The Pathological Case

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The positing of Path as a conceptually required case for verbs
of motion is a fairly recent development in Case Grammar theory.
Fillmore in "The Case for Case"(1968a), proposed a single Locative
case with a locational interpretation (e.g., 'in Chicago') and a
directional interpretation (e.g., 'to Chicago') in complementary
distribution with each other depending on the nature of the
associated verb (e.g., 'was' vs. 'went'). In a later article (1968b),
Fillmore expands the list of cases associated with verbs of motion
to include Source and Goal. Bennett argues in a recent paper (1970)
for the need to recognize four deep cases relating to the locative-
directional distinction associated with verbs of motion: Locative,
Source, Path, and Goal. Fillmore has suggested, following Bennett,
that Path ought to be included in the case frames for motional verbs.
In the present paper, I propose to look in some detail at the case
labeled Path and in particular at some of the ways in which it
differs significantly from other cases.

The Need for Path

In many English sentences containing verbs of motion, we can
be satisfied with a case frame analysis of the form: $[\_(A)O(So)(G)]$.[1]

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[1]I use 'So' rather than 'S' for Source to avoid confusion with
'S' for Sentence in rules and tree diagrams. This usage differs
from Fillmore's, who uses 'S' for Source and 'Sent' for Sentence.

The sentences in (1) can be analyzed in this fashion--as a first
approximation at any rate. This is to say, we can tolerate to the
alley, through the squad car window, and over the fence as manifesta-
tions of the Goal case, and from the kitchen, from the hill, and
an understood "from here" as the manifestations of Source.

    (1)   a.   Sam(A) carried the garbage(O) from the kitchen(S)
               to the alley(G).
         b.   The rock(O) moved from the hill(So) through the
               squad car window(G).
         c.   Sam(A) threw the watermelon(O) over the fence(G).

    (2)   a.   The rock(O) moved from the hill(So) through the
               squad car window(?) into the officer's lap(G).

(2) b. Sam(A) threw the watermelon(O) over the fence(?)
to Jim(G).

But when these same phrases appear in other sentences, as in
(2), we can no longer be satisfied with a [_(A)O(So)(G)] case frame.
In these examples, we have no overt noun phrases for Source and/or
Goal, but at the same time we have something left over. This leftover
noun phrase seems to describe the space intervening between source and
goal or to describe some characteristics of that space. Let us call these
manifestations of an additional case Path; and let us insert Path
between Object and Source[2] in the case frame for verbs of motion:

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[2]I explain below why I choose to insert Path after Object
rather than between Source and Goal, where the sequence of real-
world events would suggest that it go.

[_(A)O(P)(So)(G)]. Such an analysis forces us to reinterpret the
sentences of (1) as follows:

(1) a'. Sam(A) carried the garbage(O) from the kitchen(So)
[via some unspecified route(P)] to the
alley(G).
b'. The rock(O) moved from the hill(So) through the
squad car window(P) [to some unspecified
point(G)].
d'. Sam(A) threw the watermelon(O) [from here(So)]
over the fence(P) [to some unspecified
point(G)].

The Prepositions of Path

It is usually the case that various cases have certain
prepositions characteristically associated with them (Bennett, 1968,
1970; Bugarski, 1969; Fillmore, 1968a). Thus, Agent typically takes
∅ or 'by'; Instrument 'with' or 'by'; Object ∅ or 'with';
Experiencer and Goal 'to'; and Source 'from'. Path behaves much
like other cases in this respect. It has certain prepositions
associated with it, depending on the psychological dimensionality
with which the speaker perceives or regards the object manifesting
Path. This dimensionality (cf. Leech, 1969:161ff) forms a three-
valued system, the members of which we can call conveniently 1-
dimension, 2-dimension, and 3-dimension. It must be kept in mind,
however, that these psychological dimensions have more to with the
mind of the speaker than they do with the physical dimensionality
of the object in question. To me, the key words to be associated
with the psychological dimensions are:

1-dimension	point, location	(no physical dimension relevant)
2-dimension	line, surface	(one or two physical dimensions)

3-dimension   area, volume   (two or three physical
                                dimensions)

This system of dimensionality together with a portion of the case frame for verbs of motion defines a matrix of prepositions characteristically associated with locational cases:

	Source	Path	Goal
1-dimension	from	via, by way of	to
2-dimension	from, off	via, along, over, across	onto
3-dimension	from, out of	through	into

Examples of the various dimensional uses of Path are in (3), (4), and (5). Note in the (b) examples that it is the perception of the object that is important—not the physical dimensionality of the object itself.

(3) a. Sam(A=O) went to Reno(G) via Chicago(P).
     b. Jim(A=O) went to the woods (G) by way of (the location of) the hay field(P).

(4) a. Sam(A=O) went to Reno(G) along Interstate 80(P).
     b. Jim(A=O) went to the woods(G) across (the surface of) the hay field(P).

(5) a. Sam(A=O) went through Chicago(P) to Reno(G).
     b. Jim(A=O) went to the woods(G) through (the area of) the hay field(P).

Verbal Expression of Path

Prepositions (or rather prepositional phrases) are by no means the only way in which the cases of Source, Path and Goal can be given surface realization in English sentences. There are a number of verbs in English that incorporate notions of case into them. The examples in (6), for instance, show instances of the incorporation of Source into verbs; while those in (7) show the incorporation of Goal. Path is well-behaved in this respect, too. There are quite a number of verbs of motion that incorporate the notion of Path, as in the sentences of (8).

(6) a. Sam(A=So) threw the rock (O) in the pond(G).
     b. The bullet(O) was fired at the target(G).

(7) a. Jim(A=G) caught the watermelon(O).
     b. Sam(A=G) received the stolen goods(O).

(8) a. Sam(A=O) crossed from the bank(So) to the
            post office(G).
    b. Jim(A=O) climbed to the top of Mt. Rushmore(G).
    c. The bird(A=O) flew out of the bush(So).
    d. The cannonball(O) sank to the bottom of the
            pool(G).

Gruber (1965) has cataloged many more of these kinds of motional
verbs and points out a number of interesting co-occurrence
restrictions between verbs which incorporate case-like notions and
prepositions which express contrary case-like notions. I should
point out in examples (6) and (7) that although Source and Goal
are identical to Agent, this identity restriction must be marked
in the lexical entry for the verb in question. This marking is, I
suggest, part of what it means for a verb to incorporate a case, or
case-like notions.
    An interesting observation that can be made about motional
verbs that incorporate Path is that an overt expression of Path
seems to be able to co-occur with such verbs with little or no
restriction, as in (9). Verbs that incorporate Source and/or Goal
do not seem to allow this co-occurrence of an overt expression of
case. Thus, the sentences of (9) are perfectly acceptable, while
those of (10) are questionable at best.

(9) a. Sam(A=O) swam through the water(P) to the raft(G).
    b. The mole(A=O) burrowed through the earth(P).
    c. The car(O) crossed over the bridge(P) from
            Minneapolis(So) to St. Paul(G).

(10) a. ?Sam(A) threw the rock(O) from himself(So) to
            the squad car(G).
     b. ?Jim(A) received the stolen goods(O) to
            himself(G).

The Pathology of Path

    The observation above suggests that Path, although well-behaved
in some respects, does not always act like the other cases. In
fact, it does not; and there are several other ways in which Path
is even more anomolous. Consider the fact, noted above, that
among the cases associated with verbs of motion, Agent can be
coreferential with Object, as in (11), with Source, as in (12), and
with Goal, as in (13)--but Agent cannot, as far as I can see, be
coreferential with Path.

(11) a. Sam(A=O) ran along the road(P).
     b. Sam(A=O) jumped out of bed(So).

(12) a. Jim(A=So) gave money(O) to charity(G).
     b. Jim(A=So) loaned a book(O) to Sam(G).

(13) a. Sam(A=G) robbed the bank(So).
b. Jim(A=G) accepted the loot(O).

Now one way to explain this is to observe that Agent must be animate and that Path is typically (always?) inanimate. But all this does is push the problem one step backward. We still have to ask why Source and Goal can often be animate, while Path rarely can (if at all). But even given an explanation, we are still left with the fact that Path differs significantly from Object, Source and Goal in this respect.

Another way in which Path is pathological has to do with its relationship with surface Accusative. Path, unlike Source and Goal, can readily stand in direct object relationship to certain verbs of motion, as in (14). Now Source and Goal can be direct objects of a few verbs, as in (15), but the list appears to be severely restricted. Path, on the other hand, can be the direct object not only of the verbs in (14) but also of the following: shoot (the rapids), traverse (the slope), follow (the trail), canoe (the stream), ford (the river), ride (the rails), wade (the creek), and ski (the back trail). For this reason, I conclude that Path should be inserted ahead of Source in this hierarchy of cases, rather than between Source and Goal where one would otherwise place it, so that it can readily accent Accusative Marking.

(14) a. Jim(A=O) crossed the bridge(P).
b. Salmon(A=O) swim the Columbia every spring.
c. Have you(A) ever driven Interstate 80(P)?
d. Go climb a tree(P)!
e. Sam(A=O) toured the Far East(P).

(15) a. Harry(A=O) reached Chicago(G).
b. George(A=O) entered the room(G).
c. Pete(A=O) left St. Louis(So).

but

d. *Harry arrived Chicago.
e. *Pete departed St. Louis.
f. ?Flight 457 departs St. Louis at 7:58 p.m.

In spite of the longish list of motional verbs that can take Path as a direct object, this case cannot freely become direct object, as indicated by the examples in (16). Finally, and perhaps most significantly, notice that with Path, the Accusative Marking Rule must be optional, as shown by (17)--cf. (14). Thus Path differs from Source and Goal in being able to take Accusative Marking, but differs from Experiencer and Object in that it needn't take Accusative Marking even when it is eligible.

(16) a. *Jim(A=O) went the bridge(P).
b. *Salmon(A=O) move the Columbia(P) every spring.
c. *Have you(A) ever raced Interstate 80(P)?
d. *Go pull yourself(A=O) a tree(P)!

(17) a. Jim(A=O) crossed over the bridge(P).
    b. Salmon(A=O) swim up the Columbia(P) every spring.
    c. Have you(A) ever driven along Interstate 80(P)?
    d. Go climb up a tree(P)!

Perhaps the most serious manner in which Path is pathological lies in the fact that Path--alone among all the cases--can be repeated within a simple clause (18). Moreover, it can be repeated indefinitely many times (19). Let me say that again: Path alone among all the cases can be repeated indefinitely many times.

(18) a. The ball(O) flew through the air(P), through
        the window(P) and into the living room(G).
    b. Sam(A=O) went from Chicago(So) via St. Louis(P)
        and Reno(P) to San Francisco(G).

(19) a. Jim(A=O) went out the door(P), over the hill(P),
        along the river(P), through the woods(P),
        ...(P), to grandmother's house(G).
    b. Sam(A=O) went from Chicago(So) to San Francisco(G)
        via Joliet(P), Bloomington(P), Springfield(P),
        St. Louis(P), Kansas City(P), Salina(P),
        Denver(P), ...(P).

Now this claim for the uniqueness of Path hinges on the arguments (i) that other cases are not repetitive, and (ii) that Path indeed is. Let us look first at some apparent repetitions with other cases. Certain locative expressions (20) look as if they are made up of repeated noun phrases. (See also examples (8b) and (8d).) Sentences like these, however, seem to involve either a successive narrowing down of the scope of location or the notion of inalienable possession. Thus, they involve not a coordinate repetition of noun phrases but rather a hierarchical subordination of noun phrases. I submit that such sentences should be thought of as having underlying representations like those in (21), while true coordinate repetitions of Locative (or Source or Goal, for that matter) must be considered ungrammatical, as indicated by the examples in (22).

(20) a. Sam(O) sat in the park(?) under a tree(?) on
        a bench(?).
    b. Jim(A) put the stamp(O) in the corner(?) on the
        front(?) of the envelope(?).
    c. The kitten(O) was on the rug(?) under the
        table(?(in the hallway(?).

(21) a. Sam(O) sat (in the park (under a tree (on a
        bench)))(L).
    b. Jim put the stamp(O) (in the envelope's (front's
        (corner)))(L).
    c. The kitten(O) was (on the rug (which was under
        the table (which was in the hallway)))(L).

(22) a. *Jim(A O) was in Chicago(L) in Boston(L).

        b. *Sam(A) moved the rock(O) from the yard(So)
            from the street(So) to his basement(G).

        c. *The place(O) flew to Chicago(G) to Kansas
            City(G) to Denver(G).

        d. ?The plane(O) flew to Chicago(G) and to Kansas
            City(G) and to Denver(G).

Notice that although the notion of successive narrowing down of location as in (21a) seems to make sense semantically, its representation as a syntactic structure is difficult. Notice, also, that (22c) is grammatical if Chicago and Kansas City are interpreted as points on the path of the plane. Adding conjunction, as in (22d), doesn't really help any. The sentence in (22d) is grammatical only under the assumption that three separate flights are involved.

But what of the repeated noun phrases of (18) and (19)? These seem to me to be related not hierarchically as above, but linearly as in (23). They can be thought of as coordinate elements under a single Path node, but it is difficult to think of them as a set of hierarchically related subordinate elements. There is one precedence relationship among the repeated Path manifestations in (23). This is the fact that multiple points on a path must be listed in their proper temporal sequence with respect to a journey along the path. Thus, (24a) and (24b) represent two different paths—and hence are not paraphrases of one another. This does not seem sufficient grounds to call the relationship between the noun phrases of Path hierarchical, however.

(23) a. The ball flew (through the air)(through the
            window) and into the living room.

        b. Jim went (out the door)(over the hill)(along
            the river)(through the woods)(...) to
            grandmother's house.

        c. Sam went from Chicago to San Francisco via
            (Joliet)(Bloomington)(Springfield)(St.
            Louis) etc.

(24) a. Sam(A) drove his car(O) from Louisville(So)
            to Des Moines(G) by way of Chicago(P)
            and St. Louis(P).

        b. Sam(A) drove his car(O) from Louisville(So)
            to Des Moines(G) by way of St. Louis(P)
            and Chicago(P).

Two other aspects of repeated points on a path are worth mentioning. First, as example (24) shows, there are no strict geographical or spatial restrictions on the sequence in which points on a path are mentioned. Yet the sentences of (25) seem odd. There is nothing strange about the trips involved—I'm sure sales representatives, entertainers, campaigning politicians and others make such trips often. But somehow we feel more comfortable

with the descriptions of such journeys in (26). Second, as we can
see from (18b), (23c) and (24), when the Path points are regarded
as being 1-dimensional, only a single preposition can be used to
introduce the series of points. Thus, the sentences in (27) are
odd. When the Path points are thought of as 2- or 3-dimensional,
however, the prepositions can be repeated, as in (18a) and (23b).

(25) a. ?Sam(A=O) went from Minneapolis(So) to St.
Paul(G) via New Orleans(P).

      b. ?Jim(A=O) flew from San Francisco(So) via
Chicago(P) and Denver(P) to New York(G).

(26) a. Sam went from Minneapolis to New Orleans and
back to St. Paul.

      b. Jim flew from San Francisco to Chicago, back
to Denver, and then on to New York.

(27) a. *Sam went from Chicago(So) via Joliet(P) via
Bloomington(P) via Springfield(P) to
St. Louis(G).

      b. *Jim went from the kitchen(So) to the alley(G)
by way of the back porch(P) by way of
the yard(P) by way of the garage(P).

Concerning the Implementation of Path

We can see, then, from the foregoing discussions that some
kind of syntactic machinery is needed for verbs of motion to account
for descriptions of the space intervening between sources and goals,
and that positing Path as a case is a desirable way to provide such
machinery. We can see, also, that Path as a case is well-behaved
in that it takes characteristic prepositions like other cases, it
has a fairly well-defined central meaning like other cases, and it
participates in verbal expression like other locative and directional
cases. From this, we can conclude that Path ought to be included
in the case frames for verbs of motion. On the other hand, we
can see that Path exhibits deviant behavior in the following fashions:

Verbs that incorporate notions of Path can take overt
expressions of Path with little or no restriction.

Path cannot be coreferential with Agent, where other
cases can.

Path is typically (always?) inanimate, while Source and
Goal often are animate.

When Path is eligible for Accusative Marking, it can
undergo it or not optionally, while other cases must undergo
Accusative Marking if they are eligible.

Path alone among the cases can be repeated indefinitely
many times.

There are certain temporal and spacial restrictions on the order in which repeated instances of Path can appear in a sentence.

That Path should be implemented as a case is, I think, indisputable; but any attempt to implement rules and structures for Path is going to have to take into account these pathologies. Only by diagnosing and treating these short-comings can Path be invested with full healthy membership in the family of cases.

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