of systematic principle which would assist us in the economic activation of the relevant models by regulating their convergence. Trying to reconcile the cognitive approach with some aspects of the classical theory of categorization, he argues that we can identify at least one necessary and sufficient condition accounting for the whole range of cases covered by the concept 'mother' (biological mothers, adoptive mothers, etc.); unlike Wierzbicka, however, he does not try to reduce the invariant semantic specification of 'mother' to the birth model, but rather to the fact that the concept cannot be understood independently of its relation to that of 'child'. This leads Ruiz de Mendoza (1996: 345) to claim that 'mother' invokes a schema with the general definer 'woman who has (had) (at least) a child'; this definer is a semantic invariant which can be instantiated in various ways depending on specific discourse demands.

The notion of a general definer as introduced by Ruiz de Mendoza is particularly useful insofar as it allows us to anchor all our knowledge of a concept in a reference point common to all the converging models, a feature which is noticeably lacking in Lakoff's characterization. However, this formulation of the proposal presents one weakness. There seems to be no problem in arguing that its relation to 'child' is a necessary aspect of the meaning of 'mother' which is shared by all the submodels; however, if we also regard it, as Ruiz de Mendoza does, as a sufficient condition, the instantiation of further relations in the construction of a network will turn out to be redundant. That this is not the case is evident from a sentence like *My mother intends to divorce my father*, where we need to retrieve additional relational information from the marital model in order to understand it.

Langacker (1987: 159) has argued that the degree of centrality of a given specification in the encyclopedic characterization of an expression should be equated with "its relative entrenchment and likelihood of activation". With this in mind, we may suggest that, rather than looking at definers as sets of necessary and sufficient conditions, it may be more adequate to characterize definers as those facets of our relational knowledge of a concept which are so entrenched in our minds that their activation (in the case of mother, the instantiation of the relationship established between the lexical nodes 'mother' and 'child'[3]) is obligatory in any cognitive context of the expression, since it would not otherwise be possible to invoke the different models which allow us to activate further relationships.

The relevance of postulating an invariant for the concept in the terms outlined above may be readily appreciated if we consider the following examples:

(1) Mary is a mother without children.
(2) She mothered him well (default interpretation = she was her biological mother and took good care of him)
(3) She mothered the baby (as if it were her own) (default interpretation = she was not her biological mother but nurtured the baby as a good biological mother would do).
(4) My wife really mothers me!
(5) She is full of motherly love towards her children (default interpretation = she is their biological mother and treats her children as a good biological mother does).
(6) She treats the sick and the lonely with true motherly love (default interpretation = she is not their biological mother but treats them as a good biological mother would do).

Our proposal of an invariant definer in the terms stated above allows us to consider sentences (1), (4), and (6) as metaphorical, since the concept of 'child' is only present figuratively. On the other hand, sentences (2), (3), and (5) make literal use of the concept. Note that it is not possible to say that the invariant is the birth model since this model is not central to the interpretation of any of them. Interestingly, if we apply Wierzbicka's definition of *mother* to the examples above, all of them would have to be metaphorical, which is obviously not the case.

The examples above also show that a semantic characterization of the concept 'mother' needs to take into account the nurturance model. If we compare (2) and (3), we

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3. In the case of the general definer for *mother* we have an instance of what Ruiz de Mendoza labels the *positioner* relation. In it, "an entity is related to another entity and it is up to one of the two entities to decide whether the relation holds" (Ruiz de Mendoza 1996: 350).

observe that the nurturance model is present in both of them, while the birth model is implied in (2) and is absent from (3). This naturally happens as a result of the interpretive requirements imposed by the different semantic configurations characterizing their respective predicates. In (2), the evaluative adverb *well* calls our attention to the fact that the speaker is working under the convention of the cultural stereotype according to which mothers give birth and take care of their children. Obviously, the adverb can only evaluate the action of taking care of the children but not that of giving birth. In (3), we have a matter-of-factly description of a woman mothering a baby. Since women who give birth to children are mothers by definition, it would be absurd for the speaker to give this presupposed information unless there were good reasons for him to do so. This makes us invoke the alternative, less central, nurturance model (note that a woman who is a baby's biological mother is expected to take care of it). The nurturance model is also the basis for the metaphorical extensions in (1), (4), and (6)[4].

A possible objection to the outline given here is the risk of circularity seemingly involved in the characterization of 'mother' via the concept of 'child', which would need in turn the relation with the concept of 'mother' as constitutive of the definer within its own schema. A similar problem is addressed by Langacker (1987: 186) when dealing in passing with 'parent' and 'child', which are often defined, respectively, as 'one who has a child' and 'one who has a parent'. Langacker avoids this circularity by conceiving both predicates, 'parent' and 'child', as derived from the imposition of alternate profilings on a common base, namely "the conception of two persons mating and one of them consequently giving birth". However, this only makes reference to the birth model, thereby leaving out the significant conceptual material provided by the other converging models which Lakoff postulates. 'Parent' and 'child' may also be profiled in the domain of nurturance, in the genealogical model, in the genetic model, and so on. Moreover, as shown above, the profiling activity (whose results may be propositionally formalized in a relational network) is necessarily preceded –and sanctioned– by the access, via the lexical form, to a general definer conjoining the different domains where this definer is always present and may consequently be further instantiated. It is as a result of this process as a

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4. Interestingly enough, the relevance of the nurturance model is not exclusive of English, but seems to be a part of our Western cultural background. Consider the case of the Spanish augmentative *madraza*, which invokes the ICM of size. The positive meaning of *madraza* ('loving mother') derives from the idea that large entities are important and even majestic, in such a way that they may be perceived as likeable, together with the activation of the nurturance submodel within the lexeme. On the other hand, its potential pejorative connotations ('over-indulgent mother') are associated with a different part of the ICM (i.e. large entities are hardly manageable and may look disproportionate, so they may be perceived as unpleasant), which allows us to activate the same domain; as a result, a mother's love and protection are regarded as excessive and even dangerous for her children (for further details and an analysis of *padrazo* along similar lines, see Santibáñez, forthcoming).

whole that the general definers for 'mother' and 'child' –which indeed involve the knowledge that we cannot conceive the concept of 'mother' without reference to the concept of 'child' and the other way round– are seen to elude the risk of circularity.

4. FURTHER INSTANTIATIONS OF 'MOTHER'

In the preceding section we have argued that the relational network for a concept such as 'mother' is accessed from each occurrence of the lexical form *mother* by virtue of a schema with a necessary invariant (or definer) which may be variously instantiated in different cognitive contexts. Here, we shall try to formulate a more specific proposal as to how a part of our relational knowledge about mothers may be propositionally formalized by means of further instantiations of the general definer. The framework provided by Ruiz de Mendoza (1996, 1997), as we have seen, constitutes a good starting point; his account, however, lacks explicit references to the way in which the activation of further relational knowledge may semantically characterize a concept such as 'mother' against the five converging submodels proposed by Lakoff (1987). In turn, the cognitive material of each of Lakoff's submodels is merely outlined by means of a generic indicative proposition (of the kind "the person who gives birth is the mother"), which misses the fact that every submodel is necessarily endowed with its own internal structure. Otherwise, it would be impossible for the user's mind to make satisfactory use of the model. In order to surmount this difficulty, we argue that it is necessary to profile each of Lakoff's models against different base domains; by way of illustration, our knowledge of the birth model cannot be reduced to the fact that the mother gives birth to children, since its propositional structure may be significantly enriched if we invoke other related and relevant knowledge structures like, for instance, the hospital scenario[5].

With this in mind, we further explore here the concept of 'mother' by listing propositions organized according to Lakoff's submodels and the various relevant domains against which these models may be profiled. The resulting structures are

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5. This proposal is not at odds with research carried out within the framework of Fauconnier's well-known theory of mental spaces (Faruconnier 1985). Turner & Fauconnier (1995: 184) define a *mental space* as "a (relatively small) conceptual packet built up for purposes of local understanding and action. Mental spaces are constructed whenever we think and talk. They are interconnected, and they can be modified as discourse unfolds". In the light of our discussion, it is possible to stress the theoretical compatibility of both approaches by redifining the concept of *mental space* as the part of a conceptual network consisting of a point of access to that network (a schematic node with at least a general definer) together with all additional relations whose instantiation is demanded by the cognitive context. Thus, the activity of opening up certain subspaces out of our propositional knowledge of a given entity is not performed at random, but it is at least partly regulated by the profiling potential inherent in its semantic configuration.

relational in the sense that they associate the concept of 'mother' as an access node to a semantic network with other concepts which would themselves serve, in the characterization of other models, as different points of access to the network. The propositional formulation is illustrated by means of utterances which cue the activation of the profiled models, either by conforming to the expected stereotype (e.g. *The mother gave birth to a healthy baby girl*) or by diverging from it (consider single mothers relative to the marital model). Note that occasional instances of figurative language are also included. (It should also be observed that no claim to exhaustiveness is implied and that a certain degree of overlap is perfectly consistent with the theoretical orientation of our analysis):

– The birth model (the mother gives birth to her children)

(1) the NEW-LIFE domain:

(a) The mother gives birth and, as a result, another human being (her child) appears (is born).

(b) The child begins to develop outside her mother's womb as an independent being.

Examples: *The mother gave birth to a healthy baby girl. After her mother's death, Jane learnt that she had been adopted and felt the pressing need to meet her natural (birth/biological) mother. Necessity is the mother of invention. England is the mother of Parliaments.*

(2) the HOSPITAL domain:

(a) When the mother suffers from painful contractions and she realizes that she is about to give birth, the father takes her to hospital.

(b) At hospital, the mother is taken to the maternity room, where doctors and nurses assist her in safely giving birth to the child.

(c) Childbirth involves severe pain for the mother when she struggles to deliver the child. The mother may try to relieve her pain by means of relaxation techniques or controlled breathing exercises. Sometimes the mother is administered drugs for that purpose. If the birth cannot take place in a natural way, the child is surgically removed from the mother's womb by means of an operation called caesarean, which involves an opening in the mother's body.

(d) If the father is present at the birth, he holds the mother's hand and helps her to breathe properly. If the father is not present, he nervously paces to and fro outside the delivery room, waiting for the birth to take place.

(e) Once the mother has finally given birth, the doctor reassures the mother about the baby's health and tells her whether it is a boy or a girl. The baby cries, which is understood as a symptom of its health. The mother gets very happy at the sight of her child. The umbilical cord linking the baby to its mother is cut.

(f) After childbirth, the mother is visited by relatives and friends who congratulate her and give her presents such as flowers, chocolates and things for the newborn child.

(g) When she recovers, the mother leaves hospital and goes home in the company of the father and the newborn child.

Examples: *When the mother told the father about the first contractions, he nervously looked for the car-keys. My mother says that men cannot even imagine how painful childbirth may be. The would-be father was nervously waiting for news from the maternity ward. The happy mother left hospital with a beautiful baby in her arms. The car got stuck in a traffic jam, so my mother gave birth to me on the way to hospital* [6].

(3) the PHYSIOLOGY domain:

(a) Before birth, the child is placed within the mother's womb. When the child is about to be born, the muscles of the womb start tightening and the mother feels painful contractions; as childbirth approaches, the period of time between the contractions grows shorter and shorter. The head of the child is the first part to come out of the mother's body. The placenta is expelled after the child comes out. The umbilical cord linking the baby to its mother is cut by a nurse.

Examples: *The mother gave birth very quickly, but it took her some time to expel the placenta.*

(4) the PREGNANCY domain:

(a) The unborn child grows within the mother's body for about nine months. The child is linked to the mother through the placenta and the umbilical cord; this allows the child to get oxygen and food from the mother.

(b) The mother often goes to the doctor's and is subjected to different tests in order to find out whether everything is all right with her child. Sometimes

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6. As is well known, the profiling against the HOSPITAL domain has gradually replaced in Western cultures the more traditional scenario of the mother giving birth to her child at home with the assistance of a midwife.

images of the child are taken with special equipment, so it is possible to know the sex of the baby before it is born.

(c) During pregnancy, the mother is advised not to smoke, drink alcohol, or do other dangerous things because they may damage the unborn child.

(d) During pregnancy, the mother behaves rather whimsically. Sometimes she asks the father to get unusual things for her in the middle of the night.

(e) If the pregnant woman does not want to have the child, a doctor may end the pregnancy deliberately. This is known as abortion, and some people think that it is a crime; other people think that it must be up to the woman where she gives birth to a child or not.

Examples: *She has never been a responsible mother; in fact, she did not give up smoking during pregnancy. Susan, a mother of five girls, was pleased to know that, according to the ecography, little Sarah would finally be little Mark. Jane thought that she was too young to become a mother and decided to abort.*

– The nurturance model (the mother takes care of her children)

 (1) the AFFECTION domain:

(a) The mother is warm and openly affectionate with her children.

(b) The mother often thinks of her children as if they were still a part of her. Love for the children is something natural to the mother.

(c) The mother is so devoted to her children that she is ready to do anything for their well-being, even if that involves making many sacrifices.

(d) The mother is very proud of her children; she thinks that they are the best at everything and she is always ready to talk to other people about their qualities.

Examples: *Mary was a loving mother. An author who speaks about his books is almost as bad as a mother who speaks about her children. She treats the sick and the lonely with motherly love*[7].

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7. It is arguable that the AFFECTION domain also works in the opposite direction by virtue of the entrenched belief that children must love and respect their mothers, otherwise they are not regarded as good people (e.g. *Be careful! He would sell his own mother for a penny.*). Interestingly, two corollaries of this general notion may help us to account for the use of some frequent insults in English: if you want to offend someone, a) you can say something bad about their mother (e.g. *son of a bitch*); b) you can say that they behave inappropriately towards mothers in general (e.g. *motherfucker*).

(2) the HOME domain:

   (a) Traditionally, the mother stays at home and looks after her home and children, while the father works outside and gets the money to provide for the well-being of the mother and the children. The mother does all kinds of housework, such as cleaning, washing, and ironing.

   (b) Nowadays, many mothers work outside the home, so both the father and the mother have to look after their home and children.

Examples: *I asked my mother to iron my new trousers. Working mothers were held in contempt when I was a child. Girls should know that becoming a mother and a housewife is not the only thing they can do in life.*

(3) the PROTECTION domain:

   (a) The mother loves her children and does not want anything bad to happen to them, so she does her best to protect them from potential danger.

   (b) The mother takes care of her children by providing them with the things they need, such as food, clothes, money, education, medical care, etc. so that they do not need to get them themselves.

   (c) A mother takes care of her children when they are too young and weak to manage by themselves. When the children grow older, the mother is expected to allow them to lead their own lives. It is not easy for some mothers to accept this.

   (d) As the mother grows older, it is often the case that she cannot manage by herself and her children take care of her or send her to an old people's home where they are looked after by other people.

Examples: *The mother held the baby in her lap. I know I haven't been much of a mother to you. After the poor woman's death, Susan had to assume her mother's role and look after her two younger brothers. Mary was a devoted wife and a loving mother. It is not easy to combine work and motherhood. Stop mothering me!*

(4) the GUIDANCE domain:

   (a) A mother provides help and advice for her children. A mother tells her children what they should do and what they should not do because she is more experienced than her children. When the children grow older, the mother is expected to allow them to lead their own lives and make their own decisions. It is not easy for some mothers to accept this.

   (b) A mother brings up her children in certain values and beliefs.

Examples: *With a mother's sense, she realized that her son had a problem and tried to help him. No mother could have been more solicitous than our hostess. Mary complained to her mother that she was old enough to choose her own clothes. John is tied to his mother's apron-strings. What the mother sings to the cradle goes all the way down to the coffin.*

(5) the DISCIPLINE domain:

(a) A mother imposes some of the rules to which her children must adhere. She does so for their own good, although they sometimes fail to realize it. If the children do not obey her rules, she punishes them. Traditionally, however, the figure of authority is the father rather than the mother.

Examples: *My mother will punish me if I'm not at home by ten o'clock.*

(6) the RESPONSIBILITY domain:

(a) A mother is legally responsible for her children's well-being. If the father and the mother divorce, a judge may grant legal custody of the children to one of the parents, usually the mother.

Examples: *The mother was awarded custody of the children. John's grandmother is his legal guardian; his father is in prison and his mother is a drug addict.*

Furthermore, it should be noted that the kind of knowledge retrieved from the nurturance model, unlike what happens with the other submodels for the concept 'mother' proposed by Lakoff, varies substantially according to the specific stage of development of the child. Thus, the profiling of the model against any of the six potential bases above cannot take place independently of its profiling against the AGE domain. Compare, for instance, the sentences *She couldn´t go to the party because she had to look after her children* and *She couldn't go to the party because she had to look after her old mother*. In both cases, the PROTECTION domain provides the base for the profiling of the nurturance model. However, the simultaneous profiling against the AGE domain allows us to build up coherent mental representations of two notably different scenarios in which the roles of 'mother' and 'child' are reversed. The profiling against this domain may give rise to complex perspectivization effects in human interaction; significantly, an example such as *Mary complained to her mother that she was old enough to choose her own clothes* reflects the frequent conflict in the conceptualization of the mother/child relationship and the resulting role distribution as regards the nurturance model.

– The marital model (the mother is married to the father)[8]

(1) the CONTRACTUAL-ARRANGEMENT domain:

(a) The father and the mother got married because they loved each other and they wanted to live together until one of them died. They got married either in a religious ceremony (in a church) or in a civil ceremony (in a registry office). In doing so, they signed a contract for life. Nowadays, however, if they want to break that contract for some reason (adultery, desertion, etc), they may divorce. If the father and the mother divorce, a judge may grant legal custody of the children to one of the parents, usually the mother.

Examples: *My mother intends to divorce my mother. He has to take care of his widowed mother. The man asked her to marry him and become a mother to his child of six months.*

(2) the LIFE-IN-COMMON domain:

(a) The father and the mother live together with their children. A married couple and their children are the core of a family group. They see each other every day and they share many things (for instance, a home). As a result, they may often have angry arguments.

(b) Nowadays, many couples decide to live together and have children without getting married.

Examples: *My father and my mother are always quarrelling. My mother told my father that they should buy a new car.*

– The genetic model (the mother supplies part of the genetic material of the child)

(1) the INSEMINATION domain:

(a) The mother has sex with the father and, as a result, the egg provided by the mother is fertilized by the father's sperm. The fertilized egg develops into the unborn child.

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8. In order to enrich the present formulation of the marital model for 'mother', it may be useful to look at the insights provided by Quinn into the Western cultural concept of married life (see, for instance, Quinn 1987). By analyzing interviews with American married couples, she identifies certain knowledge structures which underlie metaphorical speech and reasoning about marriage (e.g. MARRIAGE IS ENDURING; MARRIAGE IS UNKNOWN AT THE OUTSET); some of this cognitive material partakes of more generic schemas which also organize our knowledge about other domains of experience (e.g. the folk psychology of human needs). The combination of our proposal with wider models, either non-propositional image-schemas (in the sense of Johnson 1987) or very generic propositional ICMs (like the description of the control ICM in Ruiz de Mendoza 1998) may prove a fruitful topic for future research.

(b) Owing to scientific advances, the fertilization of an egg may also take place without a sexual relationship between the mother and the father, for instance by injecting sperm into the mother's womb by means of special equipment. The mother's egg may also be fertilized outside her body and then replaced in her womb.

Examples: *My mother always told me that I was conceived during a stormy night. She wanted to be a mother at all costs; she was ready to resort to a bank sperm or even pay a surrogate mother.*

(2) the INHERITANCE domain:

(a) Children inherit qualities, abilities, and physical characteristics from their parents via the genetic material contributed by them.

Examples: *Susan is the living image of her mother. My grandson is such a scamp; just like his mother when she was his age.*

The genealogical model (the mother is the child's closest female ancestor) is rather peripheral within the semantic characterization of 'mother'. According to Lakoff (1987: 76), it is this model that is called up when we use metaphorical expressions such as *mother node* and *daughter node* when talking about tree diagrams for grammatical description. However, since ancestry is closely related to the idea of origin, it is not unreasonable to think that the genealogical model may be part of the birth model.

It should also be noted that we have not included in the present formulation of the model the attributes which are inherited from higher-level categories, although we are aware that concepts are also characterized by virtue of external relations. In order to account for the interpretability of many of the occurrences of 'mother' in actual discourse, we have to call up our knowledge that mothers are women (as in *My mother is wearing a white blouse and a red skirt*; it is conventionally shared knowledge that men do not usually wear blouses and skirts), that they are human beings (as in *My mother is talking on the phone*, a kind of behaviour which would hardly be expected from an animal), and that they can be perceived as discrete entities endowed with such attributes as size, weight, or shape (e.g. *My mother weighs sixty kilos*; *My mother is taller than my father*).

5. CONCLUSION

Incorporating encyclopedic knowledge into semantics is a challenging issue. However, if we want to make our linguistic description sensitive to the characteristics of our conceptual systems and the use we make of them, it becomes necessary to devise

ways to do this. Langacker's proposal of a network organization of knowledge is a way of avoiding the problem of the apparent never-ending nature of encyclopedic information, since it endows the description with degrees of centrality. Our own account attempts to combine Ruiz de Mendoza's reelaboration of Langacker's model with the useful and theoretically sound notion of converging models put forward by Lakoff. Still, we have felt it was necessary to provide Lakoff's very generic description of models with internal structure and a greater degree of specificity. We have done that by profiling each of the converging submodels against a number of base domains (in Langacker's conception of this term), and then describing each submodel by listing sets of propositions prototypically associated with it. Each proposition instantiates one or more relations between the entity-designating concepts which are part of it. In this sense, the nature of the network is relational and every concept becomes a different point of access to it.

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