PARTICIPANT ORIENTATION

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1. BACKGROUND

The study of participant orientation systems[1] has turned out to be helpful in the analysis of some kinds of texts. It starts out from two simple ideas.

The first is that in any single event in a story there are very few participants involved,[2] usually not more than three. The other basic idea is that the relationship of participants to events in a sequence is conventionally constrained in some languages. In other words, there is a regular sequencing of the orientation of participants to events through a story. Becker (1965) suggests that the point where this orientation changes is structurally significant.

The conceptual machinery for participant orientation was worked out by Ivan Lowe (1969). He first traced the principle behind pronominal reference under successive embeddings of quotations, a problem originally proposed by Kenneth L. Pike (Pike and Lowe 1969). The principle turned out to be not only simple but complete in the sense that there is no depth of embedding for which it does not apply. It is worked out using mathematical group theory.

Later Lowe worked with Mary Ruth Wise, who had studied the identification of participants in discourse (1968). On investigating where pronouns and noun phrases come in text, they began to notice a regular rotation of participant reference, but in sequences rather than under embedding. They applied the group principle to discourse (Wise and Lowe ms) and found that there is a basis in the referential system for recognizing what on other grounds would also need to be recognized as paragraphs, whether by unity of setting, by introduction of characters, or by linkage. The exact relation between participant orientation and paragraphing, however, seems to be language specific.

2. PERMUTATIONS

Before going into participant orientation as a linguistic phenomenon, a concise way of talking about it in the abstract is needed. First of all, there are only a few ways of arranging two or three items. For example, if we have any A and any B we can put them either in AB order or in BA order, and no other. To apply the Wise-Lowe model to text,

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[2]This principle was suggested by Bellman's approach to dynamic programming, in which the number of factors that influence any decision in an optimal sequence of decisions is taken to be very small (Bellman and Dreyfus 1962).

an appropriate order principle or ranking of elements has to be established to permit different orderings to be distinguished. The ranking used is based on underlying role or case (Fillmore 1968, Frantz 1970).[3] Agent is the highest ranked role; the others are ordered below it in a way that will be given in detail later.

To change the ordering of only two items so that the one that ranked lower is now the higher and vice versa is an operation of *reversal* (r). For two items, say 1 and 2, reversal is symbolized as (12), which expresses a permutation in which the first element in parentheses is moved into position after the last element; the notation is a general one that permits permutations of any number of elements to be included in a single statement. Here it has the effect of interchanging 1 and 2.

Reversal is the only orientation operation in certain texts, including the text on which the idea was first worked out. It starts out with one character as agent and the next as, say, goal, then reverses so that the second character is agent and the first is a lower ranked role. A second reversal brings them back into the original orientation, which signals a new paragraph.[4]

Another text based on reversal is reported by Virginia Bradley for Jibu of Nigeria (Bradley 1971). The characters are a bridegroom and his group and the narrator and his group. The story starts with the bridegroom extending an invitation to the narrator, an agent-goal situation in which agent ranks higher than goal. The narrator responds by going to where the bridegroom is; the narrator as agent now outranks the location. Then the bridegroom and his group do something as agents with reference to the guests at the wedding as patients; and the guests, changing to agents, react. The structure of the text revolves around the regular return to the initial configuration of bridegroom as high ranking and narrator as low ranking; each reversal that gives this state begins a new section.

Other texts juggle three participants. There are six different possibilities of rearranging three things. (The number of possibilities is equal to the factorial of the number of things being permuted. Factorial n! = n (n–1) ··· 1.) To generalize the notion of operations, a reversal involving three things would be defined as (12) (3), signifying that 1 and 2 permute with each other and 3 permutes with itself, or in other words stays where it is.

A second operation, *switch* (s), instead of interchanging the first and second things, interchanges the second and third things: (1) (23). Notice that the reversal of a reversal ($r^{\cdot}r$ or r^2) goes back to the starting arrangement, and so does the switch of a switch ($s^{\cdot}s$ or s^2). This is the notion of an *inverse.*

A third operation, *identity* (I), the operation of doing nothing (1) (2) (3), completes the system. These three operations handle all participant orientation orders for three participants and are related as $I = r^2 = s^2$.

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[3]The ranking itself was arrived at empirically but seems to hold up in a number of languages. Because of current uncertainty on theoretical grounds about whether instruments and benefactives are best considered roles or abstract predicates, I am not prepared to integrate participant orientation into a general theory of the semantic structure of discourse; but it is quite possible that the sequencing of role sets is related to Chafe's notion of postsemantic shaping (1970), which results in a derived semantics that is not too different in its structure from the surface or output form of discourse.

[4]Philippine languages appear to rely to a small extent on participant orientation; but more explicit means of identification via pronouns and noun phrases are common. Rather than discuss Philippine data in detail here I refer the reader to an article by Virginia Larson, "Pronominal Reference in the Ivatan Narrative," [forthcoming in this Journal. – Ed.]

Using A, B, and C to stand for participants and left to right order for high to low ranking, let ABC be the base or identity state of the participants. Then r(ABC) = BAC, which can be called the reversal state, and s (ABC) = ACB can be called the switch state. The states are named from the operations it would take to get to them starting from the ABC or identity state. Going on, BCA is the rs state: rs(ABC) = s(r(ABC)) = s(BAC) = BCA. CAB is the sr state: sr(ABC) = r(s(ABC)) = r(ACB) = CAB. CBA is the srs or the rsr state: srs(ABC) = s(sr(ABC)) = s(CAB) = CBA, but also rsr (ABC) = r(rs(ABC)) = r(BCA) = CBA. We summarize all this in Figure 1:

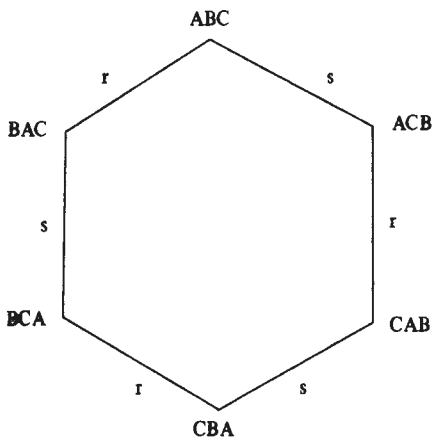

Figure 1. Permutations of three things.

These operations, simple and compound, form a mathematical group. That is, they have the following four properties: (1) Closure. Any sequence of operations results in another operation in the same system. No sequence of operations goes out of the system. For example, rsIrrsrIrss = r, since $r^2 = s^2 = I$. (2) Associativity. Grouping operations by parentheses makes no difference. (rs)r = r(sr) = rsr. (3) Inverse. Every element has an inverse, and there is no sequence of operations that cannot be inverted by another sequence of operations. r•r = s•s = sr•rs = rs•sr = rsr•rsr = srs•srs = I. (4) Identity. There is an operation I which, applied to any operation in the group, gives the same operation: I•r = r, I•s = s, and so forth.

3. SEQUENCES OF PERMUTATION OPERATIONS

Orientation, as mentioned, requires a ranking of situational roles or cases. The ranking that seems to give the clearest results is a composite of rankings that have worked in several languages. It is tantamount to a scale of relative involvement in actions: agent, experiencer, source, goal, patient, instrument, noninstigative cause, benefactive, factitive (result), range (location), essive, and zero to represent a participant who is wholly removed from an action. Agent outranks patient, for example.

A text in Ayoré of Bolivia (Briggs ms) illustrates ranking over three participants. The first sentence is an introduction or verbal title: 'I killed a jaguar on another occasion'. It has two participants, narrator and jaguar, agent and patient. If A is the narrator, B the jaguar, and C a third character not mentioned in the title, and agent outranks patient and patient outranks zero, the ranking is ABC: A killing B with C not mentioned.

The story goes on: 'I killed a jaguar' I(ABC) = ABC. 'He jumped at me' r(ABC) = BAC. 'I lanced him as he came' r(BAC) = ABC, 'but he took out my lance' r(ABC) = BAC[5] 'and I followed him and found him far away' r(BAC) = ABC. 'I went to kill him with my lance' I(ABC) = ABC, 'but Bague's father found me' sr(ABC) = CAB, 'and killed him right under my nose' s(CAB) = CBA. 'He and his friends carried him back' I(CBA). The end of the story has the form of a coda: 'The place where I killed him is in that direction' srs(CBA) = ABC.

The regular progression of events in a story is carried by single permutation operations: I, r, and s. Whenever we get composite operations, sr, rs, rsr, or srs, there is a surprise, an interruption, or a point where everything goes wrong; this happens not only in Ayoré but in several languages. In Koiné Greek, in the first chapter of St. John, John tells his disciples who Jesus is, his disciples follow Jesus and talk with him, then Andrew goes off and gets his brother Simon and brings him to Jesus. Jesus says to him, "You are Simon, son of John; you shall be called Cephas" (meaning a stone). The point where Jesus addresses Simon directly is an sr transition, the surprise point of the whole narrative. What happens is completely unpredictable to Peter. The story up to that point goes by r, s, and I. But that is the point at which Peter gets the shock of his life. Back to the jaguar story, the same thing happens. From the point of view of the narrator, the jaguar hunt has been going normally. Then just as he is standing over the jaguar ready to finish him off with his spear poised in the air, out comes C and kills the jaguar instead. The shock even shows up in the linguistic structure at this point.

Going from the actual killing of the jaguar to the coda, which reminds us that it was really A's jaguar hunt, we have a concise description of what could be called a devious mental process. The narrator brings the story back to the state in which he started it, the equilibrium state or base line, even at the cost of twisting the arm of reason in order to get back there.

One function of an equilibrium state, as Labov and Waletzky point out in their paper on narrative structure (1967), is to relate the narration itself to the performative situation in which the narration is given. The narrator does that first of all by identifying himself in the title as the teller and major actor. The phrase 'on another occasion' in the introduction has the effect of referring the story to some entirely different time. At the end, 'the place where I killed him was in that direction' brings the story back to the place of telling; at both ends it is locked into the performative. Not all stories do this, but it is a common device. The English formula *Once upon a time . . .* matched with *They all lived happily ever after* has that function, among other things.

4. PERMUTATION STATES

Up to now we have labeled operations. We can also label states in terms of the ope-

[5]The lance can be considered a prop because whether it is considered or overlooked makes no difference to the orientation analysis. Note Wise and Lowe's partitioning of referents into animate and inanimate, with the effect of basing most of their analysis on the relationships of the people alone.

rations that are performed in order to get to that state from some other state. Looked at in this way, BAC is the reversal state with reference to ABC as the starting state, and CBA as the rsr or srs state.

In a story with an identifiable starting state and ending state such as the title and the coda, we can go through and name the states, taking the starting state as the identity state, and using the operations to name each of the six states of the system. ABC is the I state, BAC the r state, ACB the s state, BCA the rs state, CAB the sr state, and CBA the rsr or srs state, each calculated with reference to the identity state ABC. During the early part of stories, the states tend to stay around the I, the r, and the s state. The tension point of the story, however, almost always comes in the srs state. In the jaguar story, 'C killed B right under A's nose' is the srs state, and is obviously the tension point. This gives us a formal means of recognizing it.

The notion of a tension state is distinct from state transition operations. The composite operations sr, rs, and srs give jumps in the action. But stories can build up to an srs tension state without any jumps. Also, the development from the tension state back to the equilibrium state is frequently smooth. Therefore the information we get from plotting states and the information we get from plotting sequences of operations do not necessarily coincide.

In texts with a recognizable identity state there is an interplay between the role of the character in the discourse as a whole and the role of the character in each action, as represented by the same system. Discourse roles distinguish the participant who is characteristically the initiator throughout the discourse from the one who is characteristically the reactor throughout the discourse, and cast all others in a tertiary role. In the jaguar story, A is the one who moves things along. The jaguar is cast as the reactor, and C is neither initiator nor reactor. The identity state is then the one in which the initiator is acting as initiator, the reactor is acting as reactor, and the other is acting as other: ABC. In other configurations like BAC or CBA, there is a temporary discrepancy between the relation of the participant to a single action and his overall role in the story. State analysis gives a kind of measure of that discrepancy from the identity state, which fits the idea of a tension state.

There are texts for which it is hard to tell what the identity state is; for them possibly no identity state exists. The only significant thing in this case is the sequence of operations that give the transitions between one state and another. There it still holds true that the smooth development of the story is built on identities, switches, and reversals, and surprise points follow composite operations.

In cases where up to now it has been hard to tell what pronouns refer to, one of the principles that may operate is this regular progression of relations of participants to actions (Larson ms). If it is built so deeply into people's mental makeup as to recur in widely spaced languages around the world, it could operate even when other more obvious principles of reference do not. The other principles for pronoun reference include: who was mentioned last? who is the story about? who is the paragraph or sentence about? Lines of distinction in a pronoun system, like person or number or gender distinctions, also serve to keep reference sorted out. But in a story with four participants, all of them 'he', and in a language that is sparing of pronouns anyway, there must be some other principle operating. We observe as a matter of fact that people can keep references untangled in a situation like this. (Not everybody keeps all his pronoun references untangled all the time.) When they do get their reference right, what are they doing? Participant orientation is a possible model for part of it.

Four participants operating at once has not been found yet. Nevertheless, Figure 2 covers four. In addition to the three operations of identity, reversal, and switch, there is a *trade* operation (1) (2) (34). The hexagon in the middle of the figure corresponds to the diagram given earlier. In three dimensions this would come out a fourteen-sided figure composed of eight hexagons and six quadrilaterals.

ELEMENTARY PERMUTATIONS

r = (12)(3)(4)
s = (1)(23)(4)
t = (1)(2)(34)
I = (1)(2)(3)(4)

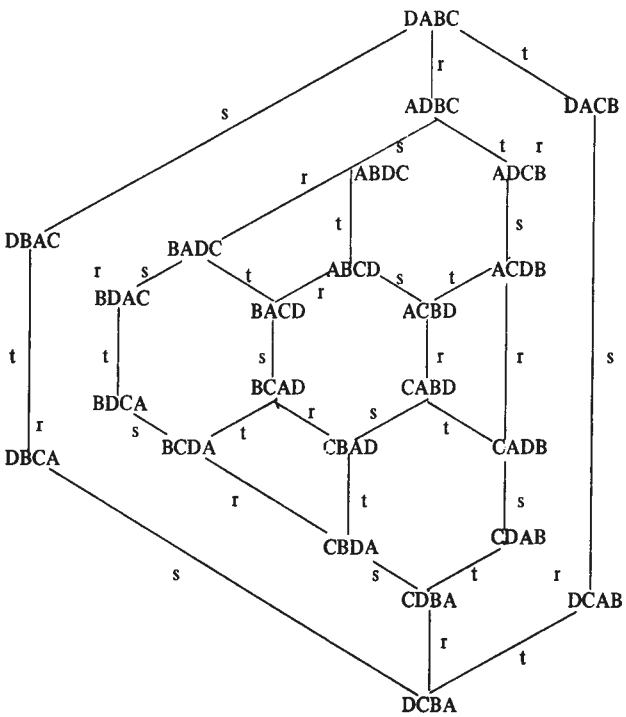

Figure 2. Permutations of four things.

5. SCOPE CHANGES

Bradley (1971) describes expansion and shrinkage of participant groups as already mentioned; the participants in the orientation system do not necessarily include the same individuals at each stage. Part of her text also includes a change of *scope* in the orientation system. A group that throughout the main part of the text is one participant, the initiator group, appears in one scene in a closeup view that splits the members of that group tem-

porarily into initiator and reactor subgroups. After that scene the group returns to single participant status without further internal differentiation.

Role substitution takes place when a series of individuals appear in turn in the same relation to one of the participants. For example, in an Ilianen Manobo tale (Hazel Wrigglesworth, personal communication) a lizard, the main character, confronts a deer, a woodpecker, a crocodile, and a shrimp in turn. While the lizard is talking with one of them as initiator to reactor, the reactor mentions the next one in the series and is told to call him: the lizard (A) tells the reactor (B) to call the next character (C). The next character appears and the former reactor drops from the story. But rather than being a switch-reversal, which would give CAB, the character who was first mentioned as C now takes over the reactor role of B by substitution, and the former B drops out of sight. By role substitution, then, the operation becomes a simple reversal: from ABC to BA(C), but with B taking over the identity of the former C and the former B dropping out as a dummy C, no longer active.

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Corrigenda to Antoon Postma, S.V.D., "Contemporary Mangyan Scripts," *Philippine Journal of Linguistics* 2(1):1–12.

Footnote 20 (page 10) should read:

[20]This was confined to the Mangyans of the Southern part of Mindoro, who belong to one language family. The Northern Mangyan tribes (Alangan, Iraya, etc.) belonging to a separate language family, don't show any indication of ever having possessed the syllabic script of their Southern Mangyan neighbors.

Footnote 21 should be added (page 11):

[21]Certain authors are suggesting that the origin of the Philippine Syllabaries should be restricted to a certain group of Indonesians, i.e., the Buginese of Southern Celebes. They base this on the alleged fact that the Buginese have no final consonants in their spoken language. This should explain why the Philippine Syllabaries do not record final consonants. However, it leaves many other things unexplained. It should be considered, moreover, that it belongs to the very nature of the script to express the syllables without final consonants. Wherever final consonants are expressed, it is done by the "syllable-cluster" system as described above, or by diacritic marks that are added to the character.