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MARQUESAN VOCABULARY OF SPATIAL ORIENTATION. A CONTRIBUTION TO ETHNOSCIENCE.

There is a difficulty that every ethnographer working in the field and trying to learn the language has to overcome : how to interpret an informant's reply to a question like "Where is my handkerchief?". For example, in Madagascar the reply would be "to the south", in the Marquesas islands in Polynesia, a word meaning "towards the side of the valley".

Such spatial expressions are puzzling to the average European used to think of space by referring to the right and to the left. An amusing anecdote told by Sihree and quoted by Hébert will show this : "A missionary was dining in a malagasy family which belonged to his congregation. While he was eating, a few grains of rice stuck to his moustache. His host warned him and he wiped at once his moustache but on the wrong side : "No, no, the host said, it is on the southern side of the moustache".

Our ethnographer, therefore, has not only to learn new words but to master a new system of spatial reference. Most of the studies of this topic, however, deal with native notions of space in their relation to cosmogony, mythology, religious and social structure, seldom as self contained systems, as techniques for mastering practical needs. As Levi Strauss ascertains : "According to their particular structures, human societies have conceived these categories [space and time] in very different ways".

I should like here to study a limited aspect of this problem and show how a given society has built up a system of spatial reference to solve these very commonplace problems brought about by the necessity in every day life to indicate a direction and to situate verbally the location of any one object.

The purpose of this paper is to present an analysis of the system of spatial orientation of a Polynesian culture, as it appears in the vocabulary and as it can be observed in every day life. In addition, I propose to compare it to the European and Malagasy system, in order to show its main structural aspect.

The data for this study were gathered in the Marquesas group, in the island of Ua Pou. This precise location has to be given, for the orientation system of the other islands, although it is constructed according to the same principle, presents some slight variations.

Marquesan vocabulary concerning spatial orientation contains expressions of three kinds : those indicating a direction, verbs which by themselves express a movement in a given direction, particles expressing relative distance. Two reference systems are used, each with its particular field of validity. Neither of these systems is based upon references familiar to us, as the right and the left, for although there exist corresponding words, I have never heard the Marquesans use them for designating a direction. As for the cardinal points, I do not think that the Marquesans of today have a clear notion of them. When I asked my informants, I obtained the following expressions :

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- te tihe 'ia 'oumati : which means exactly "the place where the sun comes up" = East.
- te ka'o 'ia 'oumati : "the place where the sun disappears" = West.
- te a'o : the fore part = North.
- te tua : the rear part = South.

Actually, I do not think that these expressions for North and South refer to cardinal points, as they are peculiar for the conditions prevailing in the valley, which is facing North.

For East and West, Dordillon's dictionary gives the same expressions as those just mentioned. For North and South, it gives tiu and kanau'u, but actually, both words are names of winds blowing respectively from the North and the South. Neither in every day talk, nor in the thousand pages of that lore I have collected in Ua Pou, did I find the words tiu or kanau'u used in connexion with spatial orientation. Marquesans use other methods to designate a direction or a spatial location.

In the first place, there is a system of reference whose application is limited to the valley which is the most important spatial unit everywhere in the islands. A first direction is given by the longitudinal axis of the valley, sometimes followed by the bed of a rivulet most of the time completely dried up. Along the first axis the expression 'i uta refers to the direction towards land and 'i tai means towards the sea. The other direction is given by the transversal axis of the valley, from one slope to the other, and passing the point where the speaker is standing. But this second axis is not oriented, so that the expression 'i ko, meaning towards the side of the valley applies equally to both sides. The expressions "to the right" or "to the left" are never used to indicate which side it is. However, it is possible but not common, to distinguish between the side where the speaker is standing : 'i ko nei and the other side : 'i ko a'a. This distinction is, anyway, incompatible with the whole system, for the two expressions cannot be combined with particles expressing relative distance. It must be noted here that this set of three expressions has a very wide range of application, for it can be used as well to situate an object outside one's house. For instance, it can be used (in reply to the question : "Where is his house ?") but it can also be used in order to designate the location of an object within the house, in reply to, for instance, the question "Where is the flashlight ?". A native replies in this case : "it is not far from you towards the side of the valley" : 'i hea te 'ama ui'a ? 'ena 'i ko nei.

As can be seen, this system of reference makes use of two axis, of which only one is vectorially oriented. For each one of these three directions, there is a particular verb denoting movement. He'e simply means to go, and applies to a movement in any direction. Hiti, to go up, refers to a movement towards land, towards the mountain in the center of the islands. Heke, means "to go down" and applies to a movement towards the sea. Taha, whose proper meaning is "to walk", "to pass" designates a movement towards the side of the valley, particularly when one has to cross its axis.

This set of verbs indicating movements is particularly useful for showing the structural framework of the system and its cognitive contents. The three directions included in the system are not equivalent. The basic opposition is between 'i uta, "towards land" and 'i tai, "towards the sea". Such terms as the expressions 'i ko "towards a side of the valley" and the verb taha have negative contents, and designate a movement or a location for which the main axis sea/mountain is not pertinent. It can easily be inferred from what I have said that the whole system may be seen as a chain of dichotomies, the second term of which is also a dichotomy.

The system analysed above is not valid when one gets out of the valley. There is another system for the island as a whole and for sea travels. In this second system there is an East/West axis giving two directions: the eastward direction is termed 'i 'uka, "upward" the westward direction termed is 'i 'a'o, "downward". There is no term corresponding to a North/South axis and corresponding to 'i ko. But the existence of such an axis is implied by the verbs denoting movements. To go eastward is again hiti, "to climb up", to go westward, heke "to go down", "to descend", to go northward or southward is taha, "to pass". The fact that there is no term corresponding to 'i ko can be explained by the use of another axis, whose orientation varies and depends on the speaker's position in relation to the island. To situate the location of a fishing ground or a reef, the expressions 'i 'uka, 'i 'a'o as well as 'i uta, "towards land" and 'i tai "towards the sea" are simultaneously used. 'i 'oto "inside", "within", 'i vaho, "outside", "towards the open sea" are used, too, with exactly the same meaning. As can be seen, the system of spatial orientation at sea is constructed according to the same pattern as the system inside the valley. The only thing that must be changed are the references determining the main axis. The origin of the references used within the valley are perfectly clear. On the other hand the system of orientation used at sea needs some explanation. The assimilation of the east to the upward slope of the sea and of the west to the downward slope of sea is explained by the Marquesan informants themselves in relation to the navigation. When a canoe is sailing eastward, it has to struggle with the prevailing eastern trade wind. On the other hand, westward navigation is considered to be very easy. The wind is to most of us a variable element and the choice of its direction as a main axis of orientation may surprise. We must, however, remember that at the latitude of the Marquesas islands, the eastern trade wind dominates almost completely. The diagram of the wind frequency at Atuona on the island of Hiva 'Oa is quite convincing. Bengt Danielsson gives the same explanation for the same situation observed by him on Rarõia in the Tuamotuan archipelago. The prevalence of the east/west axis, is a universal phenomenon in eastern Polynesia. It can easily be ascertained by looking up the words raro and nia in a Tahitian dictionary, and raro and runa in Stimson-Marshall's Dictionary of some tuamotuan dialects.

The existence in New Caledonia of a system of orientation similarly structured has been pointed out to me by André Haudricourt in a personal communication. It has not been possible for me to determine the diffusion area of this type of systems. But it must be mentioned that another explanation is possible and must be preferred in any tropical country where the east wind is not prevalent. In countries situated between the

two tropics, the sun is never far from the zenith. The course of the sun supplies a good reference for an east/west axis. On the contrary, the north and the south cannot be so clearly distinguished. The only reason why the explanation based on the prevailing wind has been preferred for the facts observed in the Marquesas, is the statements given by the informants themselves.

The most interesting fact at any rate is that systems of spatial orientation with one vectorially oriented axis do exist. And this fact itself might well have a wide signification. For there is no reason to believe that systems with four sectors are regular and that those with a single oriented axis are aberrant or present some kind of deficiency which needs to be explained by some peculiar traits of the environment. But only a world wide survey of systems of spatial orientation could throw light on the problem. Without expecting such a survey, some interesting aspects of the Marquesan system may be underlined by a brief comparison to two others systems which I know at first hand. In the culture of middle class Europeans, the systems of orientation used in every day life, is based on the two axis of symmetry of the human body. The right and the left, the fore and the back, are related to the position of the speaker. Another system, based upon the four cardinal points, is used in technical contexts (geography, navigation) and for remote locations.

In Madagascar, every spatial location is given by reference to the cardinal points which are also used to locate a remote town as well as the grain of rice on the moustache of a missionary. As can be seen from this summary a whole ethnology of spatial orientation can be undertaken. The following points should be considered :

1 Choice of references :

- axis of symmetry of the human body
- salient features of the topographical environment
- diurnal course of the sun
- direction of prevailing winds.

4.2 / Unitarian or plural system :

- In Madagascar there is only one system
- In Europa and on the Marquesas there are two systems, each of which has its particular sphere of validity.

This is but a very rough sketch of the study we need. But I would have achieved my purpose if I have shown that the systems of spatial orientation are worth while studying from an ethnoscientific point of view.

Communication présentée par H. LAVONDES au Congrès de Tokyo - 1966