What is Formal and What is Telic in a Predicate?
An Alternative Vision of the Generative Lexicon's Qualia

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1. Introduction

In the field of linguistic semantics, the Generative Lexicon Theory initiated by James Pustejovsky some ten years ago is a major step towards the creation of a unified system of semantic representation. Its unity comes from the principle of using one single basic descriptive format for all word categories, which in turn makes it possible to grasp the generation of meaning through word composition, even at the sentence level. This compositional aspect of the theory seems to have given rise to comments and discussion among various linguists, especially concerned with the question of type coercion\(^1\). It appears to me however that we need a more firm basis in the descriptive part of the theory, in order to be able to truly tackle the rules of compositionality.

Since we are aiming at a unique representational system, it is important to consider thoroughly the basic tools of semantic description suggested by Pustejovsky (1995), in particular if we compare the semantic building blocks of entities with those of events. Establishing a parallel between semantic representation and some common perceptual phenomena will help us to make such a comparison.\(^2\)

In the Generative Lexicon, one of the most important tools for the analysis of events is the *event structure*, which contains not only the *Aktionsart* of events (state, process or transition), but also their subeventual structure ($e_1$ and $e_2$), which is necessary for the description of dichotomic events (transitions). Another necessary tool for event description is the *qualia structure*, in which Pustejovsky (1995) especially underlines the importance of the *formal* and *agentive* roles. In what follows, we will try to show that in addition to these elements, the *telic* facet of the qualia also plays a fundamental role in the semantics of predication.

We will first concentrate on the formal role of the qualia structure by underlining the parallel between this particular role and the concept of “semantic type”, a notion frequently used in Pustejovsky (1995), though never really explained. We will show that formal role and semantic type can be considered as equivalents. Looking for common denominators between entities and predicates will lead here to a new vision of the formal role for predicates, which brings it closer to what Pustejovsky (1995) suggested for entities. The underlying


\(^2\) This, basically, is the underlying approach in my doctoral thesis (Lautenbacher, 2000), and I hope it will also appear in this paper.
general-level semantic question here concerns of course the criteria that should be used in order to get a single and cross-categorical representational system. This means that we need to adopt a notional system that is general enough for both entities and predicates, and still showing some cognitive consistence. The part vs. whole opposition is exactly the type of foundation we need.

Secondly, and partly because of this new approach to formal role, we will need to grasp the difference between event structure information and information conveyed by the formal role of predications. This part of the paper will show the existence of a hierarchical relation between the building blocks of semantic representation: the formal role of the qualia will be seen as the highest cognitive structure, since it has to take into account all the other semantic structures.

Thirdly, we shall address the question of telicity. The telos is an essential part of the semantics of predication, mainly because of its importance in human cognition. Here, again, it would seem that some of the basic perceptual phenomena might well have logical counterparts in the way we organise semantic information in our mind.

Finally, we will examine some of the consequences that the minor adjustments we suggest in these structures might have for the representational system as a whole.

2. Formal Role and Semantic Type

The qualia structure of Pustejovsky (1995), including the constitutive, formal, agentive and telic roles, is strongly based on the four “causes” of Aristotle, appearing in the following excerpt from Physica:

All the causes now mentioned fall into four familiar divisions. The letters are the causes of syllables, the material of artificial products, fire, &c., of bodies, the parts of the whole, and the premises of the conclusion, in the sense of ‘that from which’. Of these pairs, the one set are causes in the sense of substratum, e.g. the parts, the other in the sense of essence—the whole and the combination and the form. But the seed and the doctor and the adviser, and generally the maker, are all sources whence the change or stationariness originates, while the others are causes in the sense of the end or the good of the rest; for ‘that for the sake of which’ means what is best and the end of the things that lead to it. (Whether we say the ‘good itself’ or the ‘apparent good’ makes no difference.) Such then is the number and nature of the kinds of cause. (The Works of Aristotle, volume II, Physica 3, 195a, 15-27)

These lines give us a clear vision of the parallel:

a) The “parts” (or “substratum”) of Aristotle (or of the English translation, at least) become the constitutive role in Pustejovsky (1995).

b) The “whole”, the “combination” and the “form” become the formal role.

c) The “sources” of change or stationariness become the agentive role.

d) The “end” is the telic role of the Generative Lexicon.

But much more than Aristotle, Pustejovsky defines the formal role in a strictly “objectal”, concrete and entity-based manner, somehow abandoning the idea of the “whole”:

That which distinguishes the object within a larger domain: orientation, magnitude, shape, dimensionality, color, position. (Pustejovsky, 1995: 85-86)

Using this terminology, the problem immediately arises with predicates, which in the Generative Lexicon approach should logically be described in the same terms as noun-type entities, since the purpose of the theory is also to provide “a semantic representation that is applicable cross-categorically” (Pustejovsky, 1995: 239). In fact, in order to embrace any word category, the definition of the formal role has to be
general enough, and one way to achieve this level of abstraction is to keep Aristotle's opposition between constitution and form, i.e. part and whole.

2.1. Entities

If we study the formal role of entities, it appears to be closely related to semantic typing. A novel is (formally) a book and a book is a physical object (Pustejovsky, 1995: 78, 144-145). In this vertical relation, it is the totality of novel that is designated as being a book, an artefact, a physical object or an entity, as in Fig. 1:

![Diagram showing entity, physical object, artefact, book, novel relationships](image)

Fig. 1: The formal relation between novel and entity.

In other words, the formal role of the qualia cannot be a description of just some of the constitutive parts of the entity. Although the terminology she uses is not the same, the view of Wierzbicka can be enlightening:

Nouns embody concepts which cannot be reduced to any combination of features. They stand for categories which can be identified by means of a certain positive image, or a certain positive stereotype, but an image which transcends all enumerable features. Wierzbicka (1988: 471)

*Book*, for instance, can of course be seen as having such constituents as *paper* and *ink*, or even *sentences* and *information*. But these constitutive relations only *describe* the entity through its *parts*, whereas the formal relation *designates* it as a *whole*. In terms of form, a book cannot be information, even though it can be informative. In other words, a given entity has one single formal link leading to different levels of higher types (cf. hyperonyms), whereas in terms of constitution, in a reversed direction, we are led to a multiple set of constitutive features.3

![Diagram showing entity, physical object, artefact, book, paper, ink, sentence, information relationships](image)

Fig. 2: The constitutive parts of a book (C-relations) vs. its semantic type relation (F-relation).

From this point of view, in the very same way, the formal role of a predicate should give us a description of the whole. But this means that we need to define the concept of “whole” for a predicate.

2.2. Predicates

Let us consider some of the basic representations given for predicates in Pustejovsky (1995). The distinction between *sleep* and *run*, for instance (p. 80), appears in the qualia through the role that is activated; *sleep* is defined by its formal role (*FORMAL = sleep [e₁, individual]*) ; *run*, on the other hand, is represented with the agentine role (*AGENTIVE = run_act [e₁, individual]*) ⁴. Although these representations do correspond to the

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3 This multiplicity of constitutive elements makes it difficult to include clearly the constitutive role into qualia representation, which also explains its absence in the representations given by Pustejovsky (1995).

4 The agentine role being defined as “factors involved in the origin or ‘bringing about’ of an object: creator, artefact, natural kind, causal chain” (Pustejovsky, 1995: 86).
intuition that running is more agentive or active than sleeping, it is a pity that the second representation suggested by Pustejovsky does not inform us about the formal role for the verb run.

If we adopt the view in which every entity or event has to correspond to a mental image of some sort, and that this image is given by the formal role in terms of semantic type, it is then also necessary to have a formal role in the qualia of run. This formal role has to be different from what was suggested in Pustejovsky (1995), for two reasons. First of all, every event has a formal role, since we can say about any predication whether it is a state, a process or a transition, i.e., what it is, as a whole. But if we choose to keep the syntactic formula suggested in the Generative Lexicon, what would then exactly be the difference between the formal role and the agentive role for the verb run, since both would give us the same syntactic information: a) QUA = FORMAL: \([\text{run}(x)]\), and b) QUA = AGENTIVE: \([\text{run}(x)]\)\(^5\)

The second reason is that the very nature of the information given by the formal role often seems \textit{ad hoc}, a situation which can be quite unfortunate for the unity of the representational system. In Pustejovsky (1995), the formal role for run wasn’t mentioned (except maybe in the suspension points p. 80); for sleep, the information of QUA-FORMAL was basically syntactic: \([\text{sleep}(\text{argument})]\); and finally, for transitions, the formal role gave us information of a completely different nature, namely the resulting state of the event, as appears in the given examples:

(1) \textbf{arrivare} (cf. p. 190)
QUA-F: \textit{at} (state-e2, ind-x, loc-y)

(2) \textbf{break} (cf. p. 80)
QUA-F: \textit{broken} (state-e2, object-y)

This resulting state\(^6\) is nothing more than the second part of a dichotomic subeventual structure, and thus, this representation does not match the idea of the formal role, such as it is defined above:

\[ \text{break} \]

\[ E1 \quad C \quad C \quad F \quad ? \quad E2 \]

\textit{Fig. 3: The formal role of a predicate cannot be one of its constitutive elements.}

In trying to grasp the “whole” of an event, it is important to be aware that any predicate needs a cognitive argument to take any shape (or form) in the mind. For example, it is easy for us to think of a \textit{man}, and to “draw it in our mind”, so to speak, but if we want to cognitively visualise something like \textit{run}, we actually need to see \textit{something that is running}. This basic claim suggests that the formal role of a predicate (or designation of the whole, since we draw a parallel between formal role and semantic type) needs to take into account all the arguments that are connected to it. In other words, a predicate has no shape \textit{per se}: it is the predication in its whole, that is “named” by the formal role.

\[^5\] Pustejovsky (1995) added here that \textit{run} is an “act” (or activity). Yet isn’t it just redundant to say that an agentive event is an act? Of course this depends on the definition we choose for “agentivity”. We believe the main problem with the agentive role of the qualia is that it does not allow us to make any clear distinction between (natural) cause and (intentional) agent.

\[^6\] Notice furthermore that even the nature of the resulting state is different in (1) and (2). The \textit{telos} of \textit{arrivare} is purely locational, while the \textit{telos} of \textit{break} is a new state of the argument itself (the broken object).
2.3. A Combined Representation

From a more general point of view, the formal role, through its hyperonymic nature of semantic typing, is what enables us to systematically reach the more abstract levels of conceptualisation, for entities and events as well. In fact, all four "causes" of Aristotle and qualia roles of Pustejovsky could be outlined as a system of conceptual levels including two main directions: a vertical one leading upwards to semantic type, and a horizontal one leading "forward", towards the telos (see Fig. 4).

The most basic level (at the bottom of Fig. 4) contains the constitution of things (the C-arrows), described in terms of material, elements or parts of the whole. This "whole" in turn is the designative part of this same level. We can compare this representation to Fig. 2, where we had the constituents of book (namely paper, ink, sentence, information and so on) and where book corresponded to a first designative label of the formal ascension.

The next stage of conceptualisation is then reached through the formal relation (F-arrows), and it is at this second level that we meet the horizontal relations between cause and effect. Thus, it is here that the agentive and telic roles of the qualia are activated. In the example of book (Fig. 2), we would now be at the level of artefact. Every artefact being a result of a creation, and every creation act being carried out by an intentional agent, our vertical semantic typing course is now crossing the following telic line:
creator ➔ create ➔ artefact

Fig. 5: This horizontal line shows us the agentive relation (A) between the creator and the creating act, and the telic relation (T) between the creating act and its result: the artefact.

We might also consider that the fundamental opposition between entities and events (or arguments and predicates, or even things and relations) is to be situated at this level.⁷

The third and ultimate level is where entities and events “join” in the sense that they are both equally treated as entity-like concepts. The existence of this last level is corroborated by several linguistic phenomena, such as nominalisation for instance, which is a simple way of making an entity out of a dynamic event: work, action, creation, conceptualisation... But nominalising creation is in fact conceptualising the whole horizontal level including the creator, the act of creating and the (potential) artefact.⁸ An other interesting example of this is the way Finnish expands the use of locative cases to events. Their basic use is nominal, as in the following sentences:

(3)  
a. Mies astui taloon.  
The man stepped into the house.

b. Janne asui tässä talossa.  
John lived in this house.

c. Lapset poistuivat talosta.  
The children left (from) the house.

But exactly the same case system can be used with events, which is a way of making cognitive locations out of them:

(4)  
a. Tytöt menivät uimaan.  
The girls went (into the) swimming.

b. Isi oli rakentamassa autotallia.  
Dad was (in) building the garage.

c. Pojat tulivat kalastamasta.  
The boys came (from the) fishing.

But we need now to go back to the event structure of the Generative Lexicon in order to find out what exactly distinguishes this concept from the formal role of the qualia, such as defined above.

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⁷ We believe it is important to separate the predicate from the entities in the representation, because the agent can only be “agent of an action”. He cannot be, for instance, the “agent of a book”. Then again for the telic relation, it is only the act of creating that allows the coming into being of an artefact. The only direct link between the creator and the artefact is the intention, but it is a necessary one: the artefact (or future result) is only an idea in the creator’s mind when the actual creating process is going on. In other kinds of causative situations, on the other hand, the intentionality of the action is not so obvious: John broke the bottle - did he do it on purpose or not? It appears that among verbs denoting change, only verbs of creation seem to carry in themselves the intention of the agent. From this point of view, it would also seem essential to make a clear distinction between simple causality and intentional agenticity of an event. One way of doing this would be to create a link between the agentive role (which would give us the basic cause, i.e. John in this particular case) and the telic role of the qualia (the broken bottle as an intended result). This link would naturally only be activated if the event is intentional (the bottle was broken on purpose). On causation and agenticity, see the interesting proposals made by François (1990) and Baudet (1990).

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⁸ Of course the nominal form a creation can also be understood as the artefactual result alone, because of a metonymic relation. But in this case, we are necessarily dealing with a transitional event, since the resulting state has been achieved. (Cf. 4.2., below)
3. Formal role and Event structure

In the event structure, Pustejovsky’s aim is to give indications about the internal aspect of a predicate, its Aktionsart. Basically this means that the event structure should always contain the same information for a given verb. *Run* in itself, for instance, stays a process in the semantic representation whatever phrasal context (arguments, tense, aspect, etc.) the verb appears in. Correspondingly, *(to) be (at the store)* is always a state. However, since we need a cognitive argument to visualise a predicate, we have to admit that this is also true within the event structure. Yet there is a clear difference in the scope of these two structures. In the event structure, it is only the true argument (the only one necessary for visualising the verb) that is at stake, not the totality of semantic factors involved in the predication, as is the case with the semantic type given by the formal role of the qualia (F). Let’s consider the following representations:

(5) *(to) run:*

\[
\text{EVENTSTR} = \text{process (run)} \\
\text{ARGSTR} = x \\
\text{QUA} = F: \text{process [run (x)]}
\]

(6) *John is running:*

\[
\text{EVENTSTR} = \text{process (run)} \\
\text{ARGSTR} = \text{John} \\
\text{QUA} = F: \text{process [run (John)]}
\]

(7) *John ran to the store:*

\[
\text{EVENTSTR} = e_1: \text{process (run)} \\
e_2: \text{state (be - at the store)} \\
\text{ARGSTR} = \text{arg}_i: \text{John} \\
\text{arg}_2: \text{store} \\
\text{QUA} = F: \text{transition [ran_to (J, store)]}
\]

In these examples, we can see first of all that the semantic type (QUALIA - FORMAL) of an infinitive (5) cannot be much more precise than what we know about the inherent aspect of the predicate (EVENTSTR). It is only when we have an idea of the whole picture through the formal role of the qualia that the difference effectively arises between event structure and semantic type (6). In fact, the formal role actually is the cognitive picture of the situation we want to describe when we speak. Even the double nature of the event structure appearing in (7) above (with the \(e_1\)-process preceding the achieved \(e_2\)-state) can only be stated by means of composition, the elements of which are deductible from QUALIA - FORMAL. It is because the global picture includes the existence of a location, such as the store, that we are able to create an \(e_2\)-state such as *be at* in the event structure. To put it simply, the more information we have in the semantic type of a predication, the more this formal role will differ from the event structure of its infinitive predicate alone.

This way of looking at things has obvious consequences on other aspects of the Generative Lexicon’s system. First, the ungraspable nature of the predicate forces us to claim that the formal role of a predication must include not only the event structure (the Aktionsart of the predicate and the necessary cognitive argument linked to it) but also all the elements which can be relevant for the designation of the whole cognitive picture (the argument structure and the telic structure of the qualia). This would mean that the formal role is at a higher level in the hierarchy than the other facets of the semantic representation.\(^9\)

\(^9\) It is though worth noticing that, at least within the semantics of nominals, the *telic* role can sometimes seem even more relevant than the formal role. Pustejovsky (1998: 294) underlined this point: “A crucial distinction between *rock* and *chair* concerns the properties which differentiate *natural kinds* from *artifacts*: functionality plays a crucial role in the process of individuation of artifacts, but not of natural kinds.” If this is certainly true in the cases
Another consequence, and perhaps a more concrete one, is the necessity to find a new slot for the resulting state $e_2$, which Pustejovsky had in the formal role for transitional predicates. It would seem a natural move to transfer this information into the telic role of the qualia structure. This would also give a more important part to the telic role, which can seem somewhat undervalued in the Generative Lexicon in general.

4. Telicity

In Pustejovsky (1995), most of the semantic differences between predicates are based on the opposition between (or the combination of) the formal role on one hand, and the agentive on the other, but without referring to the telic role of the qualia.\textsuperscript{10} The problem is that the theory doesn't underline enough that any causative event implicates in itself a telos.\textsuperscript{11} Thus, a predicate like break has an intrinsic telic role in which appears the resulting state of the action: \textit{[broken (x)]}, an information Pustejovsky suggested to integrate into the formal role, as we saw earlier.

Before going any further, however, let us first see how the Aktionsarten look like if we take into account the necessary cognitive argument of the predicate.

4.1. Visualising Telicity\textsuperscript{12}

In order to define the Aktionsarten, the following points ought to be taken into account:

(i) \textit{The necessary (and unavoidable) presence of a cognitive argument, without which states could not exist};

(ii) \textit{The time factor (or temporality)};

(iii) \textit{The comparison of the successive states of the argument at the different stages of the temporal evolution}.

A state, in this approach, can be described as a single image of the argument it is attached to. The state is not an event in itself, but it is a building block for constructing one. This is because of its dual nature: since it gives us a synchronic vision of a static reality, but at the same time can be seen as a part of diachronic evolution (or movement), the state is actually a junction between the non temporal sphere of entities and the temporal sphere of events. In other words, the state is a fundamental link between the conceptualisations of space and time.

Following the same logic, the process-class of Aktionsart has to be divided in two subclases. Considering a process like run, it is important to notice that its mental visualisation (through its cognitive argument) can be reduced to one single picture. This is not the case with grow, for instance, which requires a series of (at least) two images. The difference between these two processes is that the true argument of grow undergoes a

\textsuperscript{10} This was the case for instance with the sleep/run opposition mentioned in 2.2 above, but also more generally in Pustejovsky (1995): break (p. 80), build (pp. 82, 103, 198), kill (pp. 102, 208), drive (p. 114), float into the cave (p. 126), affondare (p. 192) etc. are all predicates that are described without their telic structure.

\textsuperscript{11} This telos is usually a state, and it can be either of resultative or of intentional nature. Within entities, the telos also includes function.

\textsuperscript{12} For a more precise view on this topic, see Lautenbacher (2000b).
transformation (namely in size, in this particular example), while the argument of run does not. We can thus consider that run is a “simple process” and grow a “complex process”. Because the last state of a complex process is different from its initial state, this kind of process is telic by nature. “Telicity” means here that the event is simply oriented towards a new and different state of its cognitive argument. This appears for instance in the nature of the resulting states of He has run versus He has grown. In the first case, we can only see a refutation of the running (He is not running anymore), while in the second, we actually have a new state (He is now bigger). The main difference then between a telic process and a transition is that the first is only a telos-oriented movement, while the second actually achieves the telos. In fact, a complex process can become a transition by means of composition, depending on the tense-aspect values of the sentence.

In Fig. 6 below, the state (I) is a non-temporal predicate. The simple process (II) is temporal, but made of a repetition of identical states (the white squares). This explains why we are able to “reduce” our mental representation of a simple process to one single cognitive image. Thus, this type of processes is actually related to states. The complex process (III), on the other hand, shows the transformation going on, stage by stage, in the argument, which is here represented by the darkening squares. Finally, the transition (IV) is obviously related to the complex process, simply shadowing its middle stages and keeping the extremities of the event as the only relevant information.

![Fig. 6: Visualising event types](image)

4.2. A New Hierarchy for the Qualia?

Describing the semantics of a predication requires great precision in the description of its constitutive elements. We first have to acknowledge the intrinsic aspect of the predicate (the Aktionsart), which means building a cognitive picture through its necessary argument. At this stage, it is the event structure that is activated, providing us the nuclear information on temporality, cognitive argument and argumental transformation. This is the basis for any subsequent semantic composition. Yet, because the argument is necessary at a cognitive level, it will also automatically activate the argument structure of the representation. We already noticed in example (5) above that with an infinitive verb, this structure will only state a potential argument $x$. But with a simple process like this one, the telic role of the qualia is not relevant:

(5) (to) run:

EVENTSTR = simple process (run)
ARGSTR = $x$
QUA = F: simple process [run ($x$)]

The complex processes, because of their intrinsic directionality, will on the contrary activate the telic role, even at the infinitive form. The semantic type of the whole situation, given by the formal role, is of course different here. Take (to) grow:
(8) (to) grow:
EVENTSTR = complex process (grow)
ARGSTR = x
QUA = T: grown (x) (= potential result)
      F: telic process [grow (x)]

With transitions, the idea is to underline the resulting state, which means that the telic role is not only activated, but also relatively salient. And it is because of this prominence of the telos (indicated below by the asterisk) that the event structure becomes dichotomic, showing a second subevent of static nature (e2), which in this case corresponds to the last state of e1:\textsuperscript{13}

(9) (to) have grown:
EVENTSTR = e1: complex process (grow)
      e2: state (grown)
ARGSTR = x
QUA = T*: grown (x) (= resulting state)
      F: transition [have grown (x)]

The nature of the telos thus depends on the degree of its cognitive presence in the mind. If the state e2 is really part of the mental picture of the event we want to communicate when we speak, the semantic type we have in mind is "transition", as in (9) above. But if the second subevent state is only a potential one, the speaker cannot state anything more in the formal role than "telic process", thus denoting a mere direction.

One interesting example of this phenomenon appears in the creation predicate (to) build.\textsuperscript{14} In lexical terms, build is not a transition in itself, but what was called a simple process, above. It is only through composition that the syntactical overall picture of John built a house, for example, denotes a transition. What Pustejovsky (1995: 82) suggested here for the formal role of build, namely [exist (x)], actually belongs to the semantic description of the second argument: [house (x)]. In the description of the predicative though, this artefact appears in the telic role of the qualia. This is because if the object house has been created (John built a house), it has an existence in our mind. The predicative in this case an artefactual result, and it is the existence of this artefact that forms de facto the second subeventual state of a transition. On the other hand, if the object is only being thought of, or in other words if the house is only the agent’s idea of a potential (or future) result of his action (John is building a house), the formal role of the whole predicative remains a process.

The perception of the totality of the result is also important for defining a transition. The aspectual organisation of the Finnish sentence reveals the idea well, since it is the case of the object which determines the aspect of the whole sentence.\textsuperscript{15} The partitive case in the direct object shows a situation where the house is only being built, because the whole of the object cannot be seized. This, in French, is mainly distinguish different kinds of change. In the field of causality, the three basic event types are: creation (where a creator acts upon existing elements in order to intentionally bring about something new: the artefact); transformation (where an existing entity undergoes a transformation, but where this change can be the result of an agentive act, of a natural cause or else) and change of location (which is in fact nothing more than a shift in the background of the argument).

\textsuperscript{13} Notice that this wasn’t the case with simple processes like run, for which the last state is of a different nature (namely location in this particular case).

\textsuperscript{14} Beginning the analysis through the state(s) of the cognitive argument of a predication leads us of course to a situation where it is important to clearly distinguish different kinds of change. In the field of causality, the three basic event types are: creation (where a creator acts upon existing elements in order to intentionally bring about something new: the artefact); transformation (where an existing entity undergoes a transformation, but where this change can be the result of an agentive act, of a natural cause or else) and change of location (which is in fact nothing more than a shift in the background of the argument).

\textsuperscript{15} For a general presentation of aspect within the object in Finnish, see Hakulinen & Karlsson (1988: 172-188) and Heinämäki (1984). For the notion of completeness in the partitive/accusative opposition, see Vilkuna (1996: 118-129).
expressed by the use of the imperfect tense (imparfait):

(10)  Janne rakensi taloa. (partit.)
      Jean construisait une maison.
      John was building a house

      On the other hand, the accusative of
      the complement in Finnish grasps the
      totality of the house, which thus has to be
      built. This would correspond to the passé
      composé construction in French:

(11)  Janne rakensi talon. (acc.)
      Jean a construit une maison.
      John built a house.

      The Finnish example shows the
      importance of the resulting state for the
      semantic representation of a predication. It
      is only through the mental vision of the
      achieved entity (the existence of the artefact
      in our cognition) that the event becomes a
      transition. Thus, this linguistic construction
      is also a very concrete example of how we
      can bind the state both to space and time.16

5. Conclusion

The aim of having a unique cross-
categorical representational system for the
entire lexicon made us underline the link
between the formal role of the qualia and
semantic type. Conceptualising was seen
here as happening in terms of “designation
of the whole”, which quite naturally led us
to a situation where even predications end
up as concepts of non-temporal nature.
Trying to give cognitive shape to predicates
also showed the importance of an entity-
centred approach. We suggested that the
junction between the vertical non-temporal
axis (of constitution and form) and the
horizontal temporal-causal axis (of
agentivity and telicity) was established by
the most basic of all Aktionsarten: the state.

      On the horizontal axis, we
underlined the importance of the telic role
of the qualia, which should be
systematically activated in any event
including a direction, i.e. implying a change
of some sort (creation, transformation or
change of location). Thus, the very nature of
the telos can be completely different from
one event to the other. Nevertheless, at a
cognitive level, the part vs. whole
opposition seems to have a certain
explanatory power here also, allowing us to
distinguish between an achieved result and
a telos that is aimed at or even a simple
direction. Furthermore, and though this
paper only touched on the subject, it would
seem necessary to find a way of linking the
agentive role to the telic role of the qualia,
in order to formalise the difference between
the natural cause of an event and a true
(intentional) agent.

      These suggestions, of course, might
encounter some difficulties. One of the
most crucial questions concerns the vertical
representation: what exactly is the nature or
cognitive status of these “mental images”
we are talking about? We might well have
to wait and see what the psycho-cognitive
research will reveal about the problem of
“mental visualisation”, for events in
particular, before we can seriously tackle
that question. Another objection — and the
answer to it would also need further
investigation — concerns the nature of
states: can we be sure that it is the state, and
not the simple process, which is the
primitive element in the Aktionsart,
especially when the state is “negatively”
defined by the absence of time? Besides,
one could ask if it is always true that a
simple process can be reduced to one single
mental image. We also believe that further
analysis of the different forms of change
would be necessary, since from a diachronic

16 For the analysis of the French verb construire and
the Finnish verb rakentaa, see also Lautenbacher
(1999).
point of view on the lexicon, one can fairly easily see a relation between change of location and argument transformation (for example in the pair *come* and *become*, respectively).

On the other hand, we believe the proposals made in this paper do offer interesting openings. One of these would be in the field of interaction studies. The cognitive overall picture — i.e. the formal role — of a message is built up from the other semantic structures by the speaker, and each one of these semantic "frames" gives the hearer a particular information. Thus, what we actually do when we receive a message, is to try to rebuild in our own mind the formal picture intended by the speaker, and the tools we have at our disposal for this reading are mainly the argument structure, the event structure, the telic and agentive roles of the qualia structure. In addition to these elements, and complicating their interaction, there is also the difficult but crucial question of salience, which is not only due to the speaker, but is actually in the eyes of all of us.

References


