

Plotting diachronic semantic maps: the role of metaphors

1. Introduction

This paper describes paths of semantic extension undergone by morphemes (cases and adpositions) commonly used for coding semantic roles, based on Lakoff and Johnson's (1980) theory of metaphor. My specific aim is to show how some metaphors, commonly held to explain certain patterns of polysemy, can provide directions for plotting semantic maps that incorporate diachronic information. In doing so, I also offer an explanation regarding cross-linguistically frequent and infrequent polysemies, shedding light on the structure of the conceptual space which serves as the basis for language specific semantic maps.

By highlighting metaphorical patterns that provide connections among different domains, I suggest that different sources for the same semantic role indicate different conceptualizations that might account for unexpected polysemies. I also argue that absence of polysemy may be relevant, especially when it frequently holds among semantic roles which are often related to neighboring concepts. In addition, tracing the metaphor responsible for a specific polysemy sheds light on the causes of merger among semantic roles that should in principle be kept distinct as they are differently located in the causal chain of events (Croft 1991).

This paper specifically concentrates on the role of metaphors in semantic extension and in the development of polysemy, but it must be pointed out that not all polysemies are brought about by metaphors. Different types of metonymy (referential and predicational) also have a role, as I show especially with reference to the polysemy of beneficiary and recipient and of instrument and agent. In addition, I argue that semantic extensions may be based on analogical processes not necessarily resulting in metaphors, caused by analogic extension of partial schematicity. By singling out

semantic extensions based on different processes one can avoid the risk of setting up unwarranted metaphors.

As generally accepted, I assume the domain of spatial relations to be the basic conceptual domain. I argue that spatial relations provide a source for the encoding of semantic roles typical of human beings, but that they are not the only source. Human relations can also provide the source for the domain for metaphorical extension to other human relations. Crucially, patterns of polysemy seem to be conditioned by the source domain: polysemies that do not arise, or are extremely infrequent, when space functions as the source domain, seem to be more easily brought about when the source domain is at the level of human relations.

The understanding of metaphors involved in diachronic change can also shed light on the frequently neglected issue of possible semantic extensions which result in polysemy vs. those which result in changes, whereby the original meaning is not preserved. Examples for both tendencies are provided by comitative coding. When comitative markers extend to instrument based on the Companion Metaphor, they most often also continue to encode comitative (example are available from several European languages, cf. Stolz et al. 2006). On the other hand, reported instances of extension from locative to comitative (see Luraghi 2001b and below, sec. 2.2.3) apparently result in the loss of the original meaning by the marker that undergoes the change.

The latter type of development might have consequences on what we conceive as frequent vs. infrequent syncretism, as well as on our understanding of (uni)directionality: since diachronic data are often unavailable and can hardly be reconstructed for a great number of languages, what looks like an infrequent semantic extension may in reality only be an infrequent type of synchronic polysemy (see further Narrog 2010a). Similarly, seeming unidirectionality of possible semantic extension can be an effect of some meanings being lost while others are not. Such changes also raise problems for a theory of gradualness in semantic change, as I argue in sec. 4.

The paper is organized as follows. In section 2 I discuss conceptual domains to which

different semantic roles belong. Following Heine et al. (1991), I distinguish between the basic domain of space, the domain of human relations and the domain of non-human and non-spatial relations. After discussing basic spatial relations (2.1), I show how space is mapped onto the domain of human relations (sec. 2.2). I then proceed to non-human relations (sec. 2.3). I argue that it is often the domain of space rather than the putatively intermediate domain of human relations which provides the source for the conceptualization of non-human relations. In sec. 3 I discuss expected and unexpected patterns of polysemy among human relations. Sec. 4 contains a general discussion regarding the role of metaphors in semantic extension, polysemy, and lack thereof. Metaphors described in the paper as responsible for semantic extension and polysemy among semantic roles are listed in Appendix (i) for convenience.¹

2. Encoding semantic roles: source and target domains

Space is generally assumed to offer the source for conceptualization of other, more abstract domains (see Pütz 1996: xi; slightly different views are discussed in Zlatev 2007: 319). According to Langacker (1987), space is a basic domain as it emerges directly from experience (Lakoff, Johnson 1980: ch. 12; see further Croft 2003). Heine et al. (1991) claim that semantic extension proceeds from the conceptual domain of space to other domains, following the Chain of Increasing Grammaticalization. For convenience, I reproduce it in Fig. 1:

FIGURE 1. CHAIN OF INCREASING GRAMMATICALIZATION (from Heine et al. 1991: 159)

¹ All examples from secondary literature have been checked with informants; I have revised and unified the glosses, unless differently specified.

ABLATIVE	AGENT	PURPOSE				
ALLATIVE >	COMITIVE >	INSTRUMENT >	TIME >	CONDITION >	MANNER	
LOCATIVE	BENEFACTIVE	DATIVE		CAUSE		
PATH		POSSESSIVE				

This scale presents a number of problems, extensively discussed by Narrog (this volume). Here, I focus on the more general implication contained in the scale as to the direction of semantic extension, that is, that spatial roles constitute the basic source domain for all other relations, and that, among the latter, human relations, i.e. roles typical of human participants, precede inanimate ones as the first stage of semantic extension. This is represented in (1), from Heine et al. (1991: 160):

(1) spatial relation > human relation > inanimate relation

I am now going to survey the groups of relations in Fig. 1 in the light of the scale in (1).

2.1. *Spatial relations*

Spatial relations are usually described as involving an asymmetrical relation between a figure and a ground, or a trajector and a landmark. Different specific relations between the two can potentially be infinite; in practice, only a small number of spatial relations, including location, direction, source and path, are unanimously regarded as basic, as I discuss below.

2.1.1. Basic spatial relations and the position of path

In the light of cross-linguistic coding tendencies, direction (allative),² source/origin (ablative), and (static) location (locative) seem to be more ‘basic’ than path among spatial relations. As argued in Stolz (1992: 30), there is a tendency for case marking relative to spatial relations to exhibit ‘Dreigliedrigkeit’, i.e. a tripartite structure featuring dedicated coding devices for location, direction and source. Indeed, path can often be coded through cases/adpositions that usually indicate location, as in English:

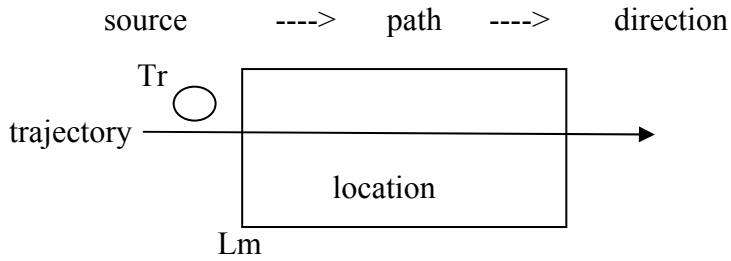
(2.) *Mary walks in the field. / The child is running in the street.*

Tyler and Evans (2003: 257) argue that typical landmarks of the English path preposition *through* are “characterized by the spatio-geometric property of having four sides ... and hence possessing an interior and an exterior.” Thus, typical landmarks of *through* are conceived as containers, in very much the same way as typical landmarks of *in* (see e.g. Vandeloise 1994).

It is outside the scope of this paper to provide a detailed cross-linguistic survey of possible coding of path as location. However, it can be observed that path and location share the same conceptual space between source and direction. This is quite straightforward for path, as shown in Fig. 2, in which I give a schematic representation of a motion event. As shown in Fig. 2, the trajectory that leads from the source to the goal (direction) is located in the span that connects the two endpoints; in dynamic terms, the trajector moves through the landmark. However, the same situation can also be conceived in static terms, not focusing on the trajector’s movement from the source to the goal, but rather focusing on the space occupied by the trajectory. Under this perspective, path is conceived in terms of location.

² I prefer the label ‘direction’ for the allative relation, rather than the label ‘goal’ due to the polysemy of the latter term, used to indicate patient in certain approaches (e.g. in S.C. Dik’s Functional Grammar, see Dik 1997), a usage that goes back at least to Bloomfield (1933).

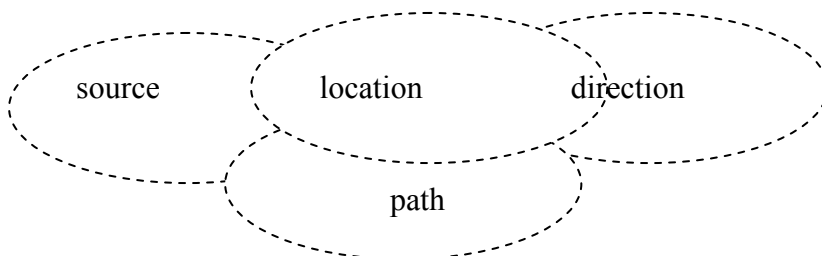
FIGURE 2. A PROTOTYPICAL MOTION EVENT



Note further that path does not include the starting point and the end point of the trajectory. Path is basically atelic, a trajector moving along a path is performing an ongoing activity, and is not implied in an event which includes a change of state/position (there is no change of position inasmuch as the end result of the motion activity is not in the scope of this semantic role). On the other hand, a trajector reaching the goal of a directional motion or one setting out from a source undergo telic events that imply change of position. The fact of being atelic is another feature that path shares with location, which is stative.

The conceptual space of spatial relations can thus be represented as in Fig. 3.

FIGURE 3. THE CONCEPTUAL SPACE OF SPATIAL RELATIONS



2.1.2. A merger without polysemy: location and source

Above, I remarked that many case systems display a tripartite nature. This, however, is only part of the story: as indicated by several studies carried out on large language samples, patterns of polysemy among the three basic spatial relations are not random as languages which code the three relations with only two coding devices point toward easy merging of direction with location in contrast to the extreme rarity of source merging with either location or direction. In other words, source tends to be maximally distinct from other spatial relations. Pantcheva (2010) compares her and others' results, as shown in Table 1:

TABLE 1: PATTERN OF SYNCRETISM FOR THE LEXICALIZATION OF LOCATION, GOAL, AND SOURCE

(adapted from Pantcheva 2010: 1046; L=location, G=goal [direction], S=source)

	Blake (1977)	Noonan (2009)	Pantcheva (2010)
L≠G≠S	91% (77/85)	33% (25/76)	53% (28/53)
L=G≠S	9% (8/85)	58% (44/76)	34% (18/53)
L=G=S	0% (0/85)	4% (3/76)	13% (7/53)
L=S≠G	0% (0/85)	2,5% (2/76)	0% (0/53)
L≠G=S	0% (0/85)	2,5% (2/76)	0% (0/53)

The figures in Table 1 point toward a special status of source with respect to the other roles, and to a comparatively frequent merger of location and direction. The loss of a tripartite structure in favor of a bipartite one, in which location and direction are expressed in the same way, is also historically attested: for example, loss of the case system in Late Latin eliminated the distinction between *in*+ABL (location) and *in*+ACC (direction).³ The Romance languages evolved in two

³ Indeed, the three-way distinction was limited to a small number of prepositions that took two cases in Latin; with the majority of prepositions, location was not distinct from direction (i.e. most prepositions could indicate both location and direction without case variation of the governed NP). In addition, a lexically restricted usage of cases without

directions: some, as e.g. French and Italian, no longer have distinct coding for the two relations and exhibit the pattern $L=G \neq S$; others, as for example Spanish, restored the distinction by specializing different prepositions for the coding of either relation (*en* = location, *a* = direction; see further Luraghi 2011).

Pantcheva further notes in passing that she left out of her account the so-called ‘ablative-locative transfer’, the “historical process where a (originally) source marker starts being used as a locative marker,” and remarks that in the framework outlined in her paper “this is quite unexpected.” Indeed, this type of extension, which has been paid little attention to, seems to be frequent cross-linguistically. In the only extended study of this type of development, Mackenzie (1978) surveys evidence from several branches of the Indo-European language phylum, Israeli Hebrew, and two Austronesian languages, Fijian and Sonsorol-Tobi. Among numerous examples, consider the adverbs in Table 2:

TABLE 2. FRENCH PLACE ADVERBS

devant	‘before’	< de + avant
dehors	‘outside’	< de + hors
dessus	‘above’	< de + sus
dessous	‘underneath’	< de + sous
deçà	‘on this side’	< de + çà
delà	‘on that side’	< de + là

The French adverbs above can occur, without further adjunction of primary prepositions, in location or direction expressions. If they occur in source expressions, though, the preposition *de* ‘from’ must

prepositions displayed both a tripartite structure (with a locative, an ablative, and an allative, this last function being fulfilled by the accusative) and a bipartite structure sporting the rare source/ location polysemy. Tri- and bipartite structure depended on inflectional classes of specific nouns; see Leumann, Hofmann, Szantyr (1965) and Luraghi (2009, 2010a) for details.

be added:

- (3.) *Il est/va dehor* vs. *Il vient de dehor*
he is/goes outside he comes from outside
“He is/goes outside.” / “He comes from outside.”

Etymologically, these adverbs already contain the preposition *de* and consequently their original meaning contained the notion of source. After acquiring the locative meaning, they need to be reinforced again by *de* in order to express source. Note that, given the extensive polysemy between location and direction in French, the former source adverbs may well have acquired direction meaning at the same time as location meaning.

What seems clear from the evidence adduced by Mackenzie, as well as from other instances of the semantic extension described above (cf. for example Bennett 1989, Nikitina, Spano *forthc.*, Luraghi 2009 and 2010a), is that once a marker acquires the locative meaning, it loses the original ablative meaning. Thus, while the extension from source to location is attested, possibly even more frequently than commonly believed, polysemy tends to be avoided. As we will see further on, this situation also holds between other semantic roles.⁴

2.1.3. Space and time

Before moving on to other types of relation, some remarks about the coding of time are in order. If one takes Heine et al.’s scale in Fig. 1 literally, one would be led to think that human relations, or other non-spatial relations serve as a source domain for time. However, this does not seem to be the

⁴ It goes beyond the scope of the present paper to provide a detail investigation of the reasons why certain polysemies hold while others do not at the level of spatial relations. Neither is it possible here to establish the direction of semantic extension in the case of the location/direction polysemy.

case as there is extensive evidence for direct mapping of the domain of space onto the domain of temporal relations, see e.g. the many examples mentioned for various temporal concepts in Heine and Kuteva (2002). As pointed out by Lyons (1977: 718): “The spatialization of time is so obvious and so pervasive a phenomenon in the grammatical and lexical structure of so many of the world’s languages that it has been frequently noted, even by scholars who would not think of themselves as subscribing to the hypothesis of localism.” Indeed, the metaphor TIME IS SPACE appears to be deeply entrenched in human cognition, as shown among other things by the extent to which temporal relations are coded through primarily spatial markers (Haspelmath 1997).⁵

2.2. *Human relations*

Among human relations, Heine and his associates keep agent, comitative and beneficiary separate from possessor and recipient/addressee (for which they use the label ‘dative’), which they include in the domain of human activities. In part, there are diachronic considerations supporting this distinction: for example, recipient seems to originate from beneficiary rather than the other way around. I discuss this issue later on in this paper; for the time being, however, I prefer not to create any partition in the group of human relations. In this section, I survey the most frequent patterns of extension from spatial to human relations, and explore metaphorical mechanisms that provide mapping from the source domain of space to the target domain of human relations.

2.2.1. Two maximally distinct metaphors

Let us start from the observation that polysemy frequently holds between source and agent on the

⁵ In spite of frequent extension from space to time and almost inexistent extension in the opposite direction, some scholars contend that the cognitive domain of time is as basic as that of space, see e.g. Evans (2004).

one hand, and direction and recipient/beneficiary on the other. Evidence for such polysemies is readily available from numerous genetically unrelated languages: polysemy of source and agent is common in several Indo-European languages, including Romance, Greek, part of the Germanic languages; in the Semitic languages, passive agent is typically encoded through prepositions cognate to Arabic *mn* ‘from’, in Turkish one finds the postposition *tarafından* ‘from the side’ (Kornfilt 1997; for more evidence see Heine, Kuteva 2002: 29-30). In many cases, the diachronic development is also attested, as in the case of the Romance languages.

Such semantic extension is based on the metaphor AGENTS ARE ORIGINS: agents, as initiators of events, are conceived as the point in space where events originate (see Luraghi 2000). In the case of polysemy of recipient/beneficiary and direction, the evidence is overwhelming (see Blansitt 1998, Rice, Kabata 2007); the underlying metaphor is RECIPIENTS ARE DESTINATIONS. Hence one can conclude that two separate metaphors account for different semantic roles typical of human participants. As the source domain provides for maximal distinction (source and direction are at the two opposite edges of the conceptual domain of space as represented in Fig. 3 above, and polysemy between the two is virtually inexistent), it is expected for languages to avoid merging of these two roles. As we will see in section 3.3, however, this is not always the case.

2.2.2. Possession: direction or location?

A possessive relation prototypically implies some kind of control of the possessor over the possessee (see Taylor 1989a and Heine 1997a and the discussion therein; control may not apply in case of non-prototypical possession, e.g. inalienable or abstract, see Heine 1997a: 3). Below is a partial list of features of prototypical possession, adapted from Taylor (1989b: 202):

- (a) the possessor is a specific human being ...;
- (b) the possessed is a specific concrete thing ...;

- (c) the relation is an exclusive one, i.e for each thing possessed there is only one possessor;
- (d) the possessor has the right to make use of the possessed; ...
- ...
- (f) the possessor is responsible for the possessed; ...
- (g) ... possessor and possessed need to be in close spatial proximity;
- (h) the relation of possession is a long-term one...

It has been observed by Heine (1997a, b) that the “Locative Schema” is the most frequent way of expressing possession cross-linguistically. By this schema, possessors are metaphorically conceived as locations, and the locative relation is conceived as implying some sort of control over an entity (as a possessor controls a possessee). This complex relation can be explained by means of two underlying metaphors: POSSESSORS ARE PLACES and PHYSICAL VICINITY IS CONTROL.

Remarkably, Heine also distinguishes a “Locative Schema” from a “Goal Schema.”⁶ Among instantiations of the latter, he includes languages in which possessor is coded through the dative, and writes: “As a source for predicative possession, this schema typically consists of a verb of existence or of location, where the possessor is encoded as a dative/benefactive or goal case expression and the possessee typically is a subject. Since dative/benefactive markers are frequently derived from allative/directional markers, the latter functions may also be part of the case marking figuring in the Goal Schema” (1997b: 95). Based on the examples provided in the book, however, there is no evidence for a real Goal Schema separate from the Locative Schema. Consider the following examples, given by Heine (1997b: 95-96; glosses by the author) as instantiations of the Goal Schema:

⁶ Further schemas described by Heine (1997a) are the Source Schema, on which see below sec. 2.2.3, the Companion Schema, which I discuss in sec. 3.5, and the Topic Schema.

(4.) *ur velo c'hlas am eus*

a bike blue to : me is

“I have a blue bike.” Breton (Celtic, Indo-European)

(5.) *waska tiya- puwan*

rope exist- for. me

“I have a rope.” Bolivian Quechua (Quechuan, Andean)

(6.) *Le livre est à moi*

the book is to me

“The book belongs to me.” French (Romance, Indo-European)

Remarkably, in all the above occurrences we find verbs of rest (the verb ‘be’ or ‘exist’), so there is no real evidence for the marker to express direction: this could only be the case if motion verbs were used. Indeed, frequent polysemy of location and direction markers accounts for the double nature of many cases/adpositions that can accordingly indicate both location and direction. So evidence for a Goal Schema should be sought in languages which present a rigidly tripartite system of local relations. However, as we will see below, one such language, Finnish, only provides evidence for a connection of possessor with location, rather than with direction.

2.2.3. Comitative and the domain of spatial relations

Comitative markers display a number of frequent polysemies that I discuss further on in this paper, but they indicate spatial relations only infrequently. This is not to say that space cannot function as a source domain for comitative: indeed, in many cases in which the origin of comitative markers can be detected, location seems to provide the source for the comitative. Unfortunately, evidence for this historical development is limited, and mostly provided by Indo-European languages.

Examples are various comitative prepositions in the Germanic languages, such as English *with*,

from O.E. *wið* ‘against, opposite to’ and German *mit*, from Proto-Germanic **medi-*, cognate of English *middle*, Greek *me*, from Ancient Greek *metá*, original meaning ‘among’ (see Luraghi 2001b and 2005c on this development), Catalan *amb* from Latin *apud* ‘(near)by’. In some cases, the spatial origin of comitatives cannot be traced even over several millennia of attested history: Italian and Spanish *con*, for example, are the outcome of Latin *cum* ‘with’, a preposition which has always indicated comitative and preserves no traces of spatial meaning even in the earliest sources (Leumann, Hofmann, Szantyr 1965: 260). Only comparative evidence, which connects Latin *cum* with Oscan *ku* ‘(near)by’, allows one to reconstruct the original spatial meaning of the preposition.

Apparently, this is another instance in which a newly acquired meaning pushes out the original meaning, as in the case of the extension from source to location. I discuss some possible motivation for this in sec. 4. It must of course be mentioned that sources for comitatives are not limited to spatial relations. As shown in Heine and Kuteva (2002: 91), comitatives often derive from lexical items that do not have spatial reference, as in the case of the Estonian ending *-ga* of the comitative case, from Balto-Finnic **kansa* ‘people’, or of various comitative markers that derive from serialized verbs with meaning such as ‘follow’, ‘take’, etc. (see also Stolz et al 2006). In addition, comitatives may arise from adverbs meaning ‘together’, which, in turn, often do not originate out of spatial concepts. Such adverbs often reinforce comitative markers, and a possible evolution is for them to take over and substitute the latter, in a sort of cycle described in Stolz et al. (2006: 363). Evidence for their frequent non-spatial origin is extensive; suffice it to mention English *together* based on the root of the verb *gather*, German *zusammen*, based on the Germanic source for the word *same*, which eventually goes back to the PIE numeral for ‘one’ (**sem*, cf. Ancient Greek *hén* ‘one(neuter)’), French *ensemble* from Latin *insimul* ‘at the same time’. The fact that sources for comitatives are available outside the spatial domain may be part of the answer to the question why the polysemy of comitative and spatial notions is limited. However, the relevance of non-spatial sources for comitatives must not be overstated. Markers of other semantic roles may

also have non-spatial origin: recipient markers for example may arise from the verb ‘give’. But still, when direction markers extend to recipient, they also retain their original spatial meaning, as in the case of English *to* (direction and recipient).

2.2.4. A spatial metaphor or an extension from other human roles?

A third semantic role typical of human beings which is often conceptualized in terms of location is the experiencer. As well known, this semantic role can be coded in a variety of ways. In particular, it is often coded as an agent (as in *John loves Mary*) or patient (as in *The thunder scared him*); perhaps the most frequent association of the experiencer role with a certain coding device cross-linguistically is the dative (English is quite untypical in not following this tendency). Dative experiencers are reported from Indo-European, Afro-Asiatic, Tibeto-Burman, and Niger-Congo languages among other. Below is an example of dative encoding of experiencer from Hungarian:

(7.) *Ez tetszik Péternek.*

this appeal-3SG Peter-DAT

“This appeals to Peter, Peter likes this.”

Indeed, experiencers have something in common with agents, patients, and recipient/beneficiaries, as summarized in Table 3:

TABLE 3. FEATURES OF SEMANTIC ROLES (adapted from Luraghi 2010b)

	EXPERIENCER	AGENT	RECIPIENT/BENEFICIARY	PATIENT
HUMANNESS	+	+	+	+/-
CONTROL	+/-	+	+/-	-
CHANGE OF STATE	-	-	-	+
VOLITIONALITY	-	+	-	-

Experiencers are typically human: in this respect, they are similar to agents, as well as to recipients and beneficiaries. Contrary to agents, experiencers do not act voluntarily: in this respect, experiencers are similar to patients. However, there are crucial differences between prototypical experiencers and prototypical patients: in the first place, as already remarked, experiencers are human, because, by definition, they must be sentient beings. In addition, prototypical patients necessarily undergo a change of state, while experiencers may or may not do so. Situations in which experiencers occur are prototypically states (see Van Valin, LaPolla 1997: 85; Croft 2001: 55-156), however, experiential predicates can also be inchoative, thus implying a change of state by which the experiencer enters the situation (as in e.g. *Mary fell ill*).

For what concerns us here, the fact that experiencers are often static participants is most interesting, because it makes them good candidates for a metaphor that conceives of human beings as locations/containers, such as EXPERIENCERS ARE PLACES (OR CONTAINERS) FOR FEELINGS/SENSATIONS (based on another metaphor: FEELINGS/SENSATIONS ARE THINGS). Hence coding through the dative case might be explained by referring to its link with the locative in the source domain. On the other hand, coding through the dative may owe to similarities between the roles of experiencer and recipient: as discussed above, experiencers share relevant features of recipients, as they are human; in inchoative situations they may be conceived as recipients of sensations or emotions. This similarity can be accounted for in terms of a metaphor according to which EXPERIENCERS ARE RECIPIENTS OF FEELINGS/SENSATIONS (again based on: FEELINGS/SENSATIONS ARE THINGS). Moreover, even though neither experiencers nor recipients are real controllers in the sense agents are, the fact that they are necessarily human implies a certain degree of control, at least inasmuch as they are consciously involved in situations: I have indicated this common feature with +/- in the control column.⁷

⁷ There is an extensive literature concerning the notion of control as related to experiencers. In principle, experiencers should not be controllers as they simply experience a situation. However, the construal of experience typically allows

Evidence for both possible interpretations (i.e. experiencers as locations or as recipients) comes from several Finnic languages. In Estonian, for example, experiencers can be encoded through the adessive, a spatial case which can also encode location; the same, though to a more limited extent, is true of Finnish (examples (8)-(10) from Erelt and Metslang 2006 and Huumo 1996: 229):

(8.) *Mul on häbi / piinlik*
I- ADESS be:3SG shame:NOM / embarrassing: NOM
“I am ashamed / I feel embarrassed.”

(9.) *Mul on vaja töötada*
I- ADESS be:3SG need work-INF
“I need to do some work.”

(10.) *Hänellä on hyvä maku*
s/he-ADESS be:3SG good taste
“S/he has good taste.”

Note however that encoding of the experiencer with the adessive can be due to the extension of the Possessor Schema as the adessive encodes possessor in these languages (see below): such an extension is cross-linguistically all but infrequent (cf. French *J'ai faim*, German *Ich habe Hunger*, both meaning ‘I’m hungry’, lit. ‘I have hunger’; similar usages are reposted from various genetically unrelated languages, such as Kannada cf. Amritavalli 2004, Tibeto-Burman languages

for varying degrees of control. Depending on the type of experiential predicate, the experiencer can be conceived as more or less actively involved in the situation, hence more or less capable of exerting control. Generally speaking, control is absent in case of bodily sensations, whereas perception and volition are most often conceived as controlled activities. Emotions can be construed in a variety of different ways even within the same language. See Verhoeven (2008: 41-51) for discussion and further reference.

cf. Bickel 2004, Thai cf. Matisoff 1986, Niger-Congo languages cf. Heine 1997a). Thus, it seems more likely that rather than depend on a putative metaphor by which EXPERIENCERS ARE PLACES, this type of coding is explained through two other metaphors according to which EXPERIENCERS ARE POSSESSORS OF SENSATIONS and SENSATIONS ARE THINGS POSSESSED.

Coding of an experiencer through the allative is also frequent both in Estonian and in Finnish:

(11.) *Anne-le meeldi-b džäss*

Anne-ALL like:3SG jazz. NOM

“Anne likes Jazz” (Estonian, from Erelt and Metslang 2006: 255)

(12.) *Minulla on flunssa*

I-ALL be:3SG flu.NOM

“I got a flu.” (T. Huumo, p.c.)

Again, one could think of a metaphor that connects the domain of space directly with the domain of experience,⁸ but, in the light of the common features of experiencers and recipients discussed above (and of the widespread tendency for dative markers to encode recipients cross-linguistically), it looks plausible that experiencers are re-interpreted as recipients. This does not necessarily imply that the metaphors indicated above for such polysemy are always activated. Rather, the semantic extension is based on a gestalt effect, in the sense of Lakoff (1977), whereby common features of both roles, i.e. animacy and sentience without agency, are magnified. Thus, even though recipient markers ultimately go back to direction markers, there is no need to

⁸ For example, one might argue that “the allative is used if the verb indicates directionality towards the experiencer” (T. Huumo, p.c.); however, the verb ‘be’ is pretty frequent in such constructions.

necessarily connect the notion of direction with that of experiencer. I return on the coding of the experiencer role below, sec. 3.7.

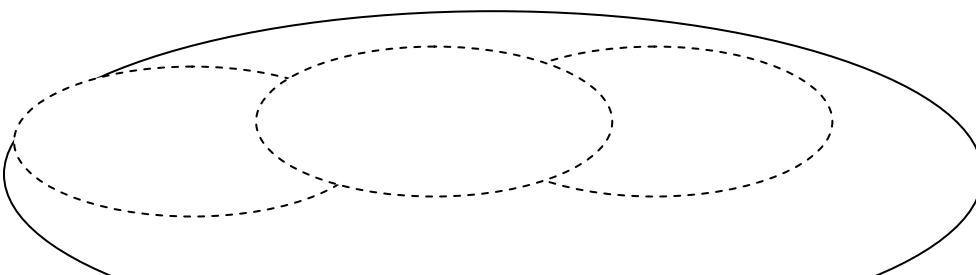
2.2.5. Competing metaphors: the case of possessor

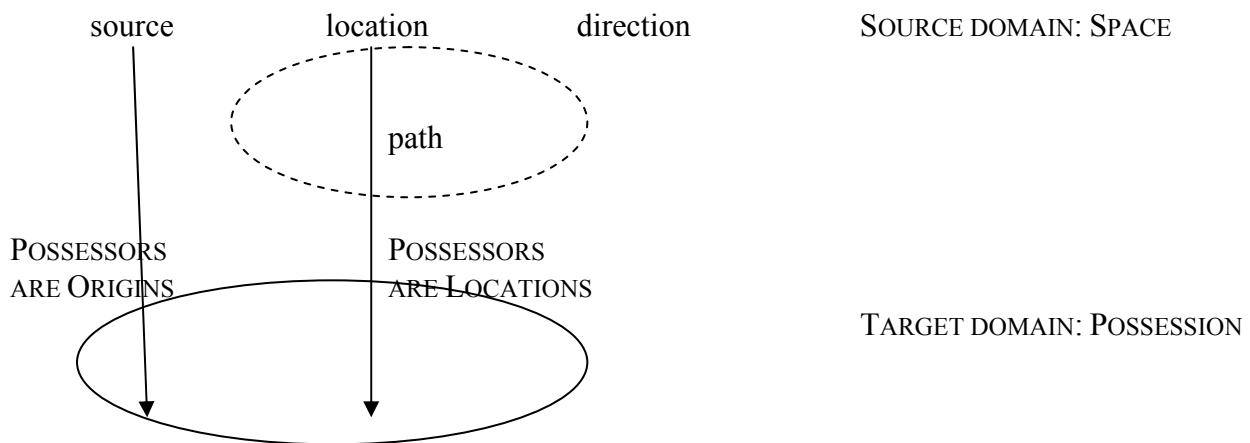
Location is not the only spatial relation to provide a source for possessor coding. As well known, possessors are frequently coded through the genitive case or adpositions with similar meanings, and the typical source for genitives is constituted by ablative markers. This amounts to saying that source also provides a frequent source domain for possessor: this well known and frequently investigated development is based on the metaphor POSSESSORS ARE ORIGINS (Nikiforidou 1991: 174).

The extension from source to possessor is documented in numerous languages: virtually all the Indo-European languages that have lost case marking at least partially attest to this development. When a marker of source extends to possessor and becomes a genitive marker, it often retains its original spatial meaning, but it may also lose it: evidence for both developments is easily available from German (*von* means both ‘from’ in spatial sense and ‘of’) and English (*of* is limited to the expression of genitive relations and retains trace of the original separative meaning only when governed by certain verbs or adjectives, as for example in *independent of*). More examples are discussed by Heine and Kuteva (2002), who caution that “most of these examples relate to Indo-European languages; more research is required on the genetic and areal distribution of this process.” (p. 35).

Thus, in the case of possessor two competing metaphors offer the channel for the mapping of the source domain to the target domain, as shown in Fig. 4.

FIGURE 4. THE MAPPING OF SPATIAL RELATIONS ONTO POSSESSOR





That different metaphors can provide the source for a certain concept is not surprising: as well know, for examples, agents can originate from various spatial concepts as well as from instruments. Remarkably, the two types of spatial concepts involved here, source and location, are encoded through markers that generally do not allow polysemy between each other. Thus, the two types of metaphor account for possessors that are always distinct from the point of view of encoding.

2.2.6. Recipient and beneficiary

Thus far, I have mentioned recipient and beneficiary as a pair. Indeed, polysemy of recipient and beneficiary is frequent cross-linguistically (cf. Kittilä, Zúñiga 2010: 18 among others). Typical examples involve the dative case of various Indo-European languages as well as of languages of other families, cases partly covering the same functions as a dative, as e.g. the Finnish allative, or adpositions that also cover functions typical of the dative. Examples (13) and (14) are from Finnish (allative case, from Kittilä, Zúñiga 2010), while (15) and (16) are from Biblical Hebrew (preposition *l-* ‘to’ also in direction expressions):

- (13.) *Vanhempi antoi lapselle lahjan*
 parent. NOM give-3SG.PAST child-ALL present-ACC

“The parent gave the child a present.”

- (14.) *Vanhempi leipoi kakun lapselle.*
parent.NOM bake-3SG.PAST cake-ACC child-ALL

“The parent baked the child a cake.”

- (15.) *wa- ttittēn gam lə- ṛšāh*
and she.gave also to- man.her

“And she gave [the fruit] to her man too.” (*Gen. 3.6*)

- (16.) *kī YHWH ʾēlohēkem hūʾ hannilḥām lākem*
because Lord god-your he he.fights for.you

“Because the Lord himself is fighting for you.” (*Deut. 3.22*)

Whenever the diachronic development of such markers can be traced back in time, it provides evidence for extension from beneficiary to recipient, as indicated by Heine et al. (1991: 159). Evidence for this development is not abundant, perhaps on account of the fact that several languages with a dative case display the polysemy as far back as one can trace their history. In Luraghi (2010c) the following development for the Ancient Greek preposition *eis/es* is described:

- a) Homeric Greek: direction and purpose:

- (17.) *prôta mèn es Púlon elthé*
first PTC to P.:ACC go:IMPT.AOR.2SG

“First go to Pylos.” (direction; Hom. *Od.1.284*).

- (18.) *hē me málʾ eis átēn koimḗsate nēléi húpnoī*
PTC 1SG.ACC much to damage:ACC put.to.sleep:AOR.2PL harmful:DAT sleep:DAT

“You put me to sleep to my damage with harmful sleep.” (purpose; Hom. *Od. 12.372*)

b) Classical Greek: direction, purpose and beneficiary:

(19.) *ho Kroĩsos tò pân es autòn epepoiēke*

ART.NOM Croesus:NOM ART.ACC all:ACC to 3SG.ACC make:PLPF.3SG

“Croesus had done all that he could for him.” (beneficiary; Hdt. 1.85.1)

In post-Classical Greek, *eis* slowly extended to recipient, and in Modern Greek, its outcome *s* is the common means to indicate recipient (and other functions of the dative case, which disappeared in Byzantine Greek):

(20.) *Edosa to vivlio ston Antone*

I.gave the book to+the Anthony

“I gave the book to Anthony.” (recipient).

The Greek example also attests to polysemy of direction and purpose (examples (17) and (18)) as preceding extension to beneficiary and recipient, thus showing a direct mapping of the spatial domain on the domain of abstract relations. This development, which is based on the metaphor PURPOSES ARE DESTINATIONS, explored in sec. 2.3.3 below, is apparently cross-linguistically frequent; it contradicts the predictions in (1), by which extension to human roles should always precede extension to inanimate and abstract roles.

2.2.7. Beneficiaries that are not recipients

In spite of the frequent polysemy outlined above, there is extensive evidence for other sources for beneficiary markers, which do not display it. Remarkably, these are markers whose original local

function is not direction. In Finnish, beneficiary can be coded through the postposition *vuoksi*, which also codes cause, as shown in (21) and (22):

(21.) *Henkilo opettel-i suome-a yksilo-n vuoksi.*

person.NOM learn-3SG.PST Finnish-PART individual-GEN for

“A person learnt Finnish for an individual.” (beneficiary; from Kittilä 2010);

(22.) *Jaatelo sul-i sahkokatko-n vuoksi.*

ice.cream.NOM melt-3SG.PST power.failure-GEN for

“The ice cream melted because of the power failure.” (cause; T. Huumo p.c.).

The local meaning of *vuoksi* is ‘through’, which may explain its extension to cause (on the meaning and etymology of this postposition see Itkonen, Joki, Pelotla 1978: 1813-1814; 1818).

Without going into the details of this development, what is remarkable is that, as already highlighted above, this is not a marker of direction. Similarly, the English preposition *for* and German *für*, which can code beneficiary, cause and purpose, derive from Proto-Germanic **fura*, ‘before’, cognate with Latin *pro*. Remarkably, the latter preposition, too, developed a beneficiary (and purpose) meaning out of the spatial meaning ‘before’ (Luraghi 2005a, 2010a). In the intermediate stage, attested in Early Latin, it indicated an exchange:

(23.) *an tibi malam rem vis pro male dictis dari?*

PTC you:DAT bad:ACC thing:ACC want:PRS.2SG for bad(ADV) say:PRT.ABL.PL give:INF.PASS

“Do you wish a punishment to be given you for your abuse?” (Pl. *Men.* 496).

Sporadically, the preposition could indicate beneficiary, especially of the behalf type, already in Early Latin, as in (24):

(24.) *ego ibo pro te, si tibi non libet*
1SG.NOM go:FUT.1SG for 2SG.ABL if 2SG.DAT NEG like:PRS.3SG

“I’ll go for you, if you don’t feel like.” (Pl. *Mos.* 1130).

Later, the meaning extended to all types of beneficiary, as well as to purpose, a meaning which was already implicit in the notion of exchange. Still later, the meaning also extended to cause, as shown in the New Testament:

(25.) *quia et Christus semel pro peccatis mortuus est iustus pro*
because even Christ:NOM once for sin:ABL.PL die:PF.3SG righteous:NOM for

iniustis

unrighteous:ABL.PL

“Because Christ also suffered for sins once, the righteous for the unrighteous.” (1 *Pet.* 3.18).

Note that the second occurrence of *pro* could still have a behalf interpretation, thus pointing to the original meaning of substitution.

A partly similar development has apparently taken place in the case of the Ancient Greek preposition *hupér* ‘over’, which, besides having spatial meaning, developed into a beneficiary marker. In much the same way as with Latin *pro*, this extension started with the behalf type of beneficiary. Similar to Germanic *for* and Finnish *vuoksi*, Latin *pro* and Greek *hupér* did not code direction. In addition, none of them underwent a semantic extension to also include recipient. Another case of a beneficiary marker that does not code recipient and whose spatial origin is not connected with an allative sense is the Turkish postposition *için*, from *iç* ‘inside’, which I discuss

below, sec. 2.3.3.⁹

2.2.8. Competing metaphors: beneficiary

From the evidence in sec. 2.2.7, one must conclude that the relation between recipient and beneficiary, though well documented and cross-linguistically very frequent, is not such that the two roles cannot be coded independently from one another. Apparently, we are dealing with different metaphors based on the source domain of spatial relations. The first one, which accounts for polysemy of recipient and beneficiary, involves direction; the second, which is not active for recipient but only for beneficiary, involves a more complex locative or perlative relation. Only in the former case does polysemy of beneficiary and recipient seem to arise naturally.

This may indicate that, even if beneficiary precedes recipient in semantic extension, the spatial meaning, i.e. direction, is also active when a specific marker extends to recipient. This conclusion finds further support in the fact that markers of recipient/beneficiary for which extension from an original spatial meaning is historically documented also retain the direction meaning (as for example French *à*, English *to*, the Finnish allative case and many other).

The metaphor that maps direction onto beneficiary depicts the latter as the endpoint of a prospective trajectory: it could be stated as A BENEFICIARY IS A DESTINATION; however, it is usually stated in terms of similarity between destinations and recipients RECIPIENTS ARE DESTINATIONS (see e.g. Rice, Kabata 2007). Indeed, the transfer is based on a feature that the beneficiary has in common with the recipient, and that indeed is even more relevant for the latter than for the former. Beneficiaries typically benefit from a certain state of affairs, and often they are the prospective

⁹ Note that in studies regarding sources for beneficiaries, usually such types of semantic extensions are ignored, or just mentioned in passing, while there is a general tendency to only stress the relatedness of beneficiary and direction. In this vein, Schmidtke-Bode (2010: 127-128) remarks that there is cross-linguistic evidence for beneficiary (and purpose) markers that do not indicate direction, but then does not pursue this matter further in his discussion.

recipients of an entity, even though they might not actually get hold of it in the end. Consider:

(26.) *Mary baked a cake for Paul, but Paula ate it up before he could even see it.*

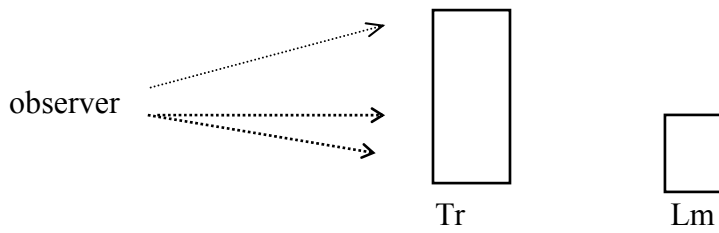
On the other hand, a recipient can be conceived as a special case of beneficiary, who profits by an event even by actually getting hold of an entity as its result (Kittilä 2005, Luraghi 2010c):

(27.) *Mary gave a cake to Paul (???but he did not receive it).*

Indeed, in spite of the fact that in the prototypical beneficiary situation there may be no actual transfer (Goldberg 1995: 37), in the default interpretation it is assumed that the intention of the beneficient is to actually transfer the benefactum to the beneficiary (see Luraghi 2010c). In this sense, the polysemy of recipient and beneficiary can be described as a predicational metonymy in the sense of Panther and Thornburg (2007: 246), whereby an intended action is taken as an actual action. See further the polysemy of possessor and recipient/beneficiary, sec. 3.2.

Other metaphors available for beneficiary are not based on directional motion. Just a glance at the adpositions mentioned above indicates that there can be more types of conceptualization at work; one, which accounts for the extension of Latin *pro* ‘in front of’ and Greek *hupér* ‘over’ to behalf beneficiary and then to all types of beneficiary involves a covering relation. Both prepositions can indicate that a trajector is placed in such a position with respect to a landmark to cover it from the perspective of a possible observer, and thus replaces the landmark, as shown schematically in Fig. 5:

FIGURE 5. COVERING RELATION



The relation of replacement is accounted for by the metaphor which equates existence with being in the observer's visual field, and can be stated as follows: EXISTENCE IS VISIBILITY (Lakoff et al. 1991). Coverage and replacement induce the idea of exchange and hence of surrogation which leads to a behalf beneficiary (for further reference see Luraghi 2005a, 2010c).

2.2.9. A Balto-Finnic perspective on the Indo-European dative

The Indo-European dative, a case which is often described as typical of human roles, provides little evidence for its ultimate spatial origin. In the earliest sources of the ancient Indo-European languages, spatial usage of the dative is restricted: a few occurrences that might indicate an allative meaning are available from Latin, but it must be noted that in several languages the dative tends to merge with the locative, as in Greek and Anatolian (see Luraghi 2001b and the references therein). This might very well be the origin of the dative case: it was observed by Kuryłowicz (1964: 190-193) that the endings of the dative and the locative singular look very much like morphophonologically conditioned variants of the same morpheme. Evidence for the relatedness of datives and locatives, as well as for the close association between dative and animacy in other language families has been provided in Rodriguez Aristar (1996), based on data from several Australian and Amerindian languages.

A look at the Finnish cases that correspond to various functions of the Indo-European dative is enlightening. In the Indo-European languages, the dative typically encodes recipient, beneficiary, possessor, maleficiary, among other roles. The recipient construction is usually extended to third argument of verbs that indicate separation, especially in case they have human referents and

indicate maleficiary, as shown in the following examples:¹⁰

(28.) *Mi è sparita la borsetta*

me:DAT is disappeared the purse

“My purse disappeared.” lit.: “The purse disappeared on me (maleficiary).”

(29.) *Ten pán nám vzal hodně peněz*

DEM man us:DAT took much money

“That man took a lot of money from us (maleficiary).” (Czech, from Janda 1993: 58)

In Finnish, these roles are coded by three different but related cases, that is the adessive (possessor), the allative (recipient) and the ablative (which codes source, especially with human referents). Examples are (30)-(32) (from Huumo 1996: 74):

(30.) *Liisalla on kirja*

Lisa-ADESS be:3SG book:NOM

“Lisa (possessor) has a book.”

(31.) *Liisalle tuli kirje*

Lisa-ALL come:3SG.PAST letter:NOM

“Lisa (recipient) received a letter.”

(32.) *Liisalta katosi kukkaro*

Lisa-ABL disappeare:3SG.PAST purse:NOM

¹⁰ Such usage of the dative, which seems to be most typical of the Indo-European languages of Europe except English (Haspelmath 1999), is usually described as external possessor, and often occurs with inalienably possessed entities, even though this is not necessarily the case: consider e.g. the following Italian example: *Mi hanno rubato la macchina di Giovanni* “Someone stole John’s car from me.” (lit.: “They stole John’s car on me.”). The dative indicates maleficiary, and the possessive relation is clearly temporary. See further Havers (1911).

“Lisa (malefactive) lost her purse.”

Remarkably, these three cases are considered local cases more on account of their names than of their usage: as argued in Huumo (1996), they are mostly used for human relations, as shown in the examples, while local relations are usually expressed by the inessive, illative and elative. The Finnish data point toward a difference in the conceptualization of possessor and recipient/beneficiary/maleficiary, based on different parts of the domain of space as the source domain. One might wonder whether polysemy of these two roles is connected with polysemy of location and direction across languages that present it. This is certainly the case in the Indo-European languages.¹¹

2.2.10. Path as a source for human relations: intermediary

In sec. 2.2.1, I have pointed to a lesser basicness of path among spatial semantic roles. This is not to say that path cannot function as an independent concept in the source domain of space for metaphors leading to other target domains, including that of human relations. In particular, a

¹¹ It is outside the scope of the present paper to provide a detailed description that can support this claim; however, some remarks can illustrate it. Even if a distinction between direction and location markers often exists, a certain degree of polysemy is virtually also always present. In particular, Indo-European languages with a separate locative case, such as Sanskrit, display constructions in which direction is coded by the locative (see Delbrück 1867); in addition, the typical situation in which spatial relations are coded through adpositions with case variation, as in the case of German ‘two-way’ preposition, most often features a number of prepositions that can code location and direction with different cases, while source is usually kept distinct by the use of different adpositions. In languages where such alternation occurs (such as Latin or many Slavic languages, for example) one also finds adpositions that do not allow for case variation and, if they are polysemic, their meaning includes location and direction. As for the dative case, as already noted above it seems to present more affinities with the locative than with the allative (which is most likely the original meaning of the Indo-European accusative).

frequent extension of path markers is the role intermediary, as in the case of English *through* in the following example:

(33.) *They have to speak through an interpreter to be able to communicate effectively.*

An intermediary can be viewed as a human instrument. Instrument markers, however, do not easily encode human instruments: a quick cross-linguistic survey indicates that such markers usually encode different relations when they occur with human nouns, which prevent them from being interpreted as encoding instrument. Let us for example consider languages in which instrument is encoded through the Companion Metaphor, such as English and many other European languages. In these languages, the instrument marker encodes comitative with animate nouns, as English *with*: thus, if a human NP co-occurs with *with* the default interpretation is comitative. Indeed, in:

(34.) *I achieved X with Y [=human noun] / I achieved X with Z [=inanimate concrete noun]*

the interpretation of the role taken by the NPs *with Y* and *with Z* as comitative and instrument respectively depends crucially on the lexical meaning of the NPs involved.

In languages that do not conform to the Companion Metaphor, and consequently do not encode instrument through the comitative marker, on the other hand, there is a frequent tendency for instrument markers to extend to agent (see sec. 2.3.2 below). Thus again, there appears to exist a default interpretation that makes it impossible to use the instrumental case (or analogous morphemes) with such non-prototypical instruments as human beings.

The same seems to happen in the case of frequent instrument/location polysemies: the instrument marker usually has another favored interpretation when occurring with a human referent.

The Finnish adessive, for example, indicates instrument (or manner) with inanimate nouns and possessor with animates (Huomo 1996: 76-77); the West Semitic instrumental/locative preposition *b-* occurs with human referents mostly in the plural in the meaning ‘among’, as in example (35) from Biblical Hebrew (see further Pennacchietti 1974: 175):

(35.) *hay-yāfā b-annāšīm*

the-beautiful in-women

“beautiful among women” *Ct* 1.8.

In sum, prototypical instrument markers appear to be exploited for different purposes when they occur with human nouns, and have default interpretations that rule out human instrument. This comes as no surprise: the fact that a human being is used as an instrument is comparatively rare and unexpected; human beings take roles such as comitative, agent or possessor much more frequently. In addition, an intermediary is not simply an instrument: even if the intermediary acts under someone else’s instigation, s/he holds control on the event. In states of affairs that feature intermediaries, one can conceive of agency as being split between the primary agent, who initiates the state of affairs voluntarily and the intermediary who holds the responsibility for the actual carrying out of the action (see Luraghi 1995). Hence the intermediary functions as the channel through which the agent achieves his or her purposes. The notion of path accounts for this conceptualization based on the metaphors AN INTERMEDIARY IS A CHANNEL and AGENCY IS A THING TRANSFERRED.

The literature on intermediary is not especially rich, and there are no specific studies that investigate sources and polysemies that involve this semantic role. At least in the Indo-European languages, there seems to exist a frequent polysemy of path, intermediary and means, as in English *through*. Indeed, means is defined as the role taken by entities used by an agent to achieve his/her

goals, with a lesser degree of manipulation than instrument.¹² Typical of means expressions are abstract nouns, which cannot be manipulated, and consequently can be controlled by agents to a lesser degree than prototypical instruments. This feature makes means similar to intermediary: as a human being, an intermediary cannot simply be used and controlled completely by an agent. There are no diachronic studies regarding the relation between intermediary and means. In a study of the Ancient Greek preposition *diá* with the genitive, Luraghi (1989) found that extension from path to intermediary preceded extension to instrument and means, but more evidence is needed in this respect. Remarkably, in Ancient Greek the distinction between instrument and means is not reflected in coding, so the extension from intermediary involves both roles. In any case, the use of markers specifically connected with the semantic role means to prototypical instrument seems to be common (see below, sec. 2.3.1).

In several languages, path markers also extend to agent. Possibly this further extension needs an intermediate stage at which path morphemes encode intermediary. An attested example which might provide evidence is French *par*, which encodes path and passive agent. In Latin, the preposition *per* could encode path and intermediary, but it could be understood as indicating an agent only under specific semantic constraints, even with passive verbs (Luraghi 2010a).

¹² There are no specific studies devoted to this semantic role, which can also be conceived as a non-prototypical type of instrument. Available definitions are not especially enlightening. Radden (1989:442–443), for example, gives the following definition of means: “The means role denotes physical or abstract entities which, without being instruments themselves, are essentially involved in bringing about the effects of an agent’s action.” He then concedes that “the distinction between the notions of means and instrument is not always easy to draw,” and discusses occurrences in which the same NP, *money*, can be conceived as an instrument or as a means in the same contexts. A more elaborated definition of means can be found in Croft (1991), who, however, focuses on means-clauses (e.g. *By doing X somebody achieved Y*). Croft further indicates that the occurrence of a means implies the existence of an agent who acts intentionally: “the means clause must begin with a VOL[itional] arc—that is, it must be a volitional action.” (1991: 178).

2.3. *Non-human relations*

According to the scale in Fig. 1, extension to non-human relations should follow extension to human relations. I have already discussed the connection between space and time; more discussion on this hypothesis can be found in Narrog (this volume). In what follows, I survey frequent polysemies and metaphors that account for extension to non-human relations. As we will see, in some cases the domain of space is mapped directly onto the domain of non-human relations, while in other the direction of semantic extension contradicts the scale.

2.3.1. Source domains for instrument

As has already been noted in this paper, the Companion metaphor, according to which AN INSTRUMENT IS A COMPANION, accounts for the extension of comitative markers to instrument. Languages which rely on the Companion Metaphor can be said to be well-behaved with respect to the scale of increasing grammaticalization in Fig. 1, since they display the semantic extension *location > comitative > instrument*, modeled according to (1). As this metaphor has been exhaustively described in Lakoff and Johnson (1980) I will not dwell longer on it.

Another frequent source for instrument markers is provided by locatives. In such cases, even if often human roles are also associated with the same morphemes, there seems to be a direct connection between space and instrumentality. There are several reasons why locative relations can be understood as instrumental. For example, certain types of instruments are also places in or on which human beings can be located: the obvious example for this is constituted by means of locomotion (see Lehmann, Shin 2005 with several examples from different language and language families). Some instruments are shaped as containers, and other as means of support: this fact

accounts for the extension of different locative markers to instrument, based on various transfers and extensions. As both containers and means of support are at least in part more or less prototypical instruments (for examples, a cup can be conceived as an instrument for drinking, a bottle as an instrument for carrying liquids, etc.), it is perhaps not especially useful to multiply underlying metaphors. Rather, there seems to be a sort of analogical extension based on a generalization:

(36.) some containers/supports are instruments --> all instruments are encoded as instantiating a containment/support relation.

This generalization consists in the extraction of a schema (see Langacker 1987), whereby certain types of instrument have certain spatial dimensions (container, support). The schema is then analogically extended to all types of instrument (see Tuggy 2007: 100-101 on schematicity and analogy in word formation). Examples are provided by Balto-Finnic (Grünthal 2003, Huumo 1996), Semitic, several Australian languages (which however only provide examples of polysemy, but no historical evidence for semantic extension and its direction); some of them are surveyed in Luraghi (2001a).

Interestingly, the portion of the conceptual domain of space that provides a source for instrument is the same, both in the case that the mapping is mediated by the Companion Metaphor and in the case that it is direct: it is the space of location, i.e. static relations. Indeed, instrumentality is part of what Lehmann and Shin (2005) call ‘the domain of concomitance’, a notion originally proposed by Coseriu (1970), who describes the meaning of a possible German construction *mit C* as indicating “und C is dabei”, or “unter Dabeisein von C”. In other words, a concomitant is a participant which is crucially indicated by its presence during a state of affairs, that is, by a static relation. Luraghi (2001a) suggests that both location and instrument should be grouped together as

concomitant roles, that is, roles that are not oriented either from the starting point of the event or toward its endpoint.

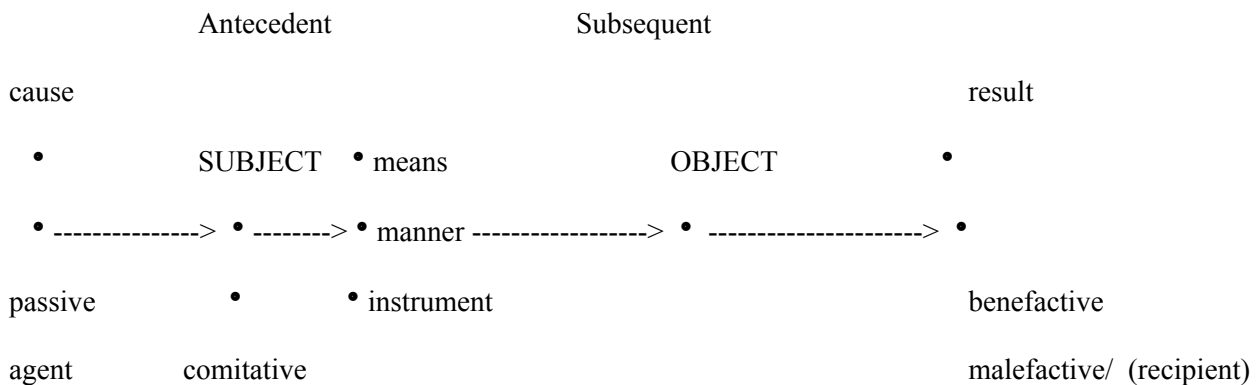
As already mentioned in sec. 2.2.10, path markers can extend to instrument, possibly as a further step in an extension that goes from path to intermediary to means and then also reaches prototypical instrument. However, it is by no means clear that the extension of path markers to means and instrument is necessarily mediated by a human role, i.e. intermediary. As this type of extension has never really been investigated on a large language sample, I will assume for the time being that, similar to the Companion Metaphor, this type of extension is also well-behaved, and proceeds from path to intermediary to means and instrument, based on the metaphor AN INSTRUMENT/MEANS IS AN INTERMEDIARY. Note however that this assumption is based in its turn on an assumption, that is, that human roles must precede non-human ones, thus partly resulting in circularity.¹³ Remarkably, path is located close to location in the domain of space, between source and direction.

To sum up, in this section I surveyed three types of semantic extension involved for the conceptualization of instrument, two based on metaphors (the Companion Metaphor and the Channel Metaphor), and one on analogy. By the latter type of extension, markers of spatial relations are used for certain instruments based on their shape, and then extended through analogy to all types of instrument independent thereof. This means that the extension proceeds directly from the domain of space to instrumentality. In the case of the two metaphors, extension is mediated by human relations, comitative and possibly intermediary. In all such extensions, the source domain is

¹³ Alternatively, if it turned out that extension of path markers to instrument/means is not always preceded by extension to intermediary, one should assume that the domain of space can provide the immediate source for the non-human roles of instrument and means. One should set up another metaphor, by which an instrument (or means) is conceived as a channel that conveys agency (i.e. volitionality, control, and energy transfer). An alternative version of the Channel Metaphor could account for extension from space without passing through the stage of intermediary: AN INSTRUMENT/MEANS IS A CHANNEL (and, as in the case of the intermediary, AGENCY IS A THING TRANSFERRED).

located in an intermediate position between source and cause, and points to an analogous position of instrument in the target domain of causation, between antecedent and subsequent roles in the terminology of Croft (1991). Croft's Causal Chain is represented in Fig. 6.

FIGURE 6: THE CAUSAL CHAIN (Croft 1991: 185)



According to Croft, who divides causal semantic roles into two groups, instrument is an antecedent role. In Luraghi (2001a), it is suggested that semantic roles should better be divided into three groups based on the type of involvement in causation, as comitative, instrument, manner and means are better understood as concomitant rather than antecedent. Spatial sources for instrument confirm its consistent tendency to arise from the area of non-directional relations (location) or at least of relations that do not indicate the starting or the end point of motion (path).

As we will see in sec. 2.3.3, polysemy can also involve instrument and cause, that is an antecedent role: indeed, polysemies that cross-cut groups of semantic roles are not infrequent, as discussed in the next sections.

2.3.2. Instrument as a source domain

A frequent extension of instrument is matter or material: the material of which something is made is understood as the instrument used to make it. Tentatively, I propose the metaphor MATERIAL IS AN

INSTRUMENT FOR CREATING OBJECTS to account for this extension.¹⁴ This semantic role of material also has another frequent source in the space domain, that is, source, following the metaphor OBJECTS COME OUT OF SUBSTANCE, explored in Lakoff and Johnson (1980: 73). Both patterns occur for example in Turkish, as shown in (37) and (38) (from Kornfilt 1997):

(37.) *tugladan bir ev*

brick-ABL a house

“A house of bricks.”

(38.) *bu ev tuğlayla yapılmıştır*

this house brick-INSTR make-PAST-PTCP-COP

“This house is made with bricks.”

An often discussed extension of instrument is agent. This pattern of semantic extension, whose direction is clearly attested at last in the Indo-European languages, contradicts Heine’s Scale of Increasing Grammaticalization in Fig. 1, as it implies that a non-human role serves as the basis for a human one. Polysemy of instrument and agent is also frequent in several Australian languages, both ergative and nominative/accusative (see Blake 1977, Dixon 2002). In such languages, the instrumental case is most often also the locative (see Luraghi 2001b for discussion). The original meaning of the Indo-European instrumental, instead, is usually held to be comitative (see Delbrück 1867): to some extent and virtually limited to Vedic Sanskrit, the extension to the agent role also brought about the infrequent polysemy of agent and comitative, which I survey in sec. 3.4.

It is not clear that extension of instrumental markers to the encoding of the agent can be

¹⁴ Remarkably, in this case metonymy, rather than metaphor, could be at play as material and instrument are contiguous concepts in the conceptual domain of creation. I am not going to pursue this explanation further here, but see below regarding extension of instrumental markers to agent.

explained in terms of metaphors. In Luraghi (2001b) it is suggested that this type of extension should rather be accounted for in terms of metonymy as agent and instrument are contiguous concepts and an instrument can be seen as a part of an agent. In addition, it is frequently the case that inanimate entities substitute for animate ones in cases of metonymy, precisely when a part substitutes the whole. The occurrence of a metonymic extension here would also explain why this is virtually the only frequent semantic extension that contradicts Heine's scale in (1) by moving contrarywise.

Finally, polysemy of cause and instrument is also frequent, but directionality is all but easy to gauge: inasmuch as instrumental cases also code cause, one can assume extension starting from instrument, but this matter has never been the topic of any in-depth study, at least to my knowledge.¹⁵

2.3.3. Cause and purpose

Following a frequent conceptualization, CAUSES ARE ORIGINS OF EVENTS (Nikiforidou 1991), and PURPOSES ARE DESTINATIONS (cf. e.g. Lakoff, Turner 1989). Instantiations of these metaphors mentioned in the literature operate by mapping the domain of abstract relations directly onto the domain of space, without necessarily implying an intermediate stage at which human relations provide a link between the source and the target domain (see also sec. 2.2.6).

The two metaphors map cause and purpose onto the most distant edges of the conceptual domain of space, in very much the same way as remarked for agent and recipient/beneficiary. And

¹⁵ Instrument markers often also indicate manner; this is usually the case in languages that also feature the comitative/instrument polysemy. According to Heine and Kuteva (2002), comitative markers extend to instrument and then to manner, thus complying with the scale in Heine et al (1991) (see above, Fig. 1). However, a cursory look at the Indo-European languages in which instrument is coded through a bare case and comitative through the same case plus a preposition (such as Russian) also feature both instrument/manner and comitative/manner polysemy. Thus the issue seems to be more intricate, and further research is needed in this area.

indeed, polysemy of cause and agent on one side, and of purpose and recipient/beneficiary on the other side is frequent, as often noted in the relevant literature. Such mapping of the domain of space onto the domain of causation is in accordance with Croft's Causal Chain (see above, Fig. 6).

As mentioned in sec. 2.3.2, polysemies ensuing from semantic extensions that cross-cut the Causal Chain and involve antecedent and subsequent roles are also well documented, even though polysemies within the two (or three) groups are much more numerous. However, while polysemy of agent and recipient/beneficiary is not especially frequent (see below, sec 3.3), polysemy of cause and purpose is extremely frequent, as with English *for* and many other similar markers. Often, this polysemy also involves beneficiary, but typically not recipient:

(39.) *He ran away for fear.* (cause)

(40.) *I bought a present for Mary.* (beneficiary)

(41.) *Mary went out for dinner.* (purpose)

The same polysemy holds for other non-allative beneficiary markers surveyed in sec. 2.2.7 from Indo-European and Balto-Finnic languages. Example are Turkish *için* in (42)-(44) (from Kornfilt 1997) and Georgian *tvis* in (45)-(47) (M. Topadze p.c.):

(42.) *Söylemek için geldim*

say-inf for come-past-1sg

“I came in order to say... (purpose)”

(43.) *Bayram olduğu için toplar atıldı*

holyday be-past.3sg for cannon-pl employ-past-3sg

“Because of the holyday (cause), cannons were shot”

(44.) *sizin için bir kitap getirdim*

2pl-GEN(??) for one book bring-past-1sg

“I took a book for you (beneficiary).”

(45.) *ar scalia pikr-is tvis*

neg time think(masdar)-gen for

“S/he has no time to think.” (purpose)

(46.) *ertjeradi gamoq'eneb-is-tvis*

single usage-gen-for

“for a single usage” (purpose)

(47.) *es bavshv-is- tvis viq'ide*

this child-gen-for I-bought

“I bought it for the child.” (beneficiary)

Different languages also provide evidence for non-unidirectionality of the extension between cause and purpose. Luraghi (2005b) shows that Classical Greek *diá*+accusative, which indicated cause, slowly extended to purpose and later to beneficiary (thus also contradicting Heine et al.’s predictions on the relative order of human and abstract relations). Its Modern Greek outcome *jiá* is the standard way to indicate purpose and beneficiary, while still also encoding cause and reason. On the other hand, as mentioned above (sec. 2.2.7) Latin *pro* first extended to beneficiary and purpose, but corresponding prepositions in the Romance languages, such as French *pour*, also indicate cause.

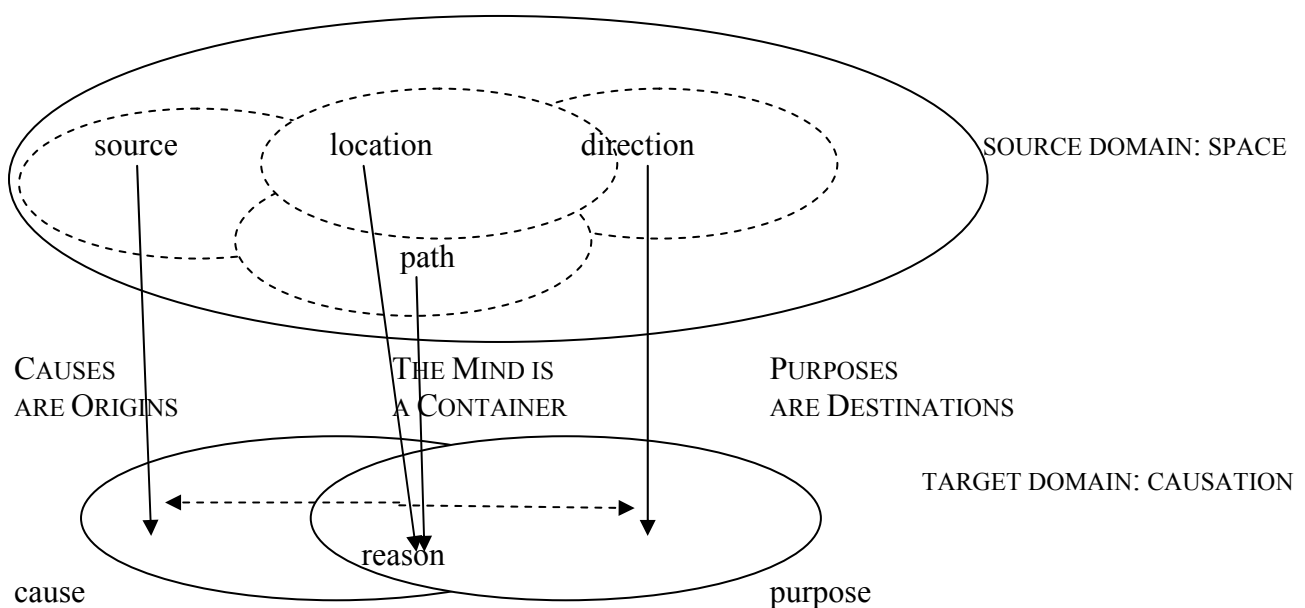
Croft (1991) discusses the cause/purpose polysemy, and remarks that the notion of reason provides an area for possible contact of these two otherwise separate roles. He writes: “[e]xpressions of reason, which is a category of intention, not of causation, can represent events that causally follow the verb segment (a goal or purpose) or precede (a source or motivation).” (p. 293). Arguably then, the intermediate part of the domain of space, in which location and path are situated,

provides a spatial equivalent to reason, hence also giving rise to expressions of cause and purpose. This seems to happen when the polysemy also involves beneficiary, most likely if the latter role is not marked as recipient: the examples discussed above provide evidence for this claim.¹⁶

Again, there is evidence for an intermediate area between antecedent and subsequent roles, which has a spatial equivalent in the non-directional relation of location and partly also of path, a role which, as already remarked, does not include the starting and endpoints of motion and is not telic. The encoding of the semantic role reason with locative or perlocative markers must be accounted for by a complex metaphor, based on an instantiation of the container metaphor (THE MIND IS A CONTAINER) and other more specific metaphors that explain the undersnading of reason in terms of particular spatial configurations (as in the case of Latin *pro* ‘before’ described in sec. 2.2.8).

In Fig. 7 I give a graphic representation of the mapping of cause, purpose and reason on the source domain of spatial relations.

FIGURE 7. THE MAPPING OF SPATIAL RELATIONS ONTO CAUSATION



¹⁶ Remarkably, however, extension from purpose to cause of allative morphemes is also attested, see Heine, Kuteva (2002: 246-247) for evidence from African languages.

3. Expected and unexpected polysemies among human relations

3.1. Agent and possessor

The roles of agent and possessor may share the same source domain, drawing on the spatial relation of source (or origin).¹⁷ Indeed, genitives of agent are common in the Indo-European languages, in which, however, they are mostly limited to nominal forms of verbs. According to Hettrich (1990: 97), such constructions started out from a possessive genitive modifying a verbal adjective; later, they also extended to finite verbs to varying extents in different languages (p. 93-95). A similar development is found in Finnish. Finnish has no real agentive passive, but infinitives can occur with genitive NPs which get an agentive interpretation, as shown in example (48):

- (48.) *kirja on minu-n kirjoitta-ma-ni*
book.NOM be.PRES.3SG I-GEN write-INF3-1SGPOSS
'The book has been written by me'

(See further sec. 3.3 on a possible interpretation of some genitive agents in Finnish as instantiating the polysemy of agent and beneficiary.)

In such construction, too, the infinitive takes a possessive genitive. Thus agents can be interpreted as possessors of actions. The occurrence of nominal forms of the verb in such constructions favors this interpretation: an event which is referred to by means of a nominal form is also conceived as a static entity, a thing, which can be possessed. Metaphors at play here are

¹⁷ On the relation between source and origin see Nikiforidou (1991) and Luraghi (2003).

AGENTS ARE POSSESSORS OF EVENTS and EVENTS ARE THINGS POSSESSED.

Not only passive agents, but also ergatives often derive from genitives. According to Lehmann (2002: 98), this type of polysemy arises from constructions of nominative-accusative aligned languages in which a nominal form of the verb takes a possessive genitive: “Whenever a (passive) predicate is nominalized - this may occur not only in subordinate, but also in main clauses, namely whenever there is an (analytic) nominal verb form -, its agent may be in the genitive. When such a construction is reinterpreted as transitive, the genitive develops into an ergative. Again, genitive/ergative polysemy is a frequent phenomenon in ergative languages, e.g. in Lak (Caucasian), Eskimo and Sherpa (Tibeto-Burmese).” In fact, genitive agents with nominal forms of the verb are usually thought to have provided the origin for ergative alignment in Old Persian (see Hettrich 1990: 95-97; Pompeo, Benvenuto forthc.).¹⁸

Polysemy of agent and possessor may also arise as a by-product of both roles being ultimately connected with source in the domain of space: for example, German *von* ‘from’ indicates source, possessor and passive agent. However, in such (frequent) cases, the two developments: (a) source --> possessor, and (b) source --> agent can be shown to have occurred historically independent of one another. Thus, this type of polysemy is explained through the common source domains of the two roles, rather than on their own features, once disconnected from their spatial origin.

3.2. *Possessor and recipient/beneficiary*

¹⁸ The Old Persian genitive is the merger of the Proto-Iranic genitive and dative. For this reason, it has been suggested, most recently in Haig (2008), that the agent function was connected with the beneficiary meaning of the genitive/dative. While this might in principle be the case, comparison with Avestan and Indo-Aryan suggests that the genitive was the original case in this construction. See Pompeo, Benvenuto (forthc.) for a detailed analysis of the texts.

Possessor and recipient/beneficiary is a frequent polysemy, and it typically involves the dative case, hence not the type of beneficiary which does not merge with recipient (see sec. 2.2.6 and 2.2.7). Indeed, as I will discuss below, it is recipient, rather than beneficiary, that provides contact with possessor. The direction of semantic extension leads from recipient/beneficiary to possessor: a recipient is someone who gets hold of an entity which is being transferred; after the event of transfer has taken place, the recipient is, at least temporarily and in a certain sense, the possessor of this entity. Remarkably, there is no need to set up a metaphor to account for this semantic extension: a recipient is not a metaphorical possessor, rather, the recipient of an entity in a transaction is assumed by default to become its possessor. For this reason, type of extension can be accounted for in the same way as the extension of beneficiary markers to the recipient role (sec. 2.2.8).

Note however that, as this type of polysemy usually involves the dative case, extension to possessor could result from recipient/beneficiary and possessor being neighboring roles in the source domain of space. Indeed, even though the source domain for recipient/beneficiary is provided by direction, while the source domain for possessor seems to be most often provided rather by location (see the discussion in sec. 2.2.5), it is often the case that location and direction merge already in the source domain, as shown by frequent polysemy of location and direction markers (sec. 2.1.2). On the other hand, one can observe partial extension of the dative to non-prototypical cases of possession, such as abstract possession, in languages that otherwise make use of the Locative Schema for prototypical possession, as for example in Russian:

(49.) *Mne dvacat' let*

me-dat twenty years

“I am twenty years old”;

(50.) *U menja kniga*

near me-gen book

“I have a book.”

Most likely, the dative in (49) must be considered an experiencer, given the fact that this construction is also used when one indicates bodily sensations, and that experiencer datives are cross-linguistically frequent in languages in which the dative also expresses possession.¹⁹

3.3. *Agent and recipient/beneficiary*

Polysemy of agent and recipient/beneficiary should in principle be infrequent: the two semantic roles have their source domain in distinct areas in the domain of space as agent is connected with source and recipient/beneficiary with direction, two roles that tend not to merge in the source domain. However, this polysemy exists in languages of different families. Again, as in the case of polysemy of possessor and recipient/beneficiary, the polysemy of agent and beneficiary seems to only involve the type of beneficiary that also indicates recipient, that is, which is typically coded by the dative.

Many Indo-European languages attest to a dative of agent, as in Latin:

(51.) *adeundus mihi illic est homo*

go:GER.NOM 1SG.DAT there be:3SG man:NOM

¹⁹ Note that the construction in (45) is older than the one in (46) as it has cognates in other Slavic and Indo-European languages. The construction in (46), which is typical of Russian, is thought by some to have arisen as a result of contact with Balto-Finnic languages.

“I have to go to that man there.” (lit.: “That man there must be approached by me.”) Pl. *Rud.* 1298.

Hettrich (1990: 64-77) discusses exhaustively numerous examples from various Indo-European languages, and convincingly argues that this pattern must be inherited from Proto-Indo-European, and that it must be viewed as an extension of the recipient/beneficiary function of the Indo-European dative. Indeed, the construction typically occurs in passages such as the one quoted above, where the verbal form expresses some type of agent-oriented modality, most often obligation or necessity (cf. Bybee, Perkins and Pagliuca 1994: 177-179 for the terminology). The action must or can be performed by a human participant, which is conceived as being the target of the obligation or necessity. As recipients are targets of transfer events, they can be understood as being targets of such abstract transfers: this explains the extension of recipient/beneficiary to agent. An underlying metaphor can be set up as follows: AN OBLIGATION IS AN ENTITY TRANSFERRED.²⁰

Similar to the Indo-European dative, the Finnish genitive also encodes agent with the same types of agent-oriented modality (such constructions are called *necessitive* in Finnish grammatical descriptions), as shown in:

(52.) *Minu-n täyty-y nyt lähte-ä.*

1sg-gen must-3sg now leave-inf

‘I must leave now.’/‘I have to leave now.’ (from Sands and Campbell 2001: 270).

²⁰ In Ancient Greek, the dative of agent is also frequent with perfect verb forms, see Luraghi (2003: 65 with examples). The Greek perfect has stative meaning and, similar to nominal forms of the verb, it refers to an event as to a static entity. As the Greek dative often encodes possessor, the occurrence of dative agents with the perfect can be explained as an instance of extension of possessor to agent, see sec. 3.2.

It could be said that this usage is based on the extension of a possessor marker to the encoding of agent, as in the case of (48) quoted above which is, however, declarative. It can also be that the genitive of agent in Finnish can be accounted for in two different ways, depending on sentence modality.²¹

Extension of the dative marker to passive agent occurs in Japanese. According to current views, passive voice in Japanese has developed out of an original middle (Narrog 2010b, Toyota 2011). Passive agents already occurred in Old Japanese, but limited to poetry (Bentley 2001); apparently passive agent phrases could only contain human nouns (Vovin 2005), while they also extended to inanimates at later stages. In origin, middle forms indicated uncontrolled events, thus agent phrases must be a late (though pre-literary) addition. It is possible that a dative could be added to a middle form to indicate the human being affected by the event, and that it was later reinterpreted as an agent. This would also explain why only human agents occur at an early stage. A possible evolution would then be as follows: a beneficiary (dative of interest) is added to a verb form that indicates an uncontrolled event --> the notion of benefaction is reinterpreted as agency when the verb form acquires passive meaning. In fact, an agent is normally the human being who primarily profits from an event. Also in this case, as for the extension of beneficiary to recipient and of recipient/beneficiary to possessor, there seems to be a default interpretation at play (the human being in whose primary interest an event is brought about is the agent), rather than a metaphor.

3.4. *Agent and comitative*

²¹ Sands and Campbell (2001: 275) remark that the Finnish genitive often covers the function typical of the Indo-European beneficiary dative, as in: *Minu-n on hyvä ol-la koto-na* (1sg-gen be+3sg good be-inf home-ess) “It’s good for me to be home.” In addition, the adessive case is said to indicate agent in Finnish, as in: *Isä teetti tuoli-n puusepä-llä* (father make-caus.past.3sg chair-acc carpenter-ade) “Father had the chair made by a carpenter” (from Huumo 1996: 80), but this is clearly a causee, rather than a passive agent.

This type of polysemy is also very infrequent, as discussed in Stolz (2001a). One of the few examples that I am aware of is constituted by the Vedic Sanskrit instrumental, which indicates instrument, passive agent, and to some extent also comitative, even though for this function adpositional phrases were also used already at an early stage (see Luraghi 2001a with examples; Delbrück 1867 and Wenzel 1879 for a thorough discussion of various usages of this case).

Examples are the following:

- (53.) *hatá vṛtrám ... indrena sáhasā yujā*
 smite:IMPER.2PL *V*.:ACC *I*.:INSTR mighty:INDECL companion:INSTR
 “smite Vrtra, with the strong Indra as a companion” (*Rv*. i 23⁹);

- (54.) *abhí jahi raksásah párvatena*
 PREV smite:IMPER.2SG *R*.:ACC.PL stone:INSTR
 “Hit the Raksasa with the stone club” (*Rv*. vii 104¹⁹);

- (55.) *hatá indreṇa paṇayah śayadhve*
 smite:ADJ Indra:INSTR *P*.:NOM.PL lie-down:PRES.MID.2PL
 “smitten by Indra you, Panis, will sink into death” (*Rv*. x 108⁴).

The fact that this type of polysemy is usually avoided can be connected to the nature of prototypical comitative, which refers to a human entity that accomplishes an action together with another agent, as in:

- (56.) *Mary prepared dinner with Janet.*

The normal interpretation of (56) is that both Mary and Janet are actively involved in the event of

preparing dinner, that is, that they are both agents.

Given the possible co-occurrence of a comitative and an agent, polysemy is usually avoided. Indeed, the Classical Sanskrit pattern, in which the instrumental case indicates the roles of instrument and passive agent, while the comitative is encoded through an adpositional phrase with the instrumental, is typical of the Indo-European languages which retain the instrumental case and display the instrument-agent polysemy. For example, in Russian and most other Slavic languages the instrumental case encodes the instrument and the passive agent, while the comitative is encoded by the preposition *s* (or its cognates) and an NP in the instrumental.

3.5. *Comitative and possessor*

The roles of comitative and possessor are usually kept distinct. This lack of polysemy seems connected with another tendency of comitative markers in possessive constructions, described in Stolz (2001b), by which they tend to be re-interpreted as marking the possessum, rather than the possessor. Stolz remarks that such extension of comitatives is based on a conceptualization by which being with something equals to possessing something. He gives several examples that involve predicative possession. The following are from Swahili and Portuguese (both from Stolz 2001b):

(57.) *Hamisi a-na kitabu*

Hamisi 3SG-with book

“Hamsa has a book.”

(58.) *e sentouse porque estava com medo*

and sit:PRET.3SG+REFL because be:IMPF.3SG with fear

“And he sat down because he was afraid.”

Given the features of prototypical possession reviewed in sec. 2.2.2, this type of extension follows quite naturally as a consequence of the assumption that possessor and possessee need to be in close spatial proximity: if possession implies spatial proximity, then it can also be the case that spatial proximity indicates possession. Thus, the same metaphors that account for the Locative Schema for possession (see sec. 2.2.2) also account for extension of comitatives to possessee markers.

3.6. *Comitative recipient/beneficiary*

In sec. 3.4 and 3.5, we have seen that polysemy involving the comitative and other human roles is infrequent. This is the case also for polysemy involving the comitative and the recipient/beneficiary, which, according to Stolz et al. (2006) is virtually inexistent. If we consider the regions of space that serve as the source domain for the latter roles and for the comitative, lack of polysemy may look quite surprising: after all, comitatives arise from locatives, and recipients arise from allatives, two spatial semantic roles that are very frequently encoded by means of the same, polysemous marker. However, the relation between comitative and its source domain is completely different with respect to the relation of recipient with its source domain. As I have remarked in sec. ..., markers of spatial relations (typically direction) which extend to recipient usually also preserve their spatial meaning. But this is not the case for markers of location which extend to comitative, and which generally lose any spatial meaning they may have had before. Even though the comitative relation, ‘being with somebody’ implies physical proximity, comitative markers seem to be disconnected from the domain of space.

3.7. *Experiencer*

As remarked in sec. 2.2.4, the experiencer role is encoded in a variety of ways, its trademark being that it is always coded as something else. As repeatedly noted in the literature, cross-linguistic evidence seems to point toward the non-existence of a dedicated case for experiencer: language after language provide evidence for case systems that include cases for primarily coding agent, patient, recipient, possessor, various spatial relations, instrument and other inanimate relations, but case systems typically do not include a case whose primary function is to code experiencer. The only exception is constituted by the so-called affective case of some Daghestanian languages, whose primary function is indeed that of encoding experiencers with a sub-set of experiencer verbs (some perception and modal and mental verbs). This case exists in Andic languages and in one Lezgian language, Tsakhur (see Daniel and Ganenkov 2008). In origin, the affective was a spatial case, as shown by some vestigial usages with toponyms; in Tsakhur it is also used for the addressee of speech. The latter is a semantic role typically encoded in the same way as recipient cross-linguistically, through an extension of allative markers (see Daniel this volume), based on the Conduit metaphor (Reddy 1979), a complex metaphor that accounts for communication: IDEAS/MEANINGS ARE OBJECTS; WORDS/SENTENCES ARE CONTAINERS; COMMUNICATION IS SENDING. The occurrence of such a case with the primary function of encoding the experiencer role points toward a conceptualization of experiencers as locations or endpoints of direction.

In the discussion in sec. 2.2.4, I have argued that such spatial metaphors could indeed be mediated by other uses of the markers involved. Thus, adessive coding, such as in Finnish, can be mediated by the possessor schema, rather than depend on direct mapping from the domain of space. This conclusion is supported by the extension of the Possessor Schema to experiencer situations in

many languages. More in general, the large extent to which experiencers can be encoded through the dative case as recipients/beneficiaries in numerous genetically unrelated languages are very likely to owe to a gestalt effect, by which common features of the two roles (humanness, limited control, being sentient) are focused upon and account for experiencers being understood as similar to recipients/beneficiaries. In sum, the fact that dedicated case marking for experiencers is cross-linguistically so infrequent mirrors a more basic cognitive gap regarding this role, that is, that there are no basic metaphors that map spatial relations onto experiencers.

Note that languages abound of metaphors connected with the domain of experience: often, emotions/sensations are conceived as containers, or as things contained in body organs, for example. In addition, the Daghestanian affective case shows that mapping of the spatial domain onto the domain of experience is possible. Crucially however there appears to exist no grammaticalized paths that lead from space to experience and that are so widespread and arguably entrenched in cognition as metaphors that relate other roles to space, such as AGENTS ARE ORIGINS, POSSESSORS ARE PLACES or RECIPIENTS ARE DESTINATIONS. Possibly, this depends on the fact that metaphors that could account for experiencer (Experiencers are Places/Containers, Experiencers are Destinations) more frequently map space onto other semantic roles (possessor, beneficiary, recipient). A reason for this may well be that the domain of experience is very complex, and that experiencer predicates may be stative or inchoative (see sec. 2.2.4): for this reason, the encoding of the experiencer roles could hardly be based on a single metaphor.

4. Discussion

In the above sections, I investigated how space can serve as the source domain for semantic roles typically taken by human beings, and how these can extend through metaphor to other semantic

roles, typical of inanimate entities such as instrument or involving human activities such as purpose. The basic spatial relations of source, location and direction each offer a preferred source domain for one or more human relations. In particular, source offers the preferred source domain for agent, while direction offers the preferred source domain for recipient. Given the infrequency of a merger involving source and direction, metaphors mapping agent and recipient onto source and direction remain maximally distinct. And indeed, polysemy of agent and recipient is attested, but it is not manifested in means of encoding (cases, adpositions) connected with both spatial roles. As shown in sec. 3.3, agents can be encoded as recipients with verbal forms expressing obligation or necessity. In such cases, it is not the domain of space to provide the source for metaphorical extension. Rather, extension to agent is brought about by a metaphor that operates within the domain of human relations.

Location offers the source domain for several human roles, among which possessor and comitative. Remarkably, the relation of these two roles to their source domain is different, in that locative markers that extend to possessors usually retain their spatial meaning, while this does not happen in the case of locative markers extending to comitative. This might owe to the complexity of local relations involving human landmarks. It has been noted by Creissel and Mounole (2011) that human beings are not good landmarks of spatial relations, as they are highly mobile entities. As a consequence, location with respect to a human landmark often really indicates location in his/her habitual space, as with French *chez*:

(59.) *Je suis chez mon frère (mais il n'est pas là).*

Compare an inanimate landmark:

(60.) *Je suis à l'école (*mais elle [=l'école] n'est pas là).*

On the other hand, comitative generally indicates that the accompanee is present:

(61.) *Je suis avec mon frère (*mais il n'est pas là).*

Thus one can set up the following stages for the extension from locative to comitative:

(62.) (generic locative ---> specialized locative for human landmarks --->) comitative

where the parentheses indicate that the former two meanings stop being active as soon as the markers is extended to comitative.

Beside location, possessor has another frequent source in the domain of space, that is, source/origin. This connects it with agent, thus providing a basis for polysemy among human roles. Notably, source and location are two spatial roles which are typically kept distinct: as remarked in sec. 2.1.2, in spite of relatively frequent extension of source markers to location, the original meaning seems to necessarily be lost when the second develops, in very much the same way as in the case of location and comitative. Thus, languages may rely on both metaphors for indicating possessor, with the two ensuing constructions specialized for different functions (as in the case of external, i.e. dative, possessors in several languages of Europe, see Haspelmath 1999).

Similar to possessor, beneficiary also has different sources in the domain of spatial relations, as it may originate from direction markers or from markers of location or path. In the first case, beneficiary typically exhibits polysemy with recipient, while in the second it does not, but it tends to entertain polysemic relations with purpose and/or cause. Remarkably, while purpose is also a frequent meaning of recipient markers, cause is not: cause tends to be related with source in the domain of space, rather than with direction. Although unexpected, the polysemy of cause and

purpose is frequent. More research is certainly needed on the mapping of space onto these two semantic roles; from the examples analyzed in sec. 2.3.3, polysemy of cause and purpose seems to arise from markers that do not encode source or direction in the domain of space, but rather location or path, such as English *for* and Finnish *vuoksi*. Such markers typically also encode beneficiary, but not recipient (see sec. 2.2.6). Location and path are both located in the same region between source and direction in the domain of space. As argued in sec. 2.1.1, they are atelic as they do not indicate a change of state, contrary to source and direction, which imply that an entity is starting or ending motion. They provide for an intermediate, non-directional area, which is the source domain for the semantic role reason. The latter role in its turn provides the area of overlap for source and cause.

Experiencer seems to have no direct source in the source domain of space: various markers of spatial relations that can code this role in different languages seem to be motivated by its connection to other human roles, in particular recipient and possessor. In any case, cases and adpositions that might point to a relation between the experiencer role and the spatial domain typically encode location or direction, but not source. This is not surprising: experiencers are usually conceived as being affected by experiential situations, rather than initiators thereof.

The polysemies reviewed above all show that source and the other spatial semantic roles tend not to merge, and that, accordingly, human roles directly connected with them remain separated. Unexpected polysemies such as the one involving agent and recipient do not have their direct origin in the domain of space, but are based on extensions in the domain of human relations.

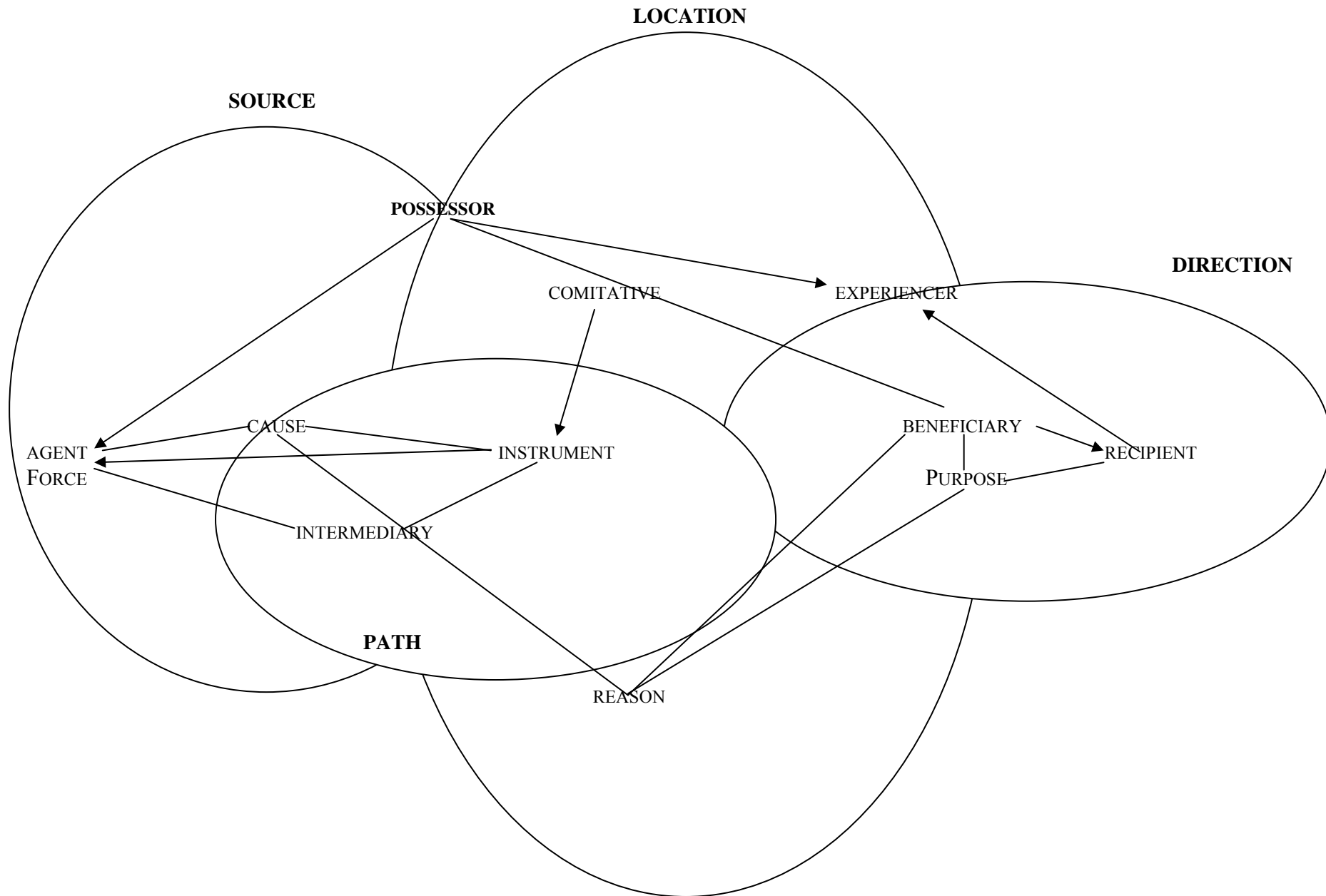
The predictions in (1) regarding the direction of semantic extension, from space to human relations, to inanimate ones are generally borne out, even though the case that space is mapped directly onto an inanimate relation, with no intermediate human role, is not infrequent. The most obvious example is the mapping of space onto time; in addition, abstract roles such as cause and purpose also often involve direct mapping from the source domain of space. The semantic role of instrument is most interesting in this respect as the instrumental meaning is often acquired by

location markers, possibly by a generalization based on the specific shape of certain instruments, which makes them equally available for instrument and for location expressions. Instrument is also involved in the only clear case of semantic extension that contradicts the scale in (1) as instrumental cases or adpositions often extend their meaning to the agent role. Tentatively, I explain this development as based on a referential metonymy rather than a metaphor.

In spite of the pervasive role of metaphor, other mechanisms also operate in semantic extension and are responsible for semantic role polysemy. Beside the referential metonymy just mentioned, I described predicational metonymies in the case of beneficiary and recipient and of recipient and possessor polysemy.

The fact that source tends not to display polysemies that involve the other spatial roles does not mean that morphemes encoding source cannot undergo semantic extensions in the domain of space. As I have shown in 2.1.2, extension from source to location and direction is well attested; contrary to many other semantic extensions reviewed in this paper, though, it does not result in polysemy as the original meaning disappears when the new one(s) develop. The data attesting to this development do not point to a gradual change: to the contrary, the fact that polysemy of source and other spatial roles is so infrequent, while the corresponding semantic extension seems to be rather frequent, rather indicates that the overlapping of the source and target meanings is avoided. The same happens for semantic extension of location markers to the comitative role. In this case as well, polysemy is virtually inexistent, and the original locative meaning of comitative markers can often only be reconstructed.

In Fig. 9 below I give a tentative representation of connections among the semantic roles surveyed in this paper, on the background of the source domain of space. The map should better be viewed as being tri-dimensional, thus allowing for a representation of polysemy among non-contiguous roles, such as cause and purpose. In addition, the role of experiencer should be viewed as detached from the background source domain, as it apparently has no direct connections with it.



Appendix - List of metaphors discussed in the text

AGENCY IS A THING TRANSFERRED

AGENTS ARE ORIGINS

AN INSTRUMENT IS A COMPANION

AN INTERMEDIARY IS A CHANNEL

CAUSES ARE ORIGINS OF EVENTS

COMMUNICATION IS SENDING

EXISTENCE IS POSITION IN SPACE

EXPERIENCERS ARE PLACES (OR CONTAINERS) FOR FEELINGS/SENSATIONS

EXPERIENCERS ARE POSSESSORS OF SENSATIONS

EXPERIENCERS ARE RECIPIENTS OF FEELINGS/SENSATIONS

FEELINGS/SENSATIONS ARE THINGS

IDEAS/MEANINGS ARE OBJECTS;

MATERIAL IS AN INSTRUMENT FOR CREATING OBJECTS

OBJECTS COME OUT OF SUBSTANCE

PHYSICAL VICINITY IS CONTROL

POSSESSORS ARE ORIGINS

POSSESSORS ARE PLACES

PURPOSES ARE DESTINATIONS

RECIPIENTS ARE DESTINATIONS

SENSATIONS ARE THINGS POSSESSED

THE VISUAL FIELD IS A CONTAINER

TIME IS SPACE

WORDS/SENTENCES ARE CONTAINER

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