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SPACE, TIME, DEIXIS AND VERBS OF MOTION

by

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Both English and Romanian, like most European languages, place ego at the centre of the universe. From this point of origin the ego can lay out a three-dimensional co-ordinate system. Other objects can be directionally located with respect to this landmark. 'Here' and 'there' are regions of interaction with ego. Both the ego's location (the point of origin) and his orientation (the directions of the co-ordinate axes) are essential for the interpretation of most words expressing his spatial relations to other objects. The linguistic system for talking about space relative to the speaker's egocentric origin and co-ordinate axes is called the deictic system. 'Deixis' – a Greek word for pointing or locating – refers to those aspects of a communication whose interpretation depends on knowledge of the context in which the communication occurs. When it is necessary to know the conditions under which a word occurs in order to interpret it, linguists, speak of the word as deictic.

Fillmore (1975) called the user's dependence on context for the interpretation of language the 'deictic anchorage' of the linguistic event. Linguistic events are anchored with respect to three dimensions representing the w*ho, where* and w*hen* of the event, the intersection of which has been called the deictic centre. The apparent incompleteness we observe in utterances within a piece of discourse is the effect of deictic anchoring of language. To interpret these utterances, we rely on the context shared with our conversational partners, which is not only the spatio-temporal situation we are in, but also the knowledge of the world. Such contextual information is assumed and need not be specified in discourse. Linguistic utterances, therefore, are incomplete, in the sense that they do not offer all the information needed to communicate.

Deictically anchored language is the typical instance of language as a system of communication, and the basis for all other developments in non-deictic contexts. This view of language is shared by scholars like Charles Fillmore with his work on frames and scenarios, George Lakoff and Mark Johnson with their work on metaphor; Ronald Langacker and Claude Vandeloise, Leonard Talmy; Talmy Givón, George Miller and Philip Johnson-Laird, and others.

1. Reference frames

The notion which integrates observed behaviour with respect to location assignment is the notion of reference frame. This notion is fundamental in many theories of spatial relations (Fillmore 1971, Talmy 1985, Clark 1973, Svorou 1993, etc.). Most theories distinguish two types of reference frames: *inherent* and *deictic* frames. An inherent reference frame is constructed with reference to the inherent/default values of the sub-regions of the ground (e.g. the front and the back of a car). A deictic reference frame is constructed by ignoring any existing default sub-region values of the ground and seeking values in the environment. These values are situationally/deictically determined, rather than being inherent to the entity. Thus we can talk about the front of the trees when referring to the side facing toward the observer, and the back of the side facing away. Clifford Hill (quoted by Svorou) distinguished two types of deictic orientation with respect to the horizontal axis: the *aligned orientation field* and the *facing orientation field*. In the aligned orientation field, a symmetrical ground receives its values by imposing the values of the observer's body structure. In the *facing orientation field*, the symmetrical entity mirrors the structure values of the observer. Hill also demonstrated that among English speakers there is agreement in using the aligned orientation field in dynamic situations, that is, when movement is involved.

However, movement plays only a secondary role in theories of perception and meaning of spatial relations. Miller and Johnson-Lair (1976: 66) observed that "...research on depth perception has been primarily concerned with static observers viewing 'frozen' scenes". They attribute this tendency mainly to a historical concern with building perceptions out of simple static elements of sensation, but also to the inability to control experimentally dynamic situations.

2. The mental framework of space and motion

Both in English and Romanian, space is a relational concept commonly understood with reference to a canonical and naïve conception of space and physics. This view of space has two principal components: a naïve conception of geometry and physics and a projected ideal spatial world (Miller and Johnson-Laird 1976, Talmy 1983). The content of our spatial expressions relies on a non-technical, conception of geometry and physics, encompassing such principles as the emptiness of space, density of solids, stability of (supporting) ground, immobility of the Earth which is the bottom line. Though these principles

are false, they are absolutely essential to the interpretation of spatial expressions as they invest our spatial expressions with content.

Location is the relative spatial fixedness of entities. There are two types of location: topological (spatial positions independent of a viewer) and projective (those dependent on a viewer). The spatial system of a language "imposes a fixed form of structure on virtually every spatial scene" (Talmy 1983: 229), where "only certain notions and not others are permitted representation" (*idem*: 228). The semantic structure of spatial expressions is a dependency between two or more entities or events. The constant relational nature of space can be expressed as an abstract formal relation between (at least) two participants: *x spatially relates to y*, where *x* is he located object, and *y* is the reference object. In the very conceptual act of locating an object for a certain communicative purpose there are some elements that play a fundamental role. Talmy (1983) and Langacker (1987) observed that the way we locate objects with respect to one another involves the recognition of some kind of asymmetrical relation between the object we want to locate and the object with respect to which we locate it. We recognize asymmetrical relations with respect to size, containment, support, orientation, order, direction, distance, motion, or a combination of these. If there is no apparent asymmetry between the entity we want to locate and the reference entity (topological location), then the viewer imposes some kind of asymmetry on it (projective location). In the most typical way, we take into consideration the location of an observer. A building may be located "on the left hand side as you go towards the centre of the town". In this case the left – right asymmetry is imposed on the street by the direction of travel and the left – right asymmetry of the traveller.

In describing the asymmetrical relation between entities in a spatial situation, Talmy (1983) used the terms 'Figure' and 'Ground' to label the object to be located and the reference object, respectively. The figure is a moving or conceptually movable object whose path or site is conceived as a variable, the particular value of which is the salient issue. The ground is a reference frame, or a reference point, stationary within a reference frame, with respect to which the figure's path or site is characterised. Figure and ground are a pair of cognitive-semantic categories whose relevance shows up in relation to a semantic event of motion or location: one physical object moving or located with respect to another. A spatial arrangement of figure and ground may be described linguistically in a number of ways, each of which constitutes a construal of the spatial arrangement by the speaker. The speaker's choice to construe a situation in a certain way has a number of implications and each object is taken as bearing to the whole event a significant and distinct relation.

The movement reference frame is established by the direction of movement of a figure, and is responsible for assigning front and back values to sub-regions of a ground, and consequently, also right and left value (Fillmore 1975, Miller and Johnson-Laird 1976). An entity may receive its sub-region values with reference to its movement at the moment of description, ignoring any other contextual or inherent cues. For instance, someone may be described as running behind a car, which is moving backwards, although he is facing its front. A movement reference frame establishes front/back regions of entities not only by situational movement, but also by typical movement.

3. Motion, space and time

We say of something that it has moved, in the 'locomotion' sense of movement, if it is at one location at one time and at another location at another time. Motion can be characterized as having a starting point and an ending point, an origin (a source) and a destination (a goal). Motion, thus, presupposes an understanding of both time and space. We can characterize the initial state as the doublet P_1T_1, with *P* and *T* standing for place and time respectively, and we can identify the final state of the motion as the doublet *PnTn*. The set of states *PiTi* (with '*i*' between *1* and *n*) identifies the path.

A useful notion in the description of motion is that of reference time, that is "the point or period that is the temporal focus or background for the event or condition being described in the clause" (*ibidem*: 52). The reference time can be made explicit by means of a time specifier phrase. It can either be a span that covers the whole period $T_1 - Tn$ or it can be identified with either T_1 or *Tn*. The reference time is the time of the whole journey in (1) and (2), the departure time T_1 in (3) and the arrival time *Tn* in (4):

1. *She swam from the end of the pier to the shore.*
2. *They travelled by bus from Brighton to Lewes.*
3. *He's gone to Bucharest this morning.*
4. *He arrived in Bucharest early this morning.*

Distinction must be made between departure time (T_1) and arrival time (*Tn*) in sentences with *come* and *go* such as (5) and (6) below. The time specifier in (5) is understood as indicating the time he left P_1 (the place of origin of movement), the one in (6) indicates the time he arrived home. In (5) we feel intuitively that there is in the setting or in the previous discourse a location that is a kind of spatial reference point for the sentence (P_1). For such a sentence, there is in the discourse not only a presupposed time period onto which the

interpreter can anchor the sentence, but also a presupposed location – in this case, the place from which the movement began.

5. *He went home around midnight.*
6. *He came home around midnight.*

The verbs *leave* and *arrive* can be found in expressions in which only the goal phrase is explicitly present:

7. *He left for Bucharest around noon.*
8. *He arrived in Bucharest around noon.*

Not only reference time is important, but also reference place: the location or object that is taken as the framework. The reference place can be either the location of an event that does not involve locomotion, or the location of all of the points in an instance of locomotion. On the other hand it can be either the place which is identified with the source of the motion, or the place which is identified with the goal of the motion. The choice is frequently determined by the semantics of the verb. Certain verbs have reference places identified with P_1, the source (*leave* and *go* in one of its uses), others have reference places identified with *Pn*, the goal (*arrive* and *come*), and still others have reference places that are not uniquely identified with either of these (*travel, go*, in one of its uses):

9. *People kept coming and going all day.*

The same reference place is understood as the arrival point or *Pn* for the 'coming' and the departure point or P_1 for the 'going'.

This place – time parallelism exists on the discourse deictic level as well. A communication act can be seen metaphorically as an instance of motion – the travelling of a message from one person to another. Whenever the time period or time span determining the centre of the tense system is simply taken to be the time during which the communication act as a whole takes place, we may simply speak of coding time, and this is the typical situation for speech:

10. *I'm editing this paper on the computer in my room.*

Where the tense center is taken to be the time the message is being interpreted, we can speak of decoding time, as exemplified in:

11. *You have just read my last sentence.*

Viewing communication as analogous with motion, we can consider the encoding time as T_1, the decoding time as *Tn*, and the coding time in general as T_1 - *Tn*. Similarly, when sender and receiver are both 'in the same place', we can speak of the coding place, as in:

12. It sure is cold here now, isn't it?

Where the speaker's and addressee's locations are distinct, we can speak of the encoding place (speaker's location), and the decoding place (addressee 's location):

13. Is it cold over here, what's it like over there?

The encoding place is analogous to the P_1, the decoding place is analogous to the *Pn* of the motion, and the coding place in general is simply the place which includes P_1 - *Pn*.

4. Motion and direction

Directionality is inherent in motion and this is apparent in the way we understand motion. The fact that motion is understood through perception indicates that there is a point of view which provides a reference frame for specifying the directionality. Consequently, we understand the directionality of motion of entities in ways that our visual and conceptual systems allow us to. Entities are directed towards or away from us depending on whether we perceive them as constantly changing position to locations closer or further away from us. The directionality of motion may be also specified on a vertical axis, depending on whether entities are constantly changing position to locations closer to the level of the observer's head or to the sky from a lower position, or closer to the level of the observer's feet or the ground from a higher position. The anthropocentric view of directionality constitutes the basis for the perception of direction of motion, but it is not the only possible point of view, since environmental landmarks may play an important role.

Conceptually, motion and direction are very closely related, being dependent on the way we understand them, which is via our perception of asymmetries created by the change of location and orientation of entities. The way people talk about motion and direction reflects the way they distribute their attention during perception of changes of location. The way a specific motion is described constitutes a particular construal of the situation by the speaker. This has the implication that several other ways of describing it may be possible (e.g.: *He came out of the bank,* where the bank is the source or *He went into the bank,* where the bank is the destination). More specific motion can be described by referring not only to destination, but also to the path followed (e.g.: *He went around the square to the bank*). If the location of the bank is known, the motion may be described with respect to its directionality as *He went towards the bank.*

The way a motion is described linguistically reflects, on the one hand the relativistic, perspective-dependent way of perceiving movement, and on the other, various degrees of specificity in the detail with which movement is described (Talmy, 1983). Thus,

describing a movement with reference to its source and/or destination has a lower degree of specificity than does talking about it with reference to its path, and even lower than talking about it with reference to its path and destination, or source and path. In more specific descriptions, source and destination are always involved, indicating that they constitute simpler notions, and may be considered as basic (Fillmore, 1975).

The perception of directionality of motion is always relative to the background against which it is seen. The visual perception of motion, in general, is dependent on the background. Movement of one entity is perceived with respect to either a stable environment or another moving entity. In each case we recognize an asymmetrical relation between a figure and a ground. Such asymmetrical relations exist with respect to situational mobility, direction of movement, path of movement, order between moving entities, or a combination of these. Asymmetry also arises from the mobility of the figure as compared to the immobility of the ground. This particular asymmetry is present in all motion situations with respect to a stable environment. Moving entities are the centre of attention in scenes, and the focus of our utterances in discourse. In situations where both entities are moving, the decision as to which is the figure and which the ground may be based on discourse focus or on the relative salience of the entities involved.

Since motion is perceived in case of a change of an entity's location, a particular movement is understood as having a natural beginning, when the entity goes from stativity/ rest to motion, and a natural end, when the reverse happens. The beginning and end of a movement are typically associated with specific locations. Such locations may either be people, physical objects or environmental landmarks. We may, therefore, describe a particular movement of a figure with respect to a ground, which may be the source, the destination, or a point in the path of movement. If the ground is treated as the source, then the figure has moved in an ablative/egressive motion away from the ground. If the figure, on the other hand, is treated as the destination, then the figure is moving in an allative/ingressive motion in the direction of the ground. In this case, the implication is that the figure has started the motion with the intention of reaching the ground. The ground may be treated simply as a point in the path of motion of the figure. This point constitutes neither the beginning (source) of a movement nor its goal, but rather an intermediate point through which the figure passes, and continues its course. These construals of the motion situation refer to different and discrete parts of the movement. In that respect, they may all be present in the description of a particular movement, as in:

14. Elspeth went from Brighton to London via Canterbury.

Via motion is not directed, in the sense that allative and ablative motions are. *Via* motion makes reference to the path, without any further specification as to its spatial properties. The path, however, may be further specified to describe particular movements.

5. Deixis and motion

All deictic expressions have a common core: the reference/vantage point from which the speech event and its relation to context are judged. This reference point is the deictic analogue of the reference object for location and the contextual anchor for the located object. For spatial deixis, the reference point is a contextual location from which the speech event is judged and the situation expressed. The canonical deictic anchor is very narrowly defined as the speaker in the *here-and-now*. Deixis takes as its base the face-to-face encounter of speaker to addressee (or other) and projects outward from the speaker as the origin of the speech event in the present time at the present locale. The basic semantic structure of spatial deixis can be understood in terms of three concepts: the reference point, remoteness, and direction. The constant in spatial deixis is clearly speaker-centeredness.

The direction of the orientation to the reference/vantage point is often encoded. For this property, there are just two possibilities: toward the reference point and away from it. Thus taking the speaker as the canonical reference point, we can see how English encodes two directions:

15. He came in.

16. She went out.

In the event of (15) the agent moves in a direction toward the reference point, in this case the speaker. We can prove this by explicitly violating the directionality:

*17. *He came from me.*

Similar effects can be seen in (16), where the orientation of the motion is necessarily away from the reference point, again in this case the speaker. The violation test proves the rule:

*18. *She went to me.*

Examples (17) and (18) are odd because contradictory directions are encoded: *went*, for instance, intrinsically signals motion away from the reference point, but *to me* signals direction toward the reference point.

Following Fillmore, deixis can be defined as the name given to uses of items and categories of lexicon and grammar that are controlled by certain details of the interactional situation in which the utterances are produced. Spatial deixis, then, is that aspect of deixis which involves referring to the locations in space of the communication act participants.

In his seminal articles on deixis, the *Santa Cruz Lectures on Deixis*, Fillmore (1971, *Deixis I:* 38) defined deixis as: "the name given to those formal properties of utterances which are determined by, and which are interpreted by knowing, certain aspects of the communication act in which the utterances in question can play a role." Fillmore mentioned among these aspects of the act of communication: the place(s) in which the individuals involved are located, the time at which the communication act takes place (the encoding time), the time at which the message is sent, the time at which the message is received (the decoding time), the matrix of linguistic material within which the utterance has a role, the social relationships on the part of the participants in the conversation, etc.

The categories which are specified for verbs of motion vary in two ways:

a) whether the location is that of the speaker, the addressee, or either speaker or addressee;
b) whether the location referred to is the relevant interlocutor's location at coding time, his location at the time of the movement (reference time), or his home base.

The deictic verbs of motion in English are a small set – *bring, come, go, send* and *take* – but they are among the most frequently used verbs in common speech. Like most common verbs, they have a variety of senses. *Come* and *go* are both used to talk about motion from one place to another. The problem is that both can be used, on appropriate occasions, to describe the very same motion, as in:

19. He went home.

20. He came home.

However, the two verbs are subject to different reference point restrictions. *Come*, for instance, expresses movement towards or so as to reach the speaker, or the person spoken to, or towards a point where the speaker in thought or imagination places himself, or (when he himself is not in question) towards the person who forms the subject of his narrative. Motion toward the speaker or the person spoken to is motion toward the speaker's (encoder's) or addressee's (decoder's) location at coding time. Motion towards a point where the speaker in thought or imagination places himself can be thought of as motion toward the assumed location of a participant in the conversation at reference time. The case where the speaker himself is not in question is the case of a third-person or non-person-deictically anchored discourse, and the person who forms the subject of the narrative is the central character. *Go* expresses the notion of destination or direction away from the speaker, or the person whose point of view the speaker for the moment assumes. *Come* and *go* sentences are true or false only

relative to appropriate reference points. But it is no easy matter to spell out exactly how the reference point gets determined.

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