VIRTUAL REALITY

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Language tends to be seen primarily as a device for reporting on the nature of the world around us. This view engenders the default assumption that linguistic expressions normally refer directly to actual individuals and actual relationships in which they participate. But to what extent is this really the case? I suggest that departures from the direct description of ACTUALITY are ubiquitous and fundamental in language. Surprisingly much of our linguistic effort goes into the description of VIRTUAL entities, even when our main concern is with actual ones. This is so even under a broad interpretation of what counts as actual. An attempt is made to clarify the actual/virtual distinction by exploring a variety of phenomena involving the direct description of virtual entities.

I would like to consider the following position, which is commonly accepted as a kind of default assumption about language and linguistic expressions:

(1)   A COMMON ASSUMPTION: As a device for reporting on the nature of the world around us, language is used primarily for the direct description of events and situations. The principal nominal and relational elements of a clause refer specifically to actual individuals and an actual relationship in which they participate.

As it stands, assumption (1) is probably too vague to ever be proven right or wrong. Nor is it clear that any scholar, on serious reflection, would accept it without extensive qualification. Still, the variety and prevalence of departures from the direct description of actual relationships and individuals tend, I believe, to be greatly underestimated. It is essential that we be fully aware of the nature and extent of such departures if we desire a realistic assessment of language, cognition, and the mental construction of our world.*

I am thus concerned with various kinds of indirectness in the connection between linguistic expressions and the actual individuals and relationships they pertain to. Two major sources of such indirectness will be mentioned here just in passing. The first is IMPLICATURE, where information is obtained indirectly — via pragmatic inference — from what is explicitly stated. In (2a), for instance, speaker B's response allows speaker A to infer that B has not in fact finished the dissertation, although B avoids saying this directly.

(2)   a.   A: Have you finished your dissertation?
            B: Well, I've chosen a topic. [implicature]
        b.   He hung his father on the wall above the fireplace. [metonymy]

The second is METONYMY, where the explicit mention of one entity provides a conceptual REFERENCE POINT serving to evoke the conception of another (Langacker 1993). In (2b), for example, direct mention of the father serves to evoke the conception of the father's portrait, which is the intended referent despite being referred to only indirectly. Both implicature and metonymy are extremely prevalent and contribute greatly to the indirectness of the relation between linguistic expressions and the situations of concern.

The formulation in (1) makes reference to ACTUAL individuals and relationships. My claim is that departures from the direct description of ACTUALITY are ubiquitous and fundamental in language. Surprisingly much of our linguistic effort goes into the description of VIRTUAL entities, even when our main concern is with actual ones. (I will also speak of FICTIVE entities (cf. Talmy 1996). At least for present purposes, the terms virtual and fictive can be used interchangeably.) We must therefore begin with a rough characterization of how the notion of actuality will be understood.

Actuality will be distinguished from notions like 'real world', 'reality', and 'truth'. The actual/virtual contrast can be drawn for any kind of global 'world', whether it be the 'real world' (the default) or a derivative one, like the imagined world of a myth or a novel. Sentences (3a) and (3b) are therefore taken as direct descriptions of actual, albeit mythical, events and individuals. But sentence (3c) is not. As a generic statement, it makes no direct reference to any specific individual or event in actuality. Generics are just one type of expression referring to virtual (as opposed to actual) entities.

(3) a. Adam ate an apple.
         [direct description of an actual, though mythical, event]
     b. Eve eventually exited Eden.
         [direct description of an actual, though mythical, event]
     c. Serpents seldom seem sincere.
         [generic; no actual individual or event directly described]

Actual and virtual entities are thus distinguished within a particular global world, as sketched in Figure 1. I find it helpful to use the metaphor of 'planes' (equivalently, we could speak of 'tiers' or 'mental spaces' (Fauconnier 1985; 1997)). Entities that are not part of actuality are visualized as occupying a VIRTUAL PLANE, which is distinct from the ACTUAL PLANE despite certain correspondences between them. For instance, the serpents referred to in (3c), as well as their infrequent manifestations of sincerity, are located in a virtual plane describing what the world is like in general (independently of any particular individuals or events in actuality). There are numerous kinds of departures from actuality, for which distinct planes may have to be posited. I will refer to any of these as a virtual plane, as well as adopting more specific labels for some of them.
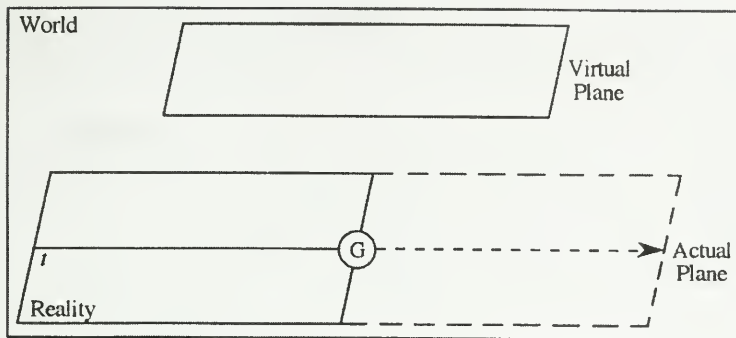
Figure 1.

In a given world, REALITY can be defined as the history of what has happened up through the present, as conceptualized by the speaker (Langacker 1991: ch. 6). Reality evolves through time (t), continually 'growing' toward the future as more and more occurs. The term GROUND (G) refers to the actual speech event, its participants, and its immediate circumstances. The ground defines the 'present', being located on the 'leading edge' of reality as it grows with the passage of time. Reality is one facet of actuality, which further includes the 'modal elaborations' of reality, such as the fact (as seen by the speaker) that certain events did not occur, or the likelihood of future events occurring. But even when an actual event is not accepted as real, its reality remains AT ISSUE. In negating a past event we are denying its inclusion among those constituting reality. A modal pertains to the likelihood of reality evolving to encompass the event in question. In either case, the speaker is assessing its status and position vis-à-vis reality.

All the sentences in (4) will thus be regarded as descriptions of actuality:

(4) a. Some unicorns trampled a Martian.   [false description of actuality]
     b. She did not recognize him. [actual but non-occurrent event]
     c. They might cancel the soccer match.   [actual but only potential]
     d. Joe believes a unicorn bit me.   [direct description of belief about actuality]

Actuality is taken as being independent of truth and falsity, as well as negation, tense, and modality. Although the events described in (4a)-(c) are not portrayed as being real, their possible inclusion in reality is precisely what is at issue. I am also willing to speak of actuality in regard to the complements of verbs of propositional attitude, e.g., *believe*, as in (4d). The speaker is of course not asserting that a unicorn bit him, but is only describing a belief held by Joe. Still, that belief pertains to actuality (even if it happens to be false), and the subordinate clause offers a direct description of both the event and its participants.

The distinction between actual and virtual entities should become clearer as we proceed through examples. It is not absolute, and the line might be drawn in

other places. My strategy here is to interpret actuality rather broadly. I hope to show that departures from the direct description of actuality are legion, even with a liberal definition. Though numerous, the types of cases to be considered are anything but exhaustive.

One of the most basic findings of cognitive linguistics is the utter pervasiveness in thought and speech of METAPHOR (Lakoff & Johnson 1980; Turner 1987; Lakoff & Turner 1989), as well as CONCEPTUAL BLENDING (Fauconnier & Turner 1994; Turner & Fauconnier 1995; Coulson 1996), of which metaphor constitutes a special case. In metaphor, a SOURCE DOMAIN is evoked as a basis for conceiving or understanding a TARGET domain. The result of so doing is often a 'hybrid' (Fong 1988) or BLENDED structure that inherits certain properties from both the source and the target. Suppose I metaphorically construe a theory as a building, as in (5). In so doing, I mentally create a hybrid entity that is building-like in certain basic structural respects (Clausner & Croft 1997), yet somehow ethereal or non-substantial. If my theory collapses, I may not be very happy, but I don't have to worry about being struck by a falling beam.

(5) A THEORY IS A BUILDING: You need to buttress that theory. His theory rests on weak foundations. The framework of the theory is sound. She demolished my theory. Our theory collapsed under the weight of counterevidence.

The relation between the planes depicted in Figure 1, on the one hand, and metaphorical expressions like those in (5), on the other, is as follows. The metaphor itself, as a general pattern of conceptual structuring, does not refer to any particular building or any particular theory, hence it is not part of actuality. It consists of various mappings, or CORRESPONDENCES (represented by dotted lines), between the source domain of buildings (or physical structures more generally — see Grady, Taub, & Morgan 1996; Grady 1997) and the target domain of theories. The primary mapping, the only one shown in Figure 2, identifies a building (B) with a theory (T); at this level, of course, the corresponding entities are types or arbitrary instances, rather than any actual building or theory. Resulting from the source-target correspondences is a blend, one element of which is a hybrid type of entity, given as B/T, combining certain properties of buildings and theories. The metaphor residing in these mappings supports an open-ended set of expressions describing the metaphorical construal of theories in general or of particular theories in actuality.

The sentences in (5) describe actual situations and events involving the soundness and fate of actual theories. The specific theory being referred to in a single example is represented in Figure 2 as t_i. It is not however t_i per se that is conceived as being buttressed, having foundations and a framework, being demolished, or collapsing — such a conception would be anomalous. Rather, these relationships are ascribed to an imagined instance of the hybrid entity type B/T, which renders the conception coherent. This imagined entity b/t_i corresponds to t_i but does not exist in actuality. It is the virtual, fanciful correspondent of a real entity, one that instantiates the metaphor and functions in lieu of the real entity

for purposes of making the metaphorical predication. This predication is thus a VIRTUAL structure evoked to describe a facet of REALITY.
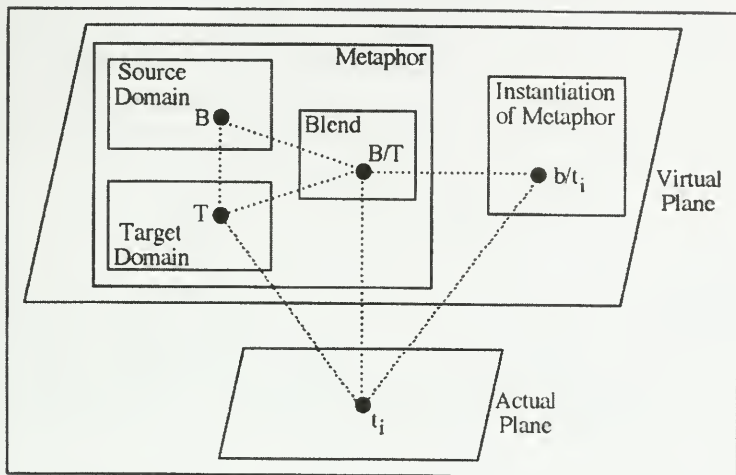

Figure 2.

The essential point here is that metaphorical expressions commonly (perhaps always?) describe the blended, virtual structure, even though an actual situation in the target domain is the one we are ultimately concerned with (Fauconnier 1997: 168-171). Collocations like *demolish...theory* and *theory...collapse* are conceptually coherent in neither the source domain nor the target domain, considered individually. Only in the blended structure where a theory assumes certain building-like properties can such expressions be assembled without semantic incompatibility. We are therefore talking about theories per se only INDIRECTLY — it is the BLEND that these metaphorical expressions refer to DIRECTLY. Only via and in relation to what is said about the blended structure do we draw the intended conclusions about the actual situation in the target domain of theories and their assessment. The blended structure is a kind of virtual representation created in order to indirectly specify something concerning the actual situation of concern.

Many of the phenomena discussed subsequently could also be characterized in terms of metaphor and blending. I will not explicitly present them in that fashion, simply because I want to focus on their virtual nature and the often unnoticed indirectness in what seem like straightforward descriptions of actuality. Still, the ubiquity of metaphor and conceptual blending is already sufficient to show the simplistic nature of the assumption in (1).

Perhaps the most obvious case of non-actuality is VIRTUAL MOTION. Under the alternative labels ABSTRACT MOTION, SUBJECTIVE MOTION, and FICTIVE MOTION, it has been studied extensively by cognitive linguists (Langacker 1986; Matsumoto 1996a; 1996b; 1997; Talmy 1996). Talmy lists quite a number of subtypes, some of which are exemplified in (6).

(6) a. That mountain range goes from Mexico to Canada.
     b. The signpost points toward the town.
     c. The sun is shining into the cave.
     d. The pillar cast a shadow against the wall.
     e. We can be seen by the enemy from where they're positioned.
     f. I sat in the car and watched the scenery rush past me.
     g. As I painted, a line of paint spots slowly progressed across the floor.
     h. The palm trees cluster together around the oasis.
     i. Termite mounds are scattered all over the plain.
     j. The bakery is across the street from the bank.

Consider expressions like (6a). The motion verb *go* and prepositional phrases with *from* and *to* are of the sort that would normally be used for an object moving along an extended spatial path through time. Here, however, nothing actually moves. The mountain range is static, despite occurring as the subject of *go*, and no explicit mention is made of any potential mover. In Talmy's terms, there is FICTIVE motion but the FACTIVE situation is one of stasis.

This can be described in various ways. It might be argued that the mountain range is construed metaphorically as moving along a path. Alternatively, one might posit an imaginary mover who traverses a path along the mountain range's expanse. I myself have said that the CONCEPTUALIZER moves SUBJECTIVELY along this path by a process of MENTAL SCANNING. These descriptions are not necessarily incompatible. I believe that all of the factors mentioned are involved, probably to varying degrees in different examples. Metaphorical motion by the subject seems more evident with a different choice of verb, as in (7a). The role of an imagined mover becomes more evident with a different choice of subject, or with other adjustments, as in (7b)-(c). In cases like (7d), both the subject (metaphorically) and another mover traverse the same path. Note further that in all these circumstances the conceptualizer scans mentally along the spatial path in question. In conceiving of some entity moving along a path, the conceptualizer necessarily evokes in sequence the various locations constituting that path, and in so doing moves subjectively along it.

(7) a. That mountain range {reaches/extends/stretches} from Mexico to Canada.
     b. This highway goes from Mexico to Canada.
     c. The freeway ran along the coast for a while, then entered the mountains.
     d. This road {leads/takes} you directly to the exit — you just have to follow it.

As seen in Figure 3, the conceptual characterization of (6a) has both an actual and a virtual component. In actuality, it PROFILES (i.e., designates) the continuation through time of a stable situation in which the TRAJECTOR (*tr*), the entity coded by the subject, has a spatial extension reaching from Mexico (M) at one extreme to Canada (C) at the other. Enclosed in a box, the profiled relation-

ship continues through a span of time (indicated by a bar along the time arrow) not conceived as being bounded. This unbounded character makes the profiled relationship IMPERFECTIVE (or 'stative'), which enables it to be expressed in the simple present tense (*goes*), even though *go* as a true motion verb is PERFECTIVE and thus requires the progressive for a present-time event (Langacker 1987).
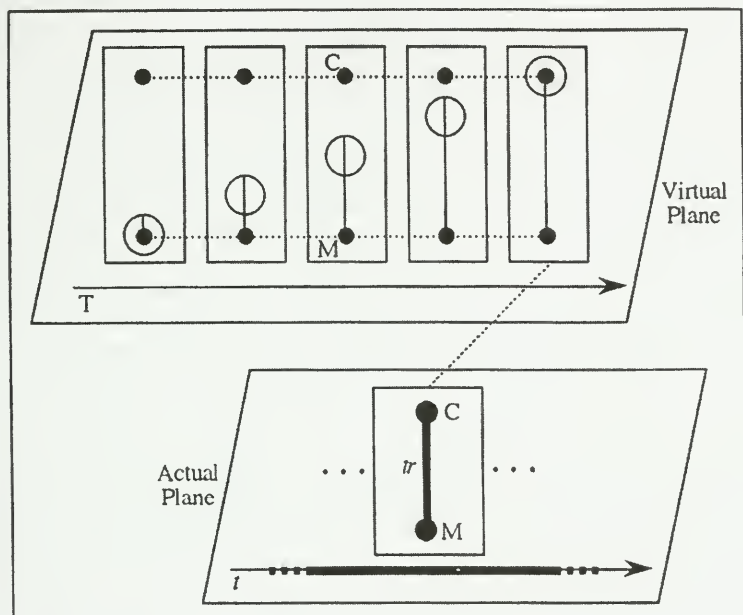

Figure 3.

Hence the situation in actuality determines the basic aspectual categorization of the profiled relationship, with predictable consequences for its tense/aspect marking. Yet virtual motion is also essential to the meaning of (6a); if nothing else, it provides the directionality coded by the prepositional phrases *from Mexico* and *to Canada*. But what is virtual motion? In Figure 3 I have shown it as subjective motion (mental scanning) on the part of the conceptualizer. The arrow labeled T stands for PROCESSING TIME, i.e., time as the MEDIUM of conceptualization (whereas CONCEIVED TIME, *t*, is time as the OBJECT of conceptualization). Through a span of processing time, the conceptualizer builds up to a full conception of the profiled relation by mentally scanning along a path and progressively superimposing all the locations scanned until the full configuration is simultaneously available as a single gestalt (I refer to this as SUMMARY SCANNING). The circles represent the conceptualizer's momentary focus of attention at a given instant, and each focused location brings an additional segment of the trajector (or its spatial extension) into awareness. Observe that the full configuration accessed via this virtual, subjective motion is identified with the single, static configuration in actuality whose continuation through time constitutes the

profiled clausal relationship. The virtual motion, with its dynamicity and inherent directionality, is used to 'build up' the conception of a stable situation. It is this virtual motion, rather than the static situation in actuality, which motivates the use of *go* as well as the path prepositions *from* and *to*.

As noted earlier, the subjective movement just described is compatible with the other ways of interpreting virtual motion, and in fact is immanent in both of them, representing their abstract commonality. Suppose, on the one hand, that (6a) — or another example, like (7b) — is construed in terms of some imagined individual moving objectively (though fictively) along the spatial path in question. Under this interpretation, the circles in Figure 3 can be taken as representing the mover, who successively occupies all the points along the trajector's expanse. (This motion would of course occur through a span of conceived time, but a fictive span of time, not the actual time span through which the profiled relationship is tracked in the actual plane.) Yet, in conceiving of this motion the conceptualizer is inherently directing attention to successive portions of the spatial path, which can thus be summarized to yield the gestalt conception of the full configuration, as before. The notion of an individual moving along the path can be present with varying degrees of cognitive salience. 'Pure' subjective motion as previously described can be regarded as the limiting case in which this notion fades away entirely, leaving the conceptualizer's mental scanning as its only vestige.

On the other hand, suppose (6a) — or perhaps (7a) — is construed in terms of metaphorical motion on the part of the subject. In this case, the virtual plane in Figure 3 can be interpreted as instantiating the blend resulting from the metaphorical mapping (cf. Figure 2). The source domain of the metaphor is the conception of something moving along a spatial path, and its target domain is the conception of a spatially extended object (like a mountain range or a road). Correspondences link the mover, at each instant in its motion along the path, with successive portions of the extended object. The blend that results involves that object moving — or in a summary view, 'growing' — along the spatial path, just as shown in Figure 3.

The different kinds of fictive motion illustrated in (6) all deserve comparable scrutiny, but we need to move on. Virtual motion turns out to be just a special case of the much broader phenomenon of VIRTUAL CHANGE. One kind of virtual change, apparently quite prevalent in Japanese, has been described by Matsumoto 1996c. In contrast to (8), which describes the room's shape directly, (9) does so indirectly, by portraying it as the result of a change.

(8) Sono   heya   wa   marui.
     the   room   T   round
     'The room is round.'

(9) Sono   heya   wa   maruku   na-tte   iru.
     the   room   T   round   become-STAT   be.
     'The room is [in the state of having become] round.'

No change has actually occurred in (9). Instead, this resultant state construction describes the departure of the actual situation, where the room is round, from the

ideal or canonical situation, in which a room is rectangular. A fictive event is invoked for purposes of characterizing a static situation in actuality.

Of course, a sentence like (9) is really ambiguous. It could in principle describe the stable situation resulting from the room actually changing shape, from being rectangular to being round. More likely it simply means that the room is round, without implying any change, but in contrast to (8) it nonetheless portrays that situation as a departure from the normal or expected one. The ambiguity can be explicated as a matter of whether the change-of-state process (that of becoming round, in this case) is construed as being actual or virtual.
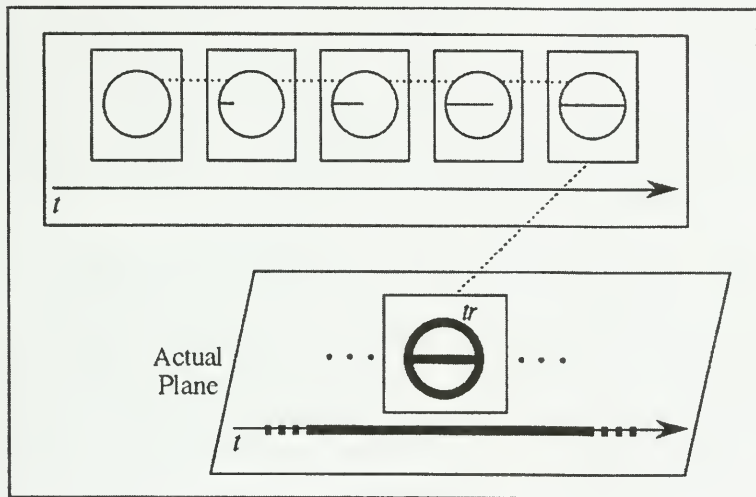

Figure 4.

A change-of-state process is depicted abstractly in the top portion of Figure 4. A circle represents the thing that undergoes the change of state (e.g., a room). The change in state, which can be thought of as a property progressively manifesting itself through time, is represented by a line increasing in length until it fully traverses the circle. The final state of this process — the resultant state in which the property is fully manifest — is identified as the situation in actuality that sentence (9) designates. More precisely, the sentence as a whole profiles the imperfective process wherein this stable situation is followed sequentially in its continuation through time. But if this static situation obtains in actuality, what about the change-of-state process that produces it? No indication is made in the diagram as to whether this process is construed as being actual or virtual. That is where the ambiguity lies. On the one hand, this change can be situated in the actual plane, occupying a span of time prior to that of the profiled imperfective process. This implies that the room really did undergo a change in shape. On the other hand, the change can be a virtual one, invoked to contrast the profiled configuration with the canonical one.

Another kind of virtual change, described by Talmy 1996 and Sweetser 1997, is exemplified in (10).

(10) a.   His newspaper column grew longer every week.
     b.   The trees got shorter at higher altitudes.
     c.   The water got deeper as he swam away from the shore.

Sweetser has noted that the interpretation of expressions like these hinges on whether a nominal expression is construed as referring to a general ROLE or a specific VALUE of that role (in the sense of Fauconnier 1985). At least in this context, values can be identified with actual individuals (or sets of individuals). The individual interpretations are possible in (10) but highly implausible in view of general world knowledge. On the individual reading, *his newspaper column* in (10a) refers to a specific piece of prose that took a long time to finish and was augmented on a weekly basis. In (10b), we can imagine a particular set of trees being transported up the side of a mountain, each one shrinking as it went (for some unexplained reason). If (10c) is taken as describing an actual change (rather than a virtual one), the entire body of water increased in depth (perhaps floodwaters were rushing into a small lake).

More likely, of course, is the role interpretation, where the change described is fictive, or virtual, rather than actual. On this construal, *his newspaper column* does not refer to any actual piece of prose, but rather to an abstract entity — a role — which particular pieces of prose instantiated on particular occasions. No actual column is portrayed as changing in length. Instead, the appearance of change comes about when successive instantiations of the column are compared and observed to differ in length in a way analogous to that of a single piece of prose sampled at different times while being revised and expanded. The change is thus virtual in the sense of emerging from the comparison of different individuals AS IF they were a single individual observed at different times. Similarly, *the trees* in (10b) does not refer to any specific set of woody plants. It is a role description, referring to an aspect of the landscape observable at any given altitude. The virtual change in height is obtained by comparing different values or instantiations of this role. And in (10c), there need be no change at all in the overall body of water or its depth at any one location. Rather, *the water* is a role description referring to the local expanse of water surrounding the swimmer at any given moment. As the swimmer moves, this role is successively instantiated by distinct expanses of water, whose different depths can be perceived as virtual change.

This kind of virtual change is sketched in Figure 5. R stands for a role conception, which of course is a virtual entity rather than an actual individual. The individuals that fill this role at different points in time are given as v_1, v_2, and v_3. In the actual situation being described, each such individual, at the time in question, participates in a certain relationship (shown abstractly as a line connecting it to another entity), e.g., it falls at a certain point on a scale of length, height, or depth. These individual relationships in the actual plain fail to constitute a coherent process of the sort profiled by a clause — where a single relationship, with the same set of participants, is tracked in its evolution through time. Instead there are

different participants at each moment, and it is not the case that one relationship evolves into the next. A coherent process conception emerges only in the virtual plane. It emerges when the actual individuals (v_1, v_2, and v_3), observed at different points in time, are fictively viewed as if they were the same individual, v_i. Because they involve the 'same' participant, one relationship is then seen as evolving into the next, so that the participant is conceived as changing through time. The clause profiles this virtual change.
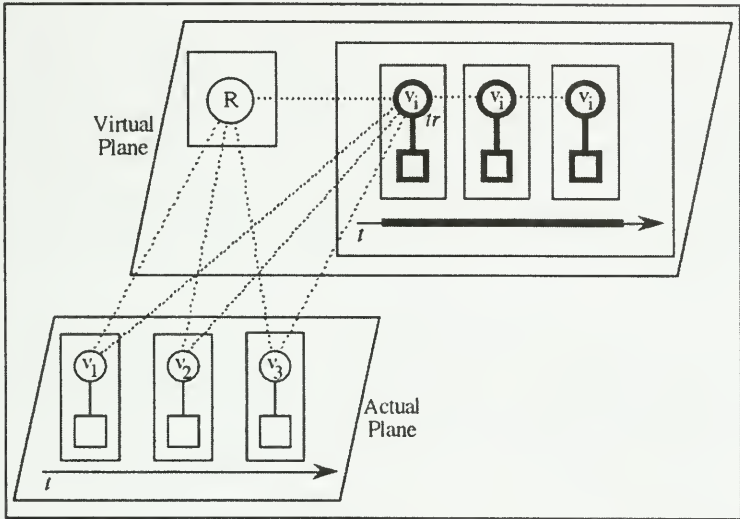

Figure 5.

Note that Figure 5 differs from Figures 3 and 4 in regard to the locus of the PROFILED process, i.e., the relationship that is 'put on stage' and specifically designated by the clause. In these previous diagrams, the status of profile was conferred on an imperfective process in the actual plane. By contrast, in Figure 5 profiling falls on a fictive event in the virtual plane. It is only in the virtual plane that a coherent process emerges at all to be profiled. We will see that the profiling of virtual entities is in fact quite common.

The type of virtual change depicted in Figure 5 tends to be closely associated with actual or virtual motion and the sensory impressions induced in the moving viewer. In (10c), an actual mover is explicitly mentioned. What counts as *the water* is the expanse of water around the mover at a given moment, and since different patches of water can vary in depth, the viewer's actual motion induces the impression that its depth is changing. In (10b) no actual mover is mentioned, but on a non-generic interpretation one is strongly implied. *The trees* refers to a local feature of the landscape observable at any given point in a tacit journey from lower to higher altitudes. An imagined moving viewer seems to be as important in such examples of virtual change as it is in cases of virtual motion like (7b)-(c).

I would go further and say that the conceptualizations evoked as the meanings of linguistic expressions always presuppose a VIEWER (i.e., a conceptualizer) and a VIEWING ARRANGEMENT (Langacker 1995). The viewing arrangement comprises such factors as a VANTAGE POINT, the DOMAIN being viewed (e.g., a 'world' or mental space), and how that domain is MENTALLY ACCESSED. Although the viewing arrangement is only implicit, it provides the foundation for apprehending a given situation. It thereby exerts a strong shaping influence on both the conceptualization and the form of the expression that encodes it.

In the default viewing arrangement, the viewer is the actual speaker (and secondarily, the addressee), the domain is the real world, and the viewer — from a fixed vantage point — describes events and situations in actuality. This canonical arrangement is presupposed in assumption (1). There are, however, many kinds of departure from this canon. Expressions do not necessarily pertain to the real world, nor to actuality within a given world. A vantage point can be adopted other than the speaker's actual one, and domains can be accessed in varied and complex ways.

It should be evident that some of the cases already discussed can be characterized as involving a FICTIVE (or VIRTUAL) VIEWING ARRANGEMENT. A frequent pattern, grounded in our experience as travelers, is for a moving viewer to describe what he sees AS IF he were static (as in the canonical arrangement). This produces the type of fictive motion exemplified in (11):

(11) The telephone poles are rushing by at 80 miles per hour.

Here the speaker is reporting on his actual viewing experience at the moment of speaking. However, he does so with respect to a virtual viewing arrangement in which the speaker is static and the telephone poles are moving, when presumably just the opposite is really the case. In other words, the sentence directly encodes (and reflects in its form) the actual experience engendered by a fictive construal of the speaker's viewing circumstances.

Slightly different is another classic example cited by Talmy 1988:

(12) a.   There was a house every now and then through the valley.
     b.   There is a house every now and then through the valley.

I have varied the tense to bring out two subtly different construals. But with either tense, the sentence looks like it ought to be semantically and grammatically incoherent. It uses the adverbial phrase *every now and then* with respect to the existence of a house, but a house is not something whose existence flashes on and off like a light bulb. The adverb *through the valley* is even more problematic, since it describes a spatial path, but nothing overtly specified in the sentence is conceived or portrayed as moving.

Yet the expressions are immediately and unproblematically understood. They merely presuppose a non-standard viewing arrangement involving a moving viewer, and describe the viewing experience thereby engendered. At a given

moment a person's field of view subtends only a circumscribed portion of the sur- rounding world, and as a person travels along a spatial path, the field of view moves along with him, subtending a different portion of the world at each mo- ment. From the vantage point of a moving viewer, the existence of a house within the portion of the world currently being viewed is something that happens *every now and then*. Likewise, the adverb *through the valley* describes the path of the viewer (and the field of view), rather than anything explicitly mentioned. The se- mantic and grammatical coherence of these expressions is critically dependent on a viewer and viewing arrangement that are not directly mentioned.

Sentence (12a), with past tense, favors the construal in which the viewing experience was that of the actual speaker, on a prior journey. Its virtuality is lim- ited to the fact that it describes the speaker's visual impressions (what appeared in the field of view, at what intervals) rather than describing the valley directly and objectively, in its own terms. By contrast, (12b), with present tense, favors a quasi-generic construal not based on any particular journey or any specific viewer. In generalized terms it describes what the valley is like, but it nevertheless does so from the perspective of a viewer traversing it. That viewer is simply not identified with any specific or actual individual. The viewer, the viewing experi- ence, and the journey are virtual rather than actual.

Previous examples of fictive motion and fictive change were also seen as evoking an actual or virtual moving viewer. In (10), for instance, the past tense favored an interpretation involving an actual viewer. Once again, shifting to pres- ent tense induces a quasi-generic construal involving a generalized, virtual viewer, coded by *you* in (13a) but implicit in (13b):

(13) a. The water gets deeper as you swim away from the shore.
     b. The trees get shorter at higher altitudes.

These sentences describe an actual situation as it would present itself to any moving viewer at any time. The motion, the viewing, and the change they engen- der are all virtual, yet they provide a way of mentally accessing a facet of reality.

Once we depart from actual motion by an actual viewer, we are no longer tied to the spatial domain and the perception of physical entities. Many kinds of expressions appear to invoke a tacit virtual viewer whose movement through time or some other abstract domain provides a way of mentally accessing it. Al- though we cannot examine them here, the examples in (14) may hint at their range and variety. (For *still* and *already*, see Michaelis 1991; 1993; 1996.)

(14) a. The years are going by awfully fast. [cf. (11)]
     b. From moment to moment the crowd became more restless.
     c. His condition progressively worsened from one day to the next.
     d. Prices vary greatly from one restaurant to the next.
     e. Quality improves in the higher price ranges.
     f. As body size increases, the typical gestation period gets longer.
     g. Through the ages there have been many great leaders.
     h. Going down the list, every conceivable option seems worse than the last.

    i.   Don't mention calculus — elementary algebra is already too
          advanced for him.
    j.   He's not as bad as Gingrich, but Helms is still way too liberal for
          me.

We have so far observed fictivity with respect to both the situation de-
scribed and the implicit way of viewing it. In a more speculative vein, I suggest
that we might also posit VIRTUAL SPEECH ACTS, i.e., fictivity at the level of illo-
cutionary force. I characterize a conventional speech-act value as residing in a
SCHEMATIZED INTERACTIVE FRAME, abstracted from specific speech events in
the same way as any other kind of linguistic unit. These frames make schematic
reference to the speaker and hearer, to an utterance, to relevant facets of the con-
text, and to such factors as the intent of the interlocutors and the assessment of
each interlocutor concerning the intent and previous knowledge of the other. For
example, the frame for assertion embraces such notions as the speaker's intent to
establish a proposition in a certain mental space (in particular, some conception of
reality), canonically for the purpose of inducing the hearer to accept it as part of
that space. A substantial inventory of conventional frames are presumably avail-
able for speakers to use in actual discourse. When such a frame is used, an appro-
priate clause is plugged into it and the whole complex is activated in the context
of the actual speech situation. Aspects of the situation thus instantiate the frame's
schematic specifications (e.g., the actual speaker and hearer instantiate the sche-
matic roles of speaker and hearer).

    In a fictive speech act, the speaker in some sense pretends to employ the in-
teractive frame but does not fully identify its elements with those of the actual in-
teraction constituting the ground. Instead, the entire complex (frame plus clause)
is embedded in another interactive frame that IS identified with the ground and
specifies the actual nature of the intended interaction. We often do this for irony,
as in (15):

    (15) a.   That was a brilliant move. [in response to something obviously
               stupid]
         b.   He will finish his dissertation on time. And I will be elected pope.

Here the speaker only pretends to make an assertion. By making its content the
opposite of what is manifestly true, or coordinating it with another apparent as-
sertion that is blatantly false, he signals that his actual intent is not to induce the
hearer to accept the proposition as true, but merely to put it on stage for examina-
tion. The supposition, of course, is that its patent falsity will make it evident how
silly it would be to even consider asserting it in actuality. The examples in (16)
illustrate another familiar pattern:

    (16) a.   Who needs that car? [= 'Nobody needs that car.']
         b.   Why should he tell the truth? [= 'He has no reason to tell the
               truth.']

Here the speaker only pretends to ask a question. The actual interactive intent is
not to elicit an answer from the hearer, but to render evident the impossibility of
providing a truthful answer that satisfies the question's existential presupposi-

tion. A virtual act of questioning is incorporated as part of a higher-level interactive frame with a different projected outcome. The relation between the expression and the actual interaction envisaged is only indirect.

A basic point emerging from the discussion thus far is that an expression's overt content — what it directly and explicitly mentions — is only one facet of the elaborate conceptualization that constitutes its meaning. The overtly mentioned elements are apprehended in terms of an implicit viewing arrangement, and this entire conceptual complex is embedded in a tacit interactive frame. These implicit layers of conceptualization are essential ingredients of an expression's semantic value and play a major role in shaping its form. Moreover, structures at any level — content, viewing arrangement, interaction — can be virtual rather than actual.

I would next like to consider the English present tense. Elsewhere (1987: 82) I have argued for the following, 'naive' characterization of the English present:

(17) PRESENT TENSE: A full instantiation of the profiled process occurs and precisely coincides with the time of speaking.

I still believe that characterization to be valid. However, it does require a certain amount of clarification and reinterpretation (which various discussions with Mariko Higuchi Goto have helped me arrive at). It turns out that virtual entities are crucial to understanding the English present tense.

It is a truism of modern linguistics that the English 'present' is not a real present tense marker in the sense of indicating that an event occurs right now, at the time of speaking. Two considerations make this seem quite evident. First, the simple present cannot be used for perfective verbs; to indicate the occurrence right now of a perfective process, the progressive has to be employed:

(18) a.   *She does her homework right now.
     b.   She is doing her homework right now.

Second, the present is commonly used for events that do not occur at the moment of speaking. Some representative cases are the 'scheduled future', 'stage directions', and 'timeless' statements of general validity:

(19) a.   Our plane leaves at noon.
     b.   Hamlet moves to center stage. He pulls out his dagger. He examines it.
     c.   A wombat is a marsupial.

I suggest, however, that this truism is in fact false, and that the naive characterization — properly understood — is the correct one.

It should first be noted that the naive characterization provides an explanation for why present tense perfectives are normally bad. A perfective process is bounded, and a full instantiation of such a process includes its endpoints, i.e., the profiled relationship is tracked from beginning to end in its evolution through time. Thus, for a perfective process to precisely coincide with the time of speak-

ing, its initiation has to coincide with the onset of the speech event, and their completion must also be coincident. This poses both a DURATIONAL problem and an EPISTEMIC one. The durational problem is that there is no inherent connection between the length of the event described and the length of the speech event describing it, e.g., it takes longer to do one's homework than to utter (18)(a). The epistemic problem is that one has to observe an event in order to identify it as a prerequisite to describing it. But by the time an event is observed and identified, it is already too late to initiate a speech event that precisely coincides with it. These problems do not arise with present-tense imperfectives, since imperfectives (including progressives) are 'mass-like', so that any portion of the overall process counts as a full instantiation of the process type. So given an ongoing, already identified imperfective process, that portion of it which coincides with the time of speaking counts as valid instance, as required by (17).

These characterizations are sketched in Figure 6(a)-(b). Observe that the present-tense perfective configuration is conceptually coherent. The problem with present-tense perfectives is simply that, owing to the durational and epistemic problems, this configuration normally cannot arise.
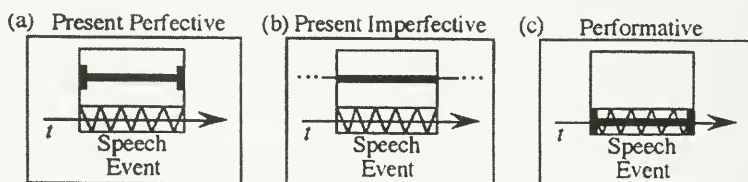

Figure 6.

A systematic exception to the non-occurrence of present-time perfectives is PERFORMATIVE sentences:

    (20) a.   I order you to destroy those files!
           b.   I promise to give up smoking.
           c.   I hereby pronounce you husband and wife.

This exception is predicted by (17): since a performative sentence is one that designates the very speech act effected by its utterance, the profiled process and the speech event temporally coincide as a matter of definition. This configuration is shown in Figure 6(c). Moreover, the epistemic problem fails to arise because the actor is none other than the speaker, who acts with prior intention.

We see, then, that the naive characterization in (17) explains a lot, even as it stands. In particular, it explains the acceptability of present-time imperfectives, the general non-acceptability of present-time perfectives, and the exceptionality of performatives in this regard. But what about all the cases, like (19), where the event does not occur at the moment of speaking? The answer, in brief, is that the occurrence of the event in question may be a VIRTUAL OCCURRENCE involving a special VIEWING ARRANGEMENT. In the context of the presupposed viewing

arrangement, the event's virtual occurrence DOES coincide with the time of speaking.

Consider first the use of the present in play-by-play descriptions of sporting events and the like, as in (21):

(21) Jordan passes to Pippin. He pulls up and shoots. The ball rims out. Rodman grabs the rebound.

The clauses are perfective and are employed for the description of actual events, as they occur. In using the present tense, the announcer purports to be describing each event coincident with its occurrence. Now we know that, in the strictest sense, the events and their description cannot coincide exactly, owing to the durational and epistemic problems already discussed. I suggest, however, that the conventions of the play-by-play mode of speech include the FICTION of simultaneous description. We construe the descriptive statements in terms of a virtual viewing arrangement such that the announcer can indeed make them coincide with the profiled events. It just happens that the kinds of events reported have approximately the right duration for the fiction of exact coincidence to seem plausible. Moreover, owing to anticipation as well as the stereotyped nature of sporting events, the time-lag in reporting them may in fact be quite short. The events are actual, but the viewing reflected in their linguistic encoding contains an element of fictivity.

When we turn to other kinds of examples, involving other virtual viewing arrangements, the events themselves have a fictive character. My basic proposal is that the expressions in question relate only indirectly to actuality, even in cases like (19a), *Our plane leaves at noon*, describing the specific departure of a specific plane. I suggest that what the sentence directly describes is not the actual event per se, but rather a REPRESENTATION of that event on some kind of VIRTUAL SCHEDULE, some kind of plan or projection concerning the anticipated occurrence and timing of events in future actuality. To support the notion that something like a schedule is involved, we can observe that the 'scheduled future' strongly favors the inclusion of a time expression, and is infelicitous for events not amenable to scheduling or planning:

(22) a.   My sister arrives next week.
     b.   ??My sister arrives.
     c.   ??An earthquake strikes in a month.

Moreover, in some instances the speaker may be alluding to an actual schedule, perhaps embodied physically:

(23) See, there it is on the screen — our plane leaves at noon from gate 74.

It is nonetheless the virtual schedule, a mental representation of anticipated events and their timing, that is crucial for the scheduled future.

Although a virtual schedule pertains to future actuality, its own status and temporal location are another matter. If a plan is in effect, the schedule itself is stable and mentally accessible through an indefinite span of time that includes the

present. The schedule contains VIRTUAL EVENTS, which are representations of anticipated actual events. Moreover, the span of time through which each virtual event is conceived as unfolding is identified with a particular time in future actuality, as shown in Figure 7. But the events CONSTITUTING the schedule are only virtual.
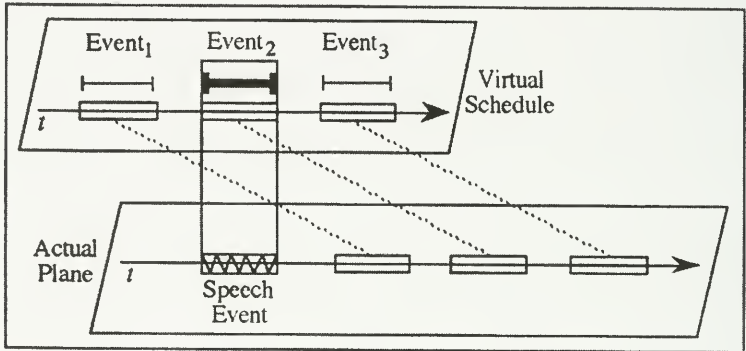

Figure 7.

The virtual schedule can be thought of metaphorically as a 'document' available to be 'read' at any time. In producing a sentence like (22a), the speaker is essentially reading off one of its entries. Reading an entry amounts to the VIRTUAL OCCURRENCE of the event it comprises, and since that event is profiled by the sentence produced, a (virtual) occurrence of the profiled process precisely coincides with the time of speaking. Use of the present tense thus conforms to the characterization in (17), provided that one takes into account the special viewing arrangement in which the speaker is 'reading' aloud from a virtual schedule. In that context, where all the events are virtual, they occur in the sense of being read, and the reading is necessarily coincident with the speech event.

Note that the durational and epistemic problems do not arise in this context. The event's occurrence is only virtual, a matter of the conceptualizer mentally running through it in reading the schedule, so its mental duration can always be made to coincide with the time of speaking. The speaker can also scan the schedule and examine an entry before reading it aloud, thus avoiding the epistemic problem. In fact, the durational and epistemic problems are not intrinsic to present tense or perfectives per se, but can rather be seen as inhering in the default-case viewing arrangement. They arise in the canonical arrangement where the speaker is reporting on real events as they actually occur. In this situation, an event's duration is the duration of its actual occurrence; it is thus determined by its inherent nature and is usually not subject to speaker control. Likewise, since the speaker is merely reporting, not running the show, he has to observe an event in order to identify and then describe it, hence the epistemic problem. In other viewing arrangements, especially involving the virtual plane, the duration and unpredictability of real-world events may be irrelevant.

A performative does describe a real event with a specific duration, but due to its special properties — identification with the speech event, and the speaker's intentionality — it inherently avoids the durational and epistemic problems. We can also imagine other viewing arrangements where actual events are being reported as they occur but the problems fail to come up because the speaker controls their choice and duration. Suppose two children are playing with toy cars in a model village. One child enacts certain events and describes them as she does so. Thus, even though she is pretending, the enactments themselves are actual physical occurrences. In this context the following is perfectly acceptable:

(24) I drive to work. Now I drive to the store. Now I drive home.

With each sentence, the girl pushes her car along the path indicated. Each actual event temporally coincides with the speech event describing it. The present tense is applicable because, in this special situation, the speaker knows what event she intends to make happen and controls the duration of its actual occurrence.

I believe that numerous 'special' uses of the present tense in English presuppose non-standard viewing arrangements involving the virtual occurrence of events. This is perhaps most obvious in the case of stage directions, as in (19b) [*Hamlet moves to center stage. He pulls out his dagger. He examines it.*]. Here there is very likely to be a physical document, the play's script, that is literally being read. It is nonetheless the virtual document, comprising a sequence of virtual events, that is crucial. This virtual document is available for reading at any time, and when it is read, each event in turn enjoys a virtual occurrence residing in the reader's apprehension of the sentence describing it. We can even go one step further by observing that an author, in writing a play, is drafting the stage directions for a VIRTUAL READER (as opposed to any actual one).

What about 'timeless' statements, like (19c) [*A wombat is a marsupial*]? Akin to generics, such expressions are not direct descriptions of actual events or situations. No particular wombat, nor any particular marsupial, is being referred to. Perhaps we can think metaphorically in terms of a document listing supposed eternal truths or scientific findings about the world's general nature (as opposed to specific events occurring within that framework). In any case, we can plausibly regard the profiled relationships as being inscribed on some kind of virtual document describing what the world is like in general. The present tense reflects the virtual reading of inscriptions, hence the virtual occurrence of the designated processes coincident with the time of speaking.

The relationships profiled by such expressions inhabit what I will call the STRUCTURAL PLANE. This term is inspired by Goldsmith & Woisetschlaeger 1982, who distinguish between 'structural' and 'phenomenal' knowledge: '... The "structural/phenomenal" distinction...corresponds to two rather different types of knowledge about the world...One may describe the world in either of two ways: by describing what things happen in the world, or by describing how the world is made that such things may happen in it' (80). Structural knowledge is general knowledge about how the world 'works', whereas phenomenal knowledge pertains to the specifics of what actually happens within that stable

framework. Their structural/phenomenal distinction corresponds to the one made here between the structural and actual planes.

That brings us to generic expressions, our initial brush with virtuality (recall (3c)). There are various kinds of generic expressions, whose properties are quite significantly different — I am not at all sure they constitute a coherent natural class. Since I have discussed them at some length elsewere (1996b; 1997), I will briefly consider just a single type, namely a singular generic, such as (25):

(25) A cat plays with a mouse it has caught.

Obviously, no actual cat is being referred to, nor any actual mouse. The nominals in (25) designate VIRTUAL INSTANCES of the cat and mouse categories, i.e., instances 'conjured up' just for the purpose of making a general statement about the world's structure. (In other works I have used the term AR-BITRARY INSTANCE for what may be the same notion.) The act of playing with a mouse profiled in (25) is also a virtual instance of that process type. Since the structural plane is a representation of general and stable aspects of the world's structure, a process represented there projects to indefinitely many actual occurrences that instantiate it, involving particular times, places, and participants. This is sketched in Figure 8 (the LANDMARK, labeled *lm*, is the participant coded by the object in a relational expression). But what a generic sentence profiles (and thus directly describes) is a virtual event in the structural plane. The profiled process is an entry in a virtual document available to be read at any time. It does pertain to actuality, but only indirectly, via the relationship that the structural plane bears to the actual one.
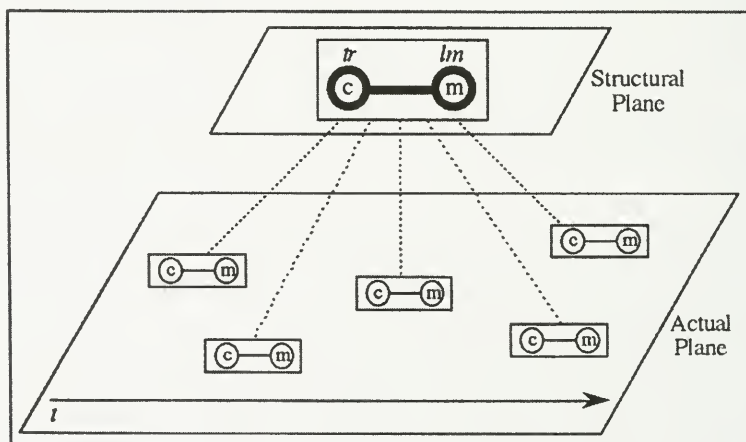

Figure 8.

In effect, the virtual event profiled in Figure 8 functions as a TYPE SPECIFICATION capturing what is common to an open-ended set of instantiations in actuality. More generally, a TYPE (as opposed to an INSTANCE of a type) is a kind of virtual entity, whether it occupies the structural plane — and thus describes a stable aspect of the world — or is instead created to make a local gener-

alization about what happens within that framework. Although the type/instance distinction is not absolute, and involves numerous subtleties that we cannot explore here (see Langacker 1991: 2.2), it should be evident that a type per se does not belong to actuality. We can think of a type specification as the abstracted commonality of its instances. As such it lies outside the actual plane, where multiple instances may occur that are distinguished from one another by their spatio-temporal location. Any number of such instances can project to the same type specification, which I will characterize as belonging to a TYPE PLANE, as shown in Figure 9.
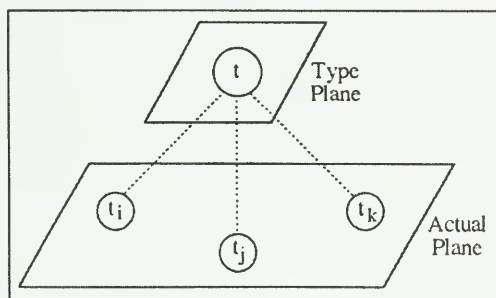

Figure 9.

When used by itself, without any kind of determiner, a noun stem merely specifies a type. An example is a noun like *cat*, used alone as the first element of a compound such as *cat-lover*. Thus no specific cat is singled out in (26a), nor is there any indication of how many cats might be involved. In such cases the noun profiles the virtual entity represented in the type plane.

(26) a.   Jenny is a CAT-lover.
     b.   Jenny loves THIS CAT.

On the other hand, a full noun phrase with a determiner profiles an instance of the type specified by the head noun. In (26b), *this cat* profiles a particular instantiation of *cat* in the actual plane (e.g., t_j in Figure 9). We have seen previously that either actual or virtual entities can be profiled.

Importantly, however, not all instances of a type are actual instances — we also have to posit virtual (or arbitrary) instances. For example, a singular generic like (25), *A cat plays with a mouse it has caught*, designates virtual instances of the *cat* and *mouse* types. As shown in Figure 8, these instances are 'conjured up' as part of an entry in a virtual document describing a facet of the world's structure. Given the purpose of this virtual document, these instances in the structural plane project to an indefinite number of instances in the actual plane. Furthermore, an actual instance of a type can be incorporated as part of some other type description. For example, habitual sentences like (27) are structural statements indirectly describing the multiple instantiation of a process type characterized in terms of specific individuals (*my cat* and *that bird*). Since events in the structural plane are generalizations pertaining to actuality, when appropriate they can incorporate reference to actual individuals.

(27) My cat stalks that bird every morning.

It is not generally realized how frequently we refer to types rather than individuals, even in expressions clearly intended as pertaining to actuality. We can see this in the contrast between (28a) and (b), which can perfectly well be used to describe precisely same sequence of actual events.

(28) a.   Three times, students asked dumb questions.
      b.   Three times, a student asked a dumb question.

They can both be used, for example, if there were exactly three actual events of questioning, each involving a single student (a different one each time) and a single question (also different each time).

The first sentence is a fairly direct description of actuality. It profiles a complex process comprising three actual instances of the process type STUDENT ASK DUMB QUESTION. Since multiple students and multiple questions are involved, the subject and object are plural. By contrast, (28b) is used to describe actuality but refers to it only indirectly. Observe that the clausal portion, *a student asked a dumb question*, occurs with a singular subject and object, even though three students and three questions are assumed to be involved. It therefore does not directly refer to the actual event sequence. Rather, as shown in Figure 10, it profiles the process type A STUDENT ASKED A DUMB QUESTION, which all three actual events instantiate. The student and question are instances of their respective thing types (since they are expressed by full noun phrases, with determiners), but only virtual instances that are conjured up for purposes of specifying a type of process. In effect, therefore, a two-step strategy is employed to convey information about what transpired in the actual plane: the clause itself describes a virtual process, functioning as a type description, and the adverb *three times* specifies its mapping into actuality (how often it was actually instantiated).
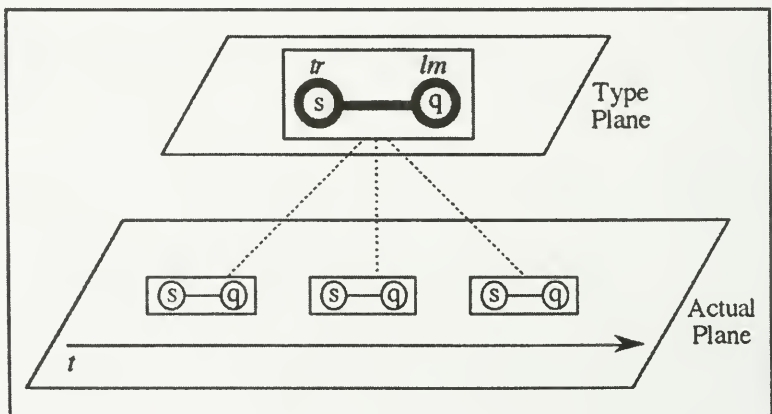

Figure 10.

A similar constrast is observed in (29):

    (29) a.   The witnesses all raised their right hands.
          b.   The witnesses all raised their right hand.

Both sentences can be interpreted as describing a complex event in which each witness raised his own right hand. Sentence (29a) directly describes this complex event in actuality, in the manner of (28a). Hence the subject, possessor, and direct object all occur in the plural. The subject and the (coreferential) possessor are also plural in (29b), but the object is singular (*right hand*), even though multiple hands are involved. I take this as illustrating a little noted but very common situation: it frequently happens that portions of a clause directly describe the actual plane while other portions describe it only indirectly, by naming a type specification instantiated in actuality (these portions can even be intermingled — see Langacker 1996a). In (29b), most of the clause lexicalizes the complex event in the actual plane, but *right hand* ascends to the type level and codes something common to the component events.

    This phenomenon is important for the understanding of quantifiers and quantifier scope. For example, (30a) is ambiguous. It may be the simple, direct description of an actual event in which the three boys collectively lifted a single chair, so that only one instance of lifting occurred. But it could also describe a complex occurrence in which each boy individually lifted a different chair. On this latter interpretation, the predicate encodes the type specification X LIFTED A CHAIR, whereas the subject refers directly to three actual boys, each of whom carries out an instance of that process type. Observe that no specific chair is mentioned — the object nominal *a chair* designates a virtual instance of the category, conjured up just to make a type specification. Though it corresponds to several chairs in actuality, this virtual chair itself is only found in the type plane.

    (30) a.   The three boys lifted a chair.
          b.   Three boys lifted two chairs.

    The characterization of QUANTIFIER SCOPE is now straightforward. Consider (30b), on the usual interpretation where *three* has WIDE SCOPE and *two* has NARROW SCOPE. That is, *three* has *two* IN ITS SCOPE. In terms of our analysis, a quantifier Q_1 has another quantifier Q_2 in its scope when Q_2 is part of a type description ascribed to the set quantified by Q_1 (Langacker 1991:3.3). In (30b), the quantifier *two* is incorporated as part of the type description BOY LIFTED TWO CHAIRS, and an instance of this process type is ascribed to each member of the set *three boys*.

    This analysis is diagrammed in Figure 11. The type plane makes reference to the process type BOY LIFTED TWO CHAIRS. At this level, the boy and the chairs are only virtual — no particular boy is singled out, nor any particular chairs. Three instances of this process type are however found in actuality, as well as three boys, each of whom carries out an instance of the process. Looking at (30b), we find that different portions of this sentence refer directly to entities found in different planes. The subject *three boys* pertains to actuality: it is only at this level that multiple boys are found. By contrast, the predicate *lifted two chairs* pertains

to the type level. It is only at this level that the number of chairs involved is two — in the actual plane, it can be as many as six. Although the sentence does pertain to actual events affecting up to six actual chairs, those events and those chairs are not mentioned directly. They are introduced only indirectly, via a type description and the ascription of an instance of that type to each member of a set of three actual boys.
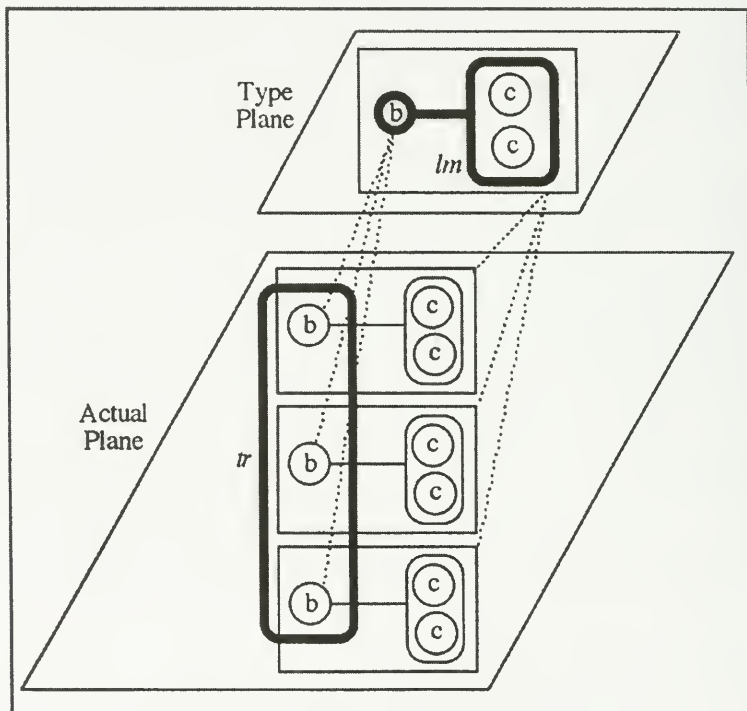

Figure 11.

This has only been a sample of the many kinds of virtual entities encountered in natural language. Once you start looking for fictivity in language, you find it everywhere. BOUNDARIES are often virtual, for example, including those that delimit the bounded entities profiled by count nouns (Langacker 1987). There need be nothing at all that objectively delimits the spatial expanse designated by a noun like *region*, *place*, *area*, *location*, *center*, *middle*, or *proximity*. We nonetheless IMPOSE a boundary to create a VIRTUALLY BOUNDED entity. It might also be suggested that any kind of norm, ideal, or expectation is a virtual entity, and that any departure from it constitutes a VIRTUAL CHANGE. In saying that something is *rough*, *crooked*, *sloping*, *limp*, or *dirty* we implicitly compare it to an imagined counterpart that is *smooth*, *straight*, *level*, *stiff*, or *clean*. Can we reasonably claim that the conception of something *sloping*, for instance, derives by mental rotation from a fictive situation in which it is level?

At this point I have no definite idea of how far it is useful to push the notion of fictivity. In any case I do not expect to find any clear-cut delimitation. It is more important to work on characterizing each phenomenon in its own terms, with as much precision and detail as possible. We can then hope to isolate an optimal set of descriptive notions, which will make it evident to what extent and in what specific ways the various phenomena are related to one another.

Should we go all the way and say that everything is fictive? Since our entire conceptual world is in some sense a mental construction, should we not just admit that the only kind of reality we have access to is VIRTUAL REALITY? I will leave that to philosophers. From the linguistic standpoint, however, the question is not very interesting. Even if we answer in the affirmative, and say that our entire mental world is fictive at some level, it remains true that various aspects of it are fictive in different ways and to different degrees. We still face the problem of sorting all this out, of characterizing the full spectrum of situations: those we naively accept as being real, those we explicitly acknowledge as being imaginary, those involving virtual entities not necessarily recognized as such, and so on.

I want to conclude by emphasizing that cognitive linguists firmly believe in reality, however much they talk about mental constructs and fictive entities. Its basic philosophical stance is EXPERIENTIAL REALISM (Lakoff & Johnson 1980; Lakoff 1987), and one of its central notions is EMBODIMENT (Johnson 1987). There IS a real world. Unavoidably, we inhabit it. As a species, we have EVOLVED to cope with it successfully. As individuals, we DEVELOP to cope with it successfully. Our existence and interaction with the world is grounded in our bodies. Our brains are physical organs embedded in our bodies, and our minds reside in the activity of our brains. All facets of the mental worlds we construct derive ultimately from our embodied experience as physical creatures in the real world. A primary goal of cognitive linguistics is to spell out the details of how this happens.

I therefore have no intention of denying the existence of reality or the foundational nature of real world experience. It makes no sense to speak of virtual entities except in relation to the actual entities of which they are fictive counterparts. It is nevertheless essential to arrive at an accurate evaluation of the role played by virtual entities in thought and language. I have argued that their role is far more extensive and important than is usually recognized. The view of language stated in (1) is to some extent fictitious and needs to be replaced by a more balanced and realistic assessment.

NOTES

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