

## **A usage-based approach to prototypical transitivity\***

Victoria Vázquez Rozas

*University of Santiago de Compostela*

### *1. Introduction*

In this paper, the notion of prototypical transitivity will be re-examined. Taking as point of departure its traditional characterization, particular attention will be paid to the identification of transitivity with physical causation. Adopting a usage-based view of transitivity, data on first language acquisition and textual frequency will be put forward. This leads to a new prototype in which intentional causation prevails over physical causation, thus ruling out the assumed cognitive and communicative prominence of highly transitive clauses.

### *2. The transitive prototype: state of the art*

As is well known, prototype theory was originally applied to the description of the referential potential of lexical elements. The research of Eleanor Rosch (1975) on the categories of ‘bird’, ‘furniture’, ‘fruit’ or ‘vehicle’ counts as a classical reference. Soon the interest of the model was extended to the description of structural linguistic categories, and particularly to the semantic description of the transitive construction.

There is a striking convergence between the different definitions proposed in the literature regarding the properties of prototypical transitivity (cf. Lakoff 1977: 244;

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Hopper & Thompson 1980; Delancey 1987; Langacker 1991: 301-302; Kemmer 2003:96, etc.)<sup>1</sup>.

According to Taylor (1995: 206-207), the following are the prototypical semantic properties of the canonical transitive construction:

- a) The event involves two participants –subject and direct object– .
- b) The two participants are highly individuated.
- c) The agent (subject) initiates the event.
- d) The agent acts consciously and volitionally, and controls the event. The agent is human.
- e) The patient experiences the effects of the action performed by the agent.
- f) The patient suffers a perceptible change of state as a consequence of the event.
- g) The event is construed as punctual.
- h) There is direct physical contact between the agent and the patient.
- i) The event is causative.
- j) The agent and the patient are contrasting entities.
- k) The event is real.

The properties listed by Taylor describe the meaning of transitive constructions considered to be prototypical. Still, one can wonder which is the basis for the prototypical character of the construction, or how this kind of construction relates to others that are also transitive but do not exhibit (all) of the aforementioned properties.

In general, the coinage of certain transitive constructions as prototypical does not appear to rest on the parameters habitually invoked for defining syntactic prototypicality, viz.: frequency, productivity, salience, transparency, autonomy and naturalness (cf. Winters 1990). Rather, the canonical notion of transitivity seems to rely on the traditional

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<sup>1</sup> This does not imply that the points of view are in all respects identical. For instance, there is no full agreement on the individuating character of the prototypical object (e.g. Hopper & Thompson 1980 vs Aristar forthcoming). Delancey (1984) and Tsunoda (1985) disagree on the relevance of the ‘volitional’ parameter in the syntactic coding of the clauses. Moreover, Hopper & Thompson (1980) do not situate their proposal within the prototype theory, as they refer to “high (vs. low) transitivity” and to “cardinal transitivity”, not to the “prototypical” one.

definition stating that in a transitive clause ‘the action passes from an agent onto a patient’. This yields a particular profile. Indeed, the predicates considered to be typical belong to a specific subtype of action verbs, viz. violent action directed toward a goal. This is corroborated by the examples usually adduced.

Lakoff (1977: 244) offers examples with *kill*, *hit* and *break*. Tsunoda (1985: 387) includes *kill*, *destroy*, *break* and *bend* among the prototypical transitive verbs. Andrews (1985: 68), who defines “primary transitive verbs” as “the class of two-argument verbs taking an Agent and a Patient”, gives as examples *kill*, *eat*, *smash*. Croft (1990: 60) considers as prototypical the verbs of “ingestion, manipulation, creation of objects, and force-motion, location” and the verbs of destruction (ibid: 61). Levin (1999) distinguishes the ‘core transitive verbs’ from the ‘noncore transitive verbs’, and among the first ones she includes *kill*, *cut*, *destroy*, *break*, *open*. And García-Miguel (forthcoming) cites the verbs *kill*, *break*, *move* and *kick*.

Some authors handle an even more strict delimitation: Tsunoda (1985) and Levin (1999), for instance, exclude verbs like *hit*, *kick*, *move* or *eat* from the prototypical core. They justify this more restricted interpretation of prototypical transitivity by typological cross-linguistic considerations relative to the syntactic coding of canonical transitive clauses. The idea of taking coding homogeneity as criterial –both interlinguistically and intralinguistically– for identifying the prototypical transitive predicates can be summarized as follows:

“ideal events are expressed in basically the same way across languages, while the non-ideal events are expressed in different ways across languages and even within languages.” (Croft 1990: 53).

However, different languages do not necessarily behave alike. The information gathered by Tsunoda (1985:388) for English, Japanese and Basque, leads us to consider not only *kill*, *break* and *bend*, but also *see*, *hear* and *find* as prototypically transitive. In those languages, *hit*, *shoot*, *kick* and *eat*, would be non-prototypical, since they present alternative non-transitive patterns in addition to the canonical transitive construction. However, if we take into account data from Avar, Tongan and Samoan, then *hit*, *shoot*, *kick* and *eat* appear to be prototypical transitives, whereas *see*, *hear* and *find* are not. This shows that the conclusions attained vary notably depending on which languages

are considered. Moreover, as the number of languages compared increases, the group of verbs considered prototypically transitive decreases, and, as a consequence, the examples adduced in the literature are few and always the same.

Interlinguistic comparison permits to identify a small group of verbs that function as predicates in prototypically transitive clauses. Nevertheless, typological research does not explain why the candidates which are universally preferred for the transitive coding are predicates like ‘kill’ or ‘break’.

Therefore, it is necessary to take a new perspective on the matter in order to grasp the concept of the human experience that underlies the transitive coding. Drawing on human experience, causation seems to be at the heart of the matter (cf. Delancey 1987: 60; Croft 1990: 50; Goldberg 1995: 118)<sup>2</sup>. Insofar as the transitive construction symbolically represents direct causation, it paradigmatically conveys such notions as control, volition and responsibility of the agent, change of physical state perceptible in the patient, physical contact between the agent and the patient, etc. (cf. Lakoff 1970: 244).

There are reasons for considering causation as basic to human cognition from birth on:

“Piaget has hypothesized that infants first learn about causation by realizing that they can directly manipulate objects around them –pull off their blankets, throw their bottles, drop toys. There is, in fact, a stage in which infants seem to ‘practice’ these manipulations, e.g., they repeatedly drop their spoons. Such direct manipulations, even on the part of infants, involve certain shared features that characterize the notion of direct causation that is so integral a part of our constant everyday functioning in our environment –as when we flip light switches, button our shirts, open doors, etc.” (Lakoff & Johnson 1980: 70).

In cognitive grammar, different compatible models have been designed to represent the causal event coded through the transitive construction (cf. García-Miguel, forthcoming). Langacker (1999: 24), for instance, refers to the “billiard-ball model” as one of the components of the conceptual archetype corresponding to the “canonical event model”.

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<sup>2</sup> Croft (1991:160) mentions an article by D. Davidson (Davidson 1980), first published in 1969, in which the causal structure of events is defended, above the spatio-temporal characterization.

According to this ‘billiard-ball model’, the moving objects that compose the world interact with others and transfer their kinetic energy to them.<sup>3</sup>

Talmy (2000) proposes the notional category of ‘Force dynamics’, that is, a generalization over the traditional notion of causation. From Croft’s point of view, the most adequate way to represent the clausal structure is in terms of “individuals acting on individuals, with some notion of transmission of force determining which participant comes ‘first’ in the causal order or causal chain” (Croft 1991: 162).

Although these models are shaped on the basis of purely physical causation, their authors note that not all the transitive constructions profile an event that is characterized by a transfer of physical energy between an agent and a patient. That is, the transitive pattern yields non-paradigmatic cases of causation, including events without any transfer of energy, even in an abstract sense, as Langacker (1990: 222-223) recognizes. This is the case of transitive predicates like *see*, *remember* or *consider*. The solution consist in allowing for various degrees of ‘metaphorical extension’ of the transitive construction to non-archetypical situations, i.e., from physical interactions to psychological and social ones, thus “physicalizing” the domain of psychosocial reference. This explains the fact that psychosocial events adopt a syntactic structure that is similar to that of physical events, since grammatical form is taken to reflect the conceptual analogy (cf. Talmy 2000: 460).

Slobin (1981) offers acquisition data that support the view that the physical causation constitutes the transitive prototype. He sustains that the infant’s grammatical development arises from pairing prototypical situations in the world of reference and canonical forms in the linguistic world. In line with previously mentioned authors, Slobin defines the prototypical transitive event “as one in which an animate agent willfully brings about a physical and perceptible change of state or location in a patient by means of direct body contact” (1981: 411). He points out that this type of events are codified in a regular way around the second birthday. Slobin gives examples of languages in which the canonical transitive construction schema is associated with a

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<sup>3</sup> A philosophical antecedent of the wording of Langacker’s billiard-ball model is found in Hume:  
“Here is a billiard ball lying on the table, and another ball moving toward it with rapidity. They strike, and the ball which was formally at rest now acquires a motion. This is as perfect an instance of the relation of a cause and effect as any which we know either by sensation or reflection” (Hume 1740: 292, apud Leslie 1995: 123).

positive marking, either in the ergative (Kaluli) or in the accusative (Russian). He observes that these case affixes first appear in verbs that fit the definition of prototypical transitivity –‘give’, ‘grab’, ‘take’, ‘hit’, etc.–, and only later on in less transitive verbs, as ‘say’, ‘read’ or ‘see’.

To sum up, we can state that both typological data and data related to the acquisition of transitive structures seem to support the notion of a transitive prototype based on the relation of physical causation between an agent and a patient.

### *3. The usage-based model and the transitive construction*

After reviewing the most widely accepted ideas about the transitive prototype, we will now focus on certain aspects of the configuration of transitive clauses which have not been taken into account in the preceding section. We will adopt a language usage-based model that views the linguistic system internalized by the users as the result of successive processes of abstraction drawn from concrete uses (cf. Barlow & Kemmer 2000). On the one hand, the usage-based models attach a great importance to the role of learning from use in the child’s language acquisition. On the other, these models attribute primordial relevance to frequency, since this factor determines the degree of ‘entrenchment’ –as Langacker puts it– of a unit or a linguistic construction. Both aspects will be dwelled on in the two following sections.

#### *3.1. The acquisition of the transitive construction*

As seen in section 2, Dan Slobin sets the hypothesis that the acquisition of transitivity by the child is based on the association of the prototypical transitive event with the canonical transitive construction –“Growth proceeds from this initial pairing of prototypical event and canonical form” (Slobin 1981:410). If Slobin’s proposal is to be accepted, the ‘canonical form’, in this case the transitive pattern, has to be assumed to be shaped in the child’s mind prior to the first actual uses. However, Slobin attributes to the child a knowledge of the language abstract patterns which does not fit in with the research carried out on grammar acquisition in the last few years (cf. Tomasello 1992; Lieven, Pine & Baldwin 1997; Pine, Lieven & Rowland 1998).

These investigations show that the beginning of the child's multiword language use is founded on specific constructions of particular lexical items:

“In other words, children do not utilize schematic categories such as [VERB] or schematic constructions such as the transitive construction [SBJ VERB OBJ] in their early acquisition, whether these schematic structures are innate or not. Instead, children begin with very low level generalizations based around a single predicate and a single construction in which that predicate occurs, and only later in acquisition learn more schematic categories and constructions” (Croft & Cruse 2004: 323).

From this perspective, it will be interesting to study the development of the transitive construction in the children's language. If we accept that prototypical constructions are “the most thoroughly entrenched in the cognitive system” (Winters 1990: 288), and also that “Such maximally entrenched constructions will be those which were learned better (and even, perhaps, earlier) than the less prototypical” (ibid.), we have to acknowledge the relevance of the research on the acquisition of transitivity by children for the definition of the transitive prototype.

Ninio (1999) represents a valuable contribution to our knowledge regarding the acquisition of the transitive construction. The author draws on previous investigations (Bowerman 1976, 1978; Braine 1976; Lieven, Pine & Baldwin 1997), which show that the first verbs used by children in the V-O pattern are not prototypically transitive in the sense summarized in section 1. In any case, they do not express an action realized by a volitional agent that affects a patient, as they are stative verbs like *want* and *see*. Ninio (1999) observes the linguistic activity of sixteen Hebrew children and an English one at the beginning of the multiword stage; her data confirm the less-transitive character of the first verbs used in the V-O construction. These verbs codify meanings that are pragmatically important for the children, like the wish of obtaining an object (*want, get, give, take, bring, find*), the creation of an object (*make, do*), the perception of an object (*see, hear*) or the ingestion of an object (*eat, drink*). However they cannot be considered as prototypical examples of the category of the transitive predicates, since they do not display the characteristic of prototypical transitivity.

The first transitive verbs convey a basic meaning and are frequently used in the language. They can best be defined as ‘generic’ transitive verbs that represent “in the purest way the core notion of syntactic transitivity” (Ninio 1999:639). Interestingly, there is a high degree of coincidence between these first transitive verbs and the verbal items that have been grammaticalized in different languages to give rise to transitivity morphemes, e.g. *take, carry, put, get, have, give, want*, etc. (cf. *ibid.* 634-349). None of these verbs represents a highly transitive event, since they can never express an action that may cause a change of state in a patient<sup>4</sup>.

Some of these verbs are semi-grammaticalized in Indo-European languages. A clear example is the English auxiliary *do*, which also functions as a proverb. The same holds for the Spanish *hacer* ‘make/do’. Another case worth mentioning is that of the Spanish *haber* ‘have’, which originally had the possessive value of *tener* ‘have/possess’ and functioned as a transitive verb; historically, it has undergone a process of grammaticalization, being converted first into an aspectual auxiliary before developing into a temporal one, while being substituted by *tener* as verb of possession. Interestingly, in contemporary Spanish *tener* can also be used as (semi)auxiliary with a terminative value similar to the English *to have got* (*Tengo hechos todos los deberes* ‘I’ve got all my homework done’) (cf. Butt & Benjamin 1994: 222)<sup>5</sup>. Portuguese, which does not have periphrastic uses of *haver* ‘have’, has gone further than Spanish in the grammaticalization of *ter* ‘have/posses’ + participle periphrasis, since it nowadays also combines with intransitive verbs.

In the same vein, verbs which usually take part in complex VERB-OBJECT predicates, as illustrated in (1)-(5), are low transitive verbs with generic meaning<sup>6</sup>:

- (1) Siempre hay que *tener cuidado* con ellos (Sonrisa: 278, 35)

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<sup>4</sup> We don’t obviously share Slobin’s interpretation (1981:414) when he considers as highly transitive the verbs of certain Chinese and western African languages whose original meanings were ‘take’ or ‘hold’ and originated morphemes that coded the direct object.

<sup>5</sup> Butt & Benjamin (*ibid.*) also refer to the use of *llevar* as an auxiliary that expresses accumulative action in a similar construction: *Llevo tomadas tres aspirinas, pero todavía me duele la cabeza* ‘I have taken three aspirins and my head still aches’.

<sup>6</sup> The textual examples are from the corpus called ARTHUS (Archivo de Textos Hispánicos de la Universidad de Santiago ‘Archive of Hispanic Texts of the University of Santiago). The information on the most frequent verbs in fixed VERB-OBJECT constructions comes from the Syntactic DataBase (BDS, ‘Base de Datos Sintácticos’) drawn from the analysis of the cited corpus under the direction of Prof. Guillermo Rojo. For further information *vid.* <http://www.bds.usc.es>.



‘You always have to be careful with them’

- (2) Para ser boticario no *hace falta* saber leer (Coartada: 11, 11)

‘To be an apothecary there is no need to know how to read’

- (3) Con estas memeces yo no *me he dado cuenta* (Hotel: 31, 6)

‘With these absurdities, I haven’t noticed’

- (4) *Pasé revista* acelerada a sus respectivos historiales (Laberinto: 59, 9)

‘I fastly reviewed their respective records’

- (5) En este tipo de relaciones no hay que *tomar partido* (Hotel: 76, 14)

‘We shouldn’t take sides in this type of relationship’

So, both the processes of acquisition and grammaticalization point to the same group of verbs as representative of the core concept of transitivity.

As Ninio remarks, this group of verbs do not fit into Hopper & Thompson’s (1980) high transitivity notion and, hence, put into question the generally assumed equation between high transitivity and prototypical transitivity. Ninio points out that high transitivity is nothing more than ‘marked transitivity’ (i.e., with morphological coding in the verb and/or the participants), whereas prototypical transitivity is non-marked transitivity, which would result in low rather than in high transitivity.

The key to prototypical transitivity would be the concept of ‘valence’, particularly in the type of relationship between verb and object, which is qualified by Ninio as ‘inalienable’. The traditional interpretation of prototypical transitivity implies a change of physical state in the patient. Instead, in this new conception of prototypical transitivity the human, subjective perspective of the event becomes the central aspect, since it is the change of status of the object in relation to the person represented by the subject which is salient. As Ninio says,

“The concept underlying prototypical transitivity both crosslinguistically and developmentally is thus inclusion in, and exclusion of objects from the personal domain” (1999: 647)

### 3.2. Transitivity and frequency

Besides the acquisition data exposed in the last section, frequency of use is also a very relevant factor in a usage-based approach to transitivity.

No doubt transitive constructions play a central role in the syntax of a language. As for Spanish, we can rely on the information provided by a syntactic database (BDS) drawn from a corpus of contemporary oral and written texts (cf. supra footnote 6). According to the data of the BDS offered by Rojo (2003), the active biactant transitive pattern is the most frequent one, covering 39,06% of the cases. Moreover, 70,44% of the verbs in the corpus admit to a higher or lower extent, the pattern SUBJECT-PREDICATE-DIRECT OBJECT. This fact appears to be all the more relevant that the next pattern admitted by an important number of verbs –the active SUBJECT-PREDICATE pattern– concerns 34,22% of the verbs in the corpus, and accounts for only 12,26% of the cases. All the other patterns have a frequency below 7%.

Rojo (2003) compares the Spanish data with the quantitative analysis of English clauses made by Oostijk & de Haan (1994) on the Nijmegen corpus. The frequency data offered by these linguists are translated by Rojo into percentages:

<b>Construction</b>	<b>Percentage over total of clauses</b>
Intransitive	34,93
Intensive	20,96
Transitive	27,79
Ditransitive	1,00
Complex	1,41
Other	13,92
Total	100,01 (N = 15125)

Table 1. Distribution of the clauses that make up the Nijmegen Corpus in the constructions considered. Source: Oostdijk & de Haan (1994:48). Rojo's (2003) elaboration.

From this distribution it appears that transitive clauses do not play such a main part in English as in Spanish, even though they represent 27,79% of the total of clausal patterns.

As for the Spanish language, the quantitative data that we have just evoked confirm the leading role that transitive constructions play in the shaping of Spanish syntax. Yet, they say nothing about which transitive clauses should be considered prototypical and which should not. In this respect, the information contained in the BDS again proves to be very illustrative, as it permits to verify which verbs are used more frequently in the SUBJECT-PREDICATE-DIRECT OBJECT construction:

<b>Verb</b>	<b>Frequency</b>	<b>Relative frequency of the transitive pattern</b>
Tener 'have'	4810	83.52%
Hacer 'do/make'	2806	51.34%
Saber 'know'	2404	78.41%
Ver 'see'	2285	62.93%
Creer 'believe'	1551	81.03%
Querer 'want'	1165	90.38%
Mirar 'look'	871	67.89%
Decir 'say'	883	31.01%
Pensar 'think'	792	54.10%
Conocer 'know'	782	92.98%
Dar 'give'	745	23.51%
Recordar 'remember'	644	77.78%

Oír 'hear'	565	60.95%
Buscar 'look for'	549	88.69%
Esperar 'wait'	523	70.11%
Encontrar 'find'	469	42.52%
Llevar 'take'	463	32.74%
Tomar 'take'	453	59.68%
Sentir 'feel'	445	39.45%
Leer 'read'	404	75.51%

Table 2. Most frequent verbs in the transitive pattern with pattern percentages over the total of the verb.

As can be seen, the verbs involved are far from corresponding to the transitive prototype as defined in section 2. Rather surprisingly, none of the verbs usually mentioned in the descriptions of archetypical transitivity figures among these twenty most frequent verbs, and the first of the verbs habitually considered “prototypically transitive” – the verb *matar* ‘kill’ – is not found until the 39<sup>th</sup> position. Our Spanish corpus data thus challenge the pervasiveness of high transitive clauses in discourse.

Thompson & Hopper’s (2001) findings corroborate the marginal role of the high transitive clauses in discourse. These linguists analyzed a conversational corpus made up by 446 clauses. In this corpus of informal American English, not a single clause can be characterized as transitive according to the ten parameters that compose Hopper & Thompson’s (1980) scalar notion of transitivity. To start with, the majority of the clauses has only one participant (73%), for 27% with two or more participants. And among the two-participant clauses, only 14% contain an action predicate, i.e., the vast majority are stative predicates. Other categories like aspect, punctuality and object affectedness show very low indexes in transitivity, as well: 86% of the clauses are atelic, 98% are non-punctual and 84% include a non-affected object. Conversational data from different languages further corroborate Thompson & Hopper’s findings (cf. 2001: 39, and references therein) and warrant the conclusion that “the most frequent

kind of clause used by speakers in everyday conversational interactions is one that is low in Transitivity” (ibid.).

### 3.3. *Summary*

The above presented usage data challenge the prototypical status of high transitive clauses (in Hopper & Thompson’s terms). Both acquisition data and data from corpora lead to an interpretation of the transitive prototype that is different from the one discussed in section 2. We don’t mean to say, however, that prototypicality emerges from frequency of use. Even though Rosch (1975) formulated a ‘statistical hypothesis’ of the phenomenon of prototypicality, we agree with Geeraerts when he states that

“We can use linguistic frequencies to determine what instances of a concept are prototypical [...], but explaining prototypicality on the basis of linguistic frequency is putting the cart before the horse. Some kinds of usage are not prototypical because they are more frequent; they are more frequent because they are prototypical.” (Geeraerts 1988:221-222).

At any rate, the information regarding the frequency of use makes it necessary to revise the definition of what counts as a prototypical transitive event<sup>7</sup>.

## 4. *Towards an alternative transitive prototype*

At this stage, prototypical transitivity seems to be synonymous with low transitivity rather than with high transitivity, at least for some components of the notion, as sustained by Ninio (1999). Yet, the acquisition and usage data adduced above are only clues for distinguishing prototypical from non-prototypical clauses, they cannot constitute by themselves the foundation of prototypicality. In this last section we will propose a cognitive and communicative basis for the alternative transitive prototype defended here.

### 4.1. *The cognitive basis of transitivity*

As commented on in section 2, the notion of physical causation underlies the classical interpretation of the transitive prototype, on the understanding that the model of

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<sup>7</sup> The relationship between early acquisition, frequency of use and prototypicality is also pointed out by Goldberg (1998:209): “it would be natural for the meaning of the most frequent and early verbs occurring in a particular pattern to form the prototype category”.

transitive action necessarily implies a physical or mechanical relationship between two participants A and O. A carries out a physical action (that must include some type of movement), comes in contact with O and as a consequence produces a perceptible change in the latter participant.

This mechanical view of causality does not make any difference between the way of acting of animate and inanimate entities. In fact, in Langacker's 'billiard-ball model' and Croft's 'causal chains' physical causality prevails over psychological interactions. Both justify the latter as 'metaphorical extensions' of the physical transitive prototype.

It is worth recalling that the psychological conception of transitivity goes back to the traditional approaches in developmental psychology, represented by authors like Piaget (1927) and Michotte (1946), who defended the idea that the child starts having a purely physical perception of the causal relation (cf. also the quote Lakoff and Johnson (1980) given in section 2). Lately, however, various authors adopt a different view on the child's conceptualization of causality. This new interpretation relies on a large number of experiments which yield clear evidence that the animate/inanimate distinction is there from the first year of birth. Its conceptual basis seems to be kinetic, as motion autonomy appears to be the determining factor for an entity to be classified as animate (cf. Golinkoff et al. 1984; Mandler & Bauer 1988; Smith 1989).

Moreover, the child can recognize the members of his/her own species from the moment of birth on. Taking as a starting point the experiments reviewed in Johnson & Morton (1991), Karmiloff-Smith (1992:149) states that the new-born is endowed with some sort of innate structural information about human faces. Even if we are not willing to admit the thesis of innateness, we cannot deny the existence in the child of a mechanism parallel to the chicks' imprinting. The child's continuous exposure to human faces acts as a stimulator and triggers a quick specialization.

Babies are, indeed, very much attracted by people, and to a large extent by animals as well. They focus their minds on every aspect of human behavior (speech, gestures, movements). This attention is essential for the development of the so-called 'Theory of Mind' in the child. As a matter of fact, autistic children, who cannot develop a theory of mind properly, do preferentially not direct their attention to human behavior. As a consequence of the attentional bias, and contrary to Piaget and Michotte's theory, babies

process the information proceeding from the human environment in another way than the one that comes from the physical content. They are very sensitive to the differences between the way people act and the way inanimate objects do.

Spelke et al. (1995) try to determine if the perception of human actions (in contrast to the movement of material objects) can rely exclusively on mechanical considerations. Drawing on earlier studies, they observe that one of the first notions of knowledge the baby has about the inanimate object's physics of movement is the 'contact principle': "objects act upon each other if and only if they touch" (p. 49)<sup>8</sup>. However, the contact principle does not equally apply to all perceptible entities, since animate entities can transcend it. Both humans and animals have perception mechanisms that allow them to detect and respond to other entities at a distance. People manifest intentions, make plans and pursue goals. They can influence other people's actions and cognitive states simply through verbal and non verbal communication. There is no need for immediate physical contact. According to Spelke et al. (1995), the contact principle is already restricted to inanimate objects in seven-month-old babies.

Ninio (1999: 645), for her part, refers to Budwig (1989, 1995). This author interprets the conception of prototypical agentivity in children not only in terms of direct physical action but also as an attempt to persuade others to act in favor of the subject and an attempt to communicate the control over the objects.

In the same vein, Premack and Premack (1995) defend two conceptions of causality, one physical, the other intentional. *Physical* causality occurs "when an object launches another by contacting it" (p. 191), whereas *intentional* or psychological causality takes place "when one object either moves by itself or affects the movement of another without contacting it" (ibid.)<sup>9</sup>. These authors clearly argue against the piagetian theory of causality when they state that "the infants earliest encounter with cause is in the psychological domain and occurs the moment that an infant attributes intention to a goal-directed object" (p. 191).

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<sup>8</sup> The visual representation of the contact principle offered by Spelke et al. (1995: 46) is almost identical to the type of diagrams with which Croft illustrates his 'causal chains'. Such a similarity strengthens the interpretation of causality in exclusively mechanical terms.

<sup>9</sup> Meltzoff (1995) and Gergely et al. (1995) corroborate the existence of an intentional causal frame, besides the physical one, in the infant's conceptualization of the events.

There is a conclusion to be drawn from the aforementioned studies. The causality principle can be psychologically interpreted as having an intentional nature, different from the physical dimension on which most approaches to prototypical transitivity are based. The claim defended by Premack and Premack (1995), that psychological causality is prior to physical causality in the child's development provides a cognitive basis that sheds light on the linguistic production data reported in section 3.1. At the same time it seems to be consistent with the information on the most frequently used transitive verbs in textual corpora (cf. section 3.2.).

#### *4.2. The communicative basis of transitivity*

From the functional perspective adopted in the present research, it is natural to also invoke the communicative basis of the transitivity notion.

Hopper & Thompson (1980) situate the communicative basis in the textual distinction between background and foreground, which is mainly recognizable in narrative discourse. The background is incidental or marginal with respect to the foreground. The latter includes the core aspects of the discourse and provides the text with structural coherence. A highly transitive expression corresponds to the foreground. This way high transitivity would be the grammatical sign of a higher discursive prominence, which at the same time would reflect the cognitive salience of the codified event (cf. Delancey 1987:56).

Nevertheless, there are no sound arguments that support the attribution of a greater cognitive importance to the events expressed through highly transitive clauses as opposed to low ones. On the contrary, both the acquisition and the textual frequency data lead us to think that the clauses that configurate the most relevant cognitive model are those characterized by rather low transitivity. As Goldberg (1998: 207) indicates in regard to verbs like *put*, *get*, *do* and *make*,

“The fact that these ‘light’ verbs, which are drawn from a small set of semantic meanings cross-linguistically, are learned earliest and used most frequently is evidence that this small class of meanings is cognitively privileged”.

Yet, as already said before, the idea is not to derive the prototypical character of a category from frequency counts. Rather, the production rate is to be interpreted as an index of experience rate, a factor closely related to prototypicality. Geeraerts (1988:



222) illustrates the point with fruit terms: “The apple is not a prototypical fruit because we talk more about apples than about mangoes, but because we experience apples more often than we encounter mangoes”.

At this point, we should turn our attention towards the type of discourse that constitutes the original manifestation of linguistic activity: spontaneous conversation. As seen in 3.2., Thompson & Hopper (2001) observe that English conversational discourse shows very low indexes of transitivity. The reason for this bias towards low transitivity lies in the clauses’ communicative function. Thompson & Hopper acknowledge that “Clauses of low Transitivity are far more useful in the intersubjective interpersonal contexts that make up most of our talking lives” (2001:52).

Colloquial conversation indeed has as main objective the expression of the speakers’ subjectivity, not the impartial report of the physical interaction between the world’s entities. Conversation is a mechanism for self-expression rather than for the objective description of the surrounding physical reality. Obviously, human beings are interested in the actions and the processes that take place in the world, at least – or especially – insofar as they are affected by them. And we have to bear in mind that this occurs more frequently in the psychosocial than in the material realm.

The prevalence of the indirect and subjective perspective, a low transitivity feature, is not exclusive to spontaneous conversation, it can also be found in the narrative genre. Hopper (1995), e.g., signals the lack of prominence of prototypical events in the “vernacular written narrative” (his example is “Mary broke the window”). The personal, subjective reconstruction performed by the narrator while elaborating his discourse is typical of this genre. Likewise, to illustrate the difference between externally accessible (objective) and internally accessible (subjective) information, Givón (2002: 265) comments on the preponderance of the latter in the historical novel *Cold Mountain*: “What is extraordinary about the text is how difficult it is to find even short passages without massive intrusion of perspective”.

##### 5. *Conclusion and perspectives*

In this paper we have reviewed the concept of prototypical transitivity from the point of view of linguistic usage. We have put forward arguments based on the acquisition and the usage frequency of the transitive construction. These data lead to a new

interpretation of prototypicality. The prototype matches the characteristics of the clauses that are relatively low in transitivity. This view is also supported by the most recent studies on the perception of causality. They put aside the classical idea of exclusively physical causality by incorporating the psychological or intentional causality to the human cognitive model. The discourse prevalence of the new usage-based prototype is further reinforced by the communicative perspective.

More specific research will undoubtedly be necessary to corroborate the proposal defended here. Firstly, new explorations into the acquisition of the transitive construction by children will be particularly useful in order to obtain data relating to a wider variety of languages. Secondly, more detailed investigations are also needed concerning the textual frequency of the different predicates in various discourse genres. Finally, adopting a cognitive perspective on language also requires to pay attention to the advances that are being made in the fascinating field of developmental psychology.

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