SEMANTIC ORGANIZATION IN RELATION TO THE
TRADITIONAL ALGONQUIAN ECONOMY

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Résumé. La tâche de la psychologie cognitive interculturelle dans la reconstitution de la vie algonquine traditionnelle peut se poursuivre par l'analyse sémantique des médiales classificatoires. Ces médiales ont souvent des expansions; il est démontré que l'une d'elles, la prémédiale a’, sert à distinguer les propriétés extrinsèques du signifié de la médiale, par rapport aux propriétés intrinsèques. Cette différenciation correspond à des divisions majeures dans l'écologie physique et humaine de la vie algonquine traditionnelle. Ce rôle sémantique de la prémédiale a’ amène à proposer que soit révisé son statut de morphème et qu'elle soit considérée comme une terminaison de verbe d'état en position liée devant les médiales.
While we were waiting for Goddard on the first evening of this conference Jennings boldly raised the "big" question—what is the goal of Algonquian studies? He mentioned one goal, perhaps one especially interesting to historians—describing the gradual integration of the North American hunters and farmers into European industrial society. He invited others to argue for other goals and I am glad to take this opportunity to do so. The goal I espouse is the reconstruction of Algonquian life prior to the European invasion. In arguing for this goal it is useful to adopt what might be called an "archeological" attitude. This is the attitude that whatever we may study in the social sciences we are studying a particular human group supporting itself in a particular earthly environment and further that the group we are studying is best understood by comparisons with others. The traditional Algonquian society is one particular human society occupying its own slot in time and its own spot on the earth, which is worth describing for its own sake and to help illuminate all the others. Algonquian culture like other hunting societies is especially important because it is so different from modern industrial society. As the world homogenizes into the latter form our ability to understand man in any of his societies depends crucially upon comparisons between widely differing ones. An additional consideration which increases the importance of reconstructing hunting societies is the fact that during his history man has mostly been a hunter, recently taking up agriculture, and only in the momentary past becoming an industrialist. It is particularly important that we understand the hunting life for which we evolved, as a base line for understanding the innovations in our life in recent centuries.
The topic which I want to place in this archaeological perspective is the psychology of thinking. I would like to describe Algonquian thought processes so as to contribute to the cross-cultural psychology of thinking, by taking them as an example of thinking in a hunting society, to be compared eventually to thinking in other societies. Since I cannot take my psychological laboratory back to A.D. 1500 in a time machine, some other method of investigation is needed. I have chosen the semantic analysis of Algonquian language, since language is a fairly conservative element of Algonquian culture, undergoing less change due to Europeanization than technology, for instance.

There is one part of language which offers special advantages for the goal described above. These are systems of "classificatory" morphemes, such as the noun prefixes of Bantu, the classificatory verb stems of Athapaskan, and the numeral classifiers found in many language families. The "classificatory" morphemes of Algonquian are certain of the medials such as those referring to substances in the physical environment, e.g., Cree askamik (ground), sikw (ice), a·konak (snow), kam (liquid), a·pisk (mineral), etc. To call these morphemes "classificatory", in quotes, as does Wolfart (1973:67), to me indicates that it is only a preliminary hypothesis concerning their meaning. They may serve in some way to classify the things referred to by the words in which they occur, but for the most part their semantic function has yet to be discovered. Even preliminary study of them has convinced me that they do not function like the classificatory systems of western science such as botany and zoology, so that we must be careful not to be biased by our easy familiarity with such systems from our own culture.

The special advantage of classificatory morphemes for studies of cross-cultural cognition is that they stretch across many semantic domains. The Burmese numeral classifiers, for instance, refer to humans, animals, plants, artifacts, language units, and events. This gives us a chance to view cognition
across a wide spectrum of topics rather than one specialized domain as in ethnobotany. Another advantage is that classificatory morphemes seem to express meanings which are closely linked to how people earn their living. This is seen in terms for building materials such as Cree ek for sheetlike materials used in coverings for houses and canoes, and terms for economically important artifacts such as Burmese kwe? for paddy fields. It is a worthwhile caution to note that these morphemes do not refer to coverings and paddy fields directly but to some of their essential properties, which may be shared with other economically insignificant objects. Because of this linkeage to subsistence activities classificatory morphemes are especially suitable for semantic studies motivated by an archeological attitude.

The study of classificatory morphemes in Algonquian presents one with a special problem well known to Algonquianists but not, so far as I have seen, to be encountered in other language families. The morphemes change their shape by taking pre-medial and post-medial extensions. If we are to understand the semantics of the medials we must understand the function of these extensions. In collaboration with José Mailhot I have been working on pre-medial a± as it occurs with the medial kam (liquid) in Montagnais. The semantic role of pre-medial a± is described in Denny & Mailhot (1975) backed by a considerable amount of data. Today I want to summarize those findings so as to proceed to the topic of this paper which is the relation of semantics to human ecology.

When medial kam occurs with the II final a± it refers to bodies of water, especially lakes. When we separate II verbs which end -kama•w into those which do and do not have pre-medial a± we can see that the roots and stems which precede -kama•w refer to different kinds of properties possessed by the body of water being described. When there is no pre-medial a± the following kinds of properties occur:

size: 

misi/kama•w big lake
Although the size, shape, and clarity properties are readily understandable, the others need explanation. Orientation refers to the position of the body of water in relation to other geographic features, in this example a lake which is at the top of a hill. Travel-route qualities concern the lake as it serves for human travel, in this example by providing a through route across otherwise difficult country. The next kind of term refers to how the body of water is formed, in this case by a split in a rocky hill. Properties such as these might be called intrinsic or primary, meaning that they are thought of as belonging to the lake itself. In contrast to these, extrinsic or secondary properties are referred to by words using pre-medial a-:

adjacent land qualities:

- ci.sse.k/a./kama.w cliff lake
- ministikw/a./kama.w lake of islands
- pi.ne.kw/a./kama.w scratchy bottom lake

associated particle qualities:

- pi.k/a./kama.w turbid lake
- pi.ciše’y/a./kama.w foggy lake

Adjacent land may be around the lake as in the first form, within the lake as in the second, or under the lake as in the third, which refers to a bottom which might damage one’s canoe. Associated particulate matter may be solid particles in the water as in the first form, or liquid particles in the surrounding air as in the second. We refer to these sorts of properties as extrinsic or secondary to suggest that they are not thought of as belonging to the lake but rather to something associated with the lake.
The division we see here between properties expressed in words without pre-medial \( a \) and those expressed using pre-medial \( a \) is an ecological one. It may involve physical ecology as perceived by the Algonquian people, or the human ecology of their subsistence activities. The former concern is seen in a pair of forms like wa\( .se\)/\( kama\)\( \w \) (clear lake) and pi\( .k/a\)/\( kama\)\( \w \) (turbid lake) which suggest that the language has encoded the fact that water in the boreal forest is normally clear, but may become cloudy through the introduction of foreign matter. Similarly, the pair pa\( .sti\)\( nse\)/\( ce\)/\( kama\)\( \w \) (split rocky-hill lake) and ci\( .sse\)/\( k/a\)/\( kama\)\( \w \) (cliff lake) suggest that when a rock formation is involved in shaping the lake it is a property of the lake itself, but when it is only adjacent to the lake it is an extrinsic property.

Human ecology is involved in forms which refer to human use of the environment. One kind of use which is marked by the absence of pre-medial \( a \) to be an intrinsic or primary property of bodies of water is use for travel. Although the uses of things are not usually seen as intrinsic to them, a very important use such as travel by waterway for the Montagnais may come to be thought of as "built into" the thing and this may be reflected in semantics and morphology. Although the data collected for this study do not include any uses of bodies of water which are expressed using pre-medial \( a \), a speaker from Rupert House recently offered us the following pair: \( \text{mino}/kama\w \) means that a lake is good for travel, whereas \( \text{minw}/a\w/kama\w \) means it has good water for drinking. The former is an intrinsic travel-route quality, whereas the latter is another kind of use marked here as an extrinsic property. This letter form can also refer to adjacent land, meaning "good land lake".

In Denny & Mailhot (1975) the same function for pre-medial \( a \) is shown to hold across a quite different set of properties for liquid when liquids are referred to by forms ending \(-kamiw\). In this paper we must assume that our interpretation of pre-medial \( a \) has been sufficiently established to enable us
to ask further questions based on it. Wolfart (1973:63) has pointed out that in calling such morphemes extensions their "morphemic status...is purposely left open". In the belief that semantics and morphology must be kept well coordinated, the question arises what revisions in our ideas about Algonquian morphology do these semantic findings suggest? Our findings show that when roots and stems combine directly with medials, the first elements refer to intrinsic properties of the things referred to by the medials, whereas when pre-medial a- intervenes the roots and stems refer to extrinsic properties. We see from this pattern that pre-medial a- does not change the meaning of the medial but marks a difference in the relation of root to medial. Since the meaning of the medial does not change, the idea that pre-medial a- is an extension of the medial does not seem felicitous. What other morphological pattern in Algonquian might pre-medial a- represent? A tentative suggestion for further investigation is that it is a verb final occurring in the restricted pre-medial environment. Pre-medial extensions would be viewed as verb finals which are bound elements, that is which do not form stems ready for inflection but only strings ready for medials. We are dealing, then, with a special kind of primary derivation. The notion that a- is a pre-medial verb final can be supported somewhat further by looking at what else can occupy this slot. In order to get a look at this slot free from contamination by the numerous post-radical extensions, we will look at it intermedially, i.e., after a stem consisting at least of a root and a medial:

\[
\begin{align*}
\text{ošk/a.tik/a./kama.w} & \quad \text{young trees lake} \\
\text{pa.sti/še.c/e./kama.w} & \quad \text{split rocky-hill lake} \\
\text{ši.t/a.škw/e./(y)a./kama.w} & \quad \text{tightly wooded lake}
\end{align*}
\]

In these forms we see the slot between the medials is occupied by e-, by a-, and by e- and a-. The meanings we have tentatively assigned to these two morphemes are e- (process) and a- (stative). These are similar but not identical
to the meanings of the similar II finals discussed in Denny & Mailhot (1975). They also give reasonable although not compelling interpretations of these forms. In the first form the medial a·tik occurs which refers to sticks and evergreen trees. This form, which is like many discussed in this paper, says that a state characterized by young trees constitutes an extrinsic property of a body of water. In the second form we find the medial șe·k referring to rocky outcroppings or rocky hills. This form says that a process of splitting a rocky hill is an intrinsic property of a body of water. The third form contains the medial a·škw which refers to trunks and limbs of organic growth whether trees or animals, as well as being used for hardwood trees. This form says that a state of tight distribution from a process of organic growth constitutes an extrinsic property of a body of water. If further investigation supports this notion that pre-medial a. is a stative verb final occurring in pre-medial environments, I will be interested to see if somewhat more formal descriptions of this phenomenon can be given.

REFERENCES CITED
