such marked divergence from the restricted method of fruit and seed production peculiar to other varieties of this species and to all other species of tobacco as far as known.

The experiments reported upon above have, in part, been made possible by an allotment from that portion of the Adams Fund of the United States Department of Agriculture granted to the Agricultural Experiment Station of the University of California. A more detailed report will appear in the University of California Publications in Botany, Volume 5.

1 Thomas, Mendel J., 1 (1909).
6 Bateson, 4th Conf. Inter. Gen.
8 Winkler, Prog. rei. Bot., Bd. 2, H. 3.

EXOGAMY AND THE CLASSIFICATORY SYSTEM OF RELATIONSHIP

By Robert H. Lowie

AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK CITY

Presented to the Academy, April 24, 1915

Lewis H. Morgan, in his Systems of Consanguinity and Affinity (Washington, 1871), established the fact that in a large part of North America, in India, in Africa, and in Oceania the natives use terms of relationship that designate not individuals but groups of individuals, and accordingly he labeled these systems as 'classificatory.' Later E. B. Tylor and others advanced the view that the classificatory system and exogamy—the rule that a person must marry outside of his own social group (clan or gens)—were merely two aspects of a single institution: that, in other words, primitive man classed together individuals belonging to the same exogamous division and separated individuals of different divisions. Quite recently this view has been advocated by W. H. R. Rivers. In his Kinship and Social Organisation (London, 1914) he correlates the classificatory system with exogamy, our own system with the family in the narrower sense of the term, and the descriptive system of, say, the Nilotic Negroes (in which a few primary terms designate the basic relationships and serve by their combination to describe all other relatives) with the patriarchal or extended family. The correlation of
the classificatory nomenclature with exogamy now requires empirical verification in the several areas of the globe, and the following is an attempt to make this test for North America.

Before undertaking this inquiry, however, the concept 'classificatory' must be supplanted by one that more adequately represents the phenomenon under discussion. For any particular 'classificatory' system is not moulded by a single factor but by a series of factors, and these are developed in varying degree in different systems. Hence the test must be applied to that common element which, consciously or unconsciously, differentiated the primitive terminologies in question from those current among ourselves in the minds of investigators. An examination of Morgan's earliest expressions on the subject indicates that it was the merging of lineal and collateral relatives—the use of a single term, e.g., for mother and mother's sister, for father and father's brother—that impressed this pioneer investigator, and this is the feature that actually characterizes the classificatory systems of all the regions of the globe. Our query is thus reduced to this form: Is the confusion of collateral with lineal relatives a function of exogamy?

The first question is, of course, how the exogamous tribes compare with those 'loosely organized,' i.e., those lacking exogamous divisions. One of the principal exogamous areas of North America is found in the United States east of the Mississippi. Practically throughout this immense territory the custom of exogamy is associated with a terminology that fails to distinguish collateral and lineal relatives. Among the Northwest Coast tribes of Canada the same association holds, and this applies likewise to those of the Plains tribes that possess a clan or gentile organization. The one doubtful exogamous region is the Southwest, for which we have practically no data except from the Tewa, where the correlation does not hold. An inquiry into the as yet unknown systems of the Keresan, Hopi, and Zuni pueblos is of the highest theoretical importance. When we turn to the loosely organized tribes we meet again with one exceptional region, that of the Mackenzie River, and several sporadic cases outside, where non-exogamous tribes are reported to possess a kinship terminology that is ex hypothesi to be expected together with exogamy. On the whole, however, the agreement with the Tylor-Rivers theory is highly satisfactory. The Eskimo, the Plateau Indians, the Californian tribes are loosely organized; and all of them tend to emphasize the distinction of such relatives as father and paternal uncle, mother and maternal aunt. It is important to note that these terminologies by no means resemble those of European languages. Among the Shoshonean tribes and the Kootenai, for example, relatives distinguished
in English are classed together through the extensive use of reciprocal terms, members of a related pair addressing each other by a common term. But these systems are 'classificatory' only in an etymological sense of the word, the basis of the classification being wholly distinct from that which moulds the collateral-lineal terminology of the systems customarily designated as 'classificatory.'

Summing up, we may say that there is a very high degree of correlation between the practice of exogamy and the ranging in a single category of collateral and lineal kin. The aberrant cases are relatively few and some of them are readily intelligible as the result of cultural influences from neighboring tribes. It is, of course, possible that the correlation may ultimately turn out to have an unexpected meaning, for example, that the emphasis on exogamy is misplaced and should be on definite organizations of any kind, whether exogamous or not. Such an interpretation might perhaps eliminate some of the at present anomalous instances of non-exogamous tribes sharing the nomenclature of exogamous peoples. At all events, the North American data furnish strong evidence in support of the Tylor-Rivers theory.

That the classification of kin by certain tribes is a function of the exogamous grouping, may be demonstrated in more rigorous fashion. Within the Siouan family there are tribes with kinship systems that not only fail to distinguish between collateral and lineal relatives but also class together members of distinct generations, which is contrary to the usual form of 'classificatory' nomenclature. Rivers has suggested exceptional forms of marriage to account for the exceptional mode of classification; as a matter of fact it may be shown that the apparent exceptions are merely the result of an unusually consistent application of the exogamous principle of grouping.

The following are the facts. The Crow and Hidatsa, Siouan tribes tracing descent through the mother, class the father's sister's son with the father; the father's sister's daughter, father's sister's daughter's daughter and all her female descendants through females with the father's sister. It is to be proved that these classifications are connected with the exogamous social grouping.

The facts in the case may be summed up by saying that a single term is applied to male members of the father's clan regardless of generation, and a single term to female members of the father's clan who belong to his own and all descending generations. If this objective statement also represents the psychological basis of the grouping, the terminology should be modified as soon as we pass outside the clan. We pass outside the clan when we take not the father's sister's daughter's daughter, but
the father's sister's son's daughter, since with exogamy and maternal descent she cannot belong to the father's clan. And actually we find that among the Hidatsa and Crow this relative is no longer classed with the father's sister but with the sister, this latter relationship following from the fact that her father is classed with my father. But between the status of a father's sister's daughter and a father's sister's son's daughter there is no ascertainable difference except that of clan affiliation. Therefore the terminological classification is a function of the exogamous group, which was to be proved.

The same conclusion may be established by eliminating the hypothetical factor in another way. The Siouan family embraces a number of tribes with patrilineal descent, of which the Omaha are the best known. In such tribes the father's sister's descendants are no longer, as among the Crow or Hidatsa, members of the father's exogamous group; and we find, as a matter of fact, that her son and daughter are classed not with her but with the sister's son and daughter. With paternal descent my father's sister is my group sister, and while the Omaha have a distinct term for the father's sister it seems that in some ways she is still regarded as a sister—both as regards her children and as regards her husband, who is classed with the brother-in-law. On the other hand, the mother's brother's son, mother's brother's son's son, and so forth, are all members of the same exogamous group if there is paternal descent, and the Omaha actually designate them by a single term. And again, as soon as we pass out of the exogamous group, the terminology varies: my mother's brother's daughter's son is my brother, not my mother's brother, since he no longer belongs to my mother's gens but is related to me solely through his mother, who is my 'mother' because she does belong to my mother's gens.

In short, passing from tribes with matrilineal to tribes with patrilineal descent within the Siouan stock, we find precisely those differences that logically follow from the assumption that the exogamous group lies at the basis of kinship classification; and passing within a particular tribe from relatives within the same group to relatives of otherwise similar status outside the group we at once find a difference in nomenclature. Hence the exogamous factor must have been a real cause in moulding the kinship terminology of at least some so-called classificatory systems.