ETHNOLOGY.—Remarks on American Indian languages, a study in method. TRUMAN MICHELSION, Bureau of American Ethnology. At the very beginning of this subject it should be stated that there is no single type of speech which holds good for all American Indian languages. The statement that all American Indian languages are both polysynthetic and incorporative, so confidently affirmed by the older writers, is false. The number of American Indian languages that are either polysynthetic or incorporative, is extremely limited indeed. I do not know of a single feature that may be said to be characteristic of all American Indian languages. Even so, a combination of certain features is quite sufficient to determine whether any given language is an American Indian language or not. It is this which enables us to say without any hesitation that Chuckchee, Koryak, and Yukaghir (which are spoken in northeastern Asia) are American-oid languages. If they were spoken in America we would call them American Indian languages. They do not belong geneti-

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cally (as far as is known) to any American linguistic stocks, but nevertheless the totality of their features compels us to classify them with American Indian languages. To account for these facts we must assume either that these tribes are the descendants of the forefathers of American Indians who did not follow their brethren in the migration from Asia to America (for such a migration is firmly established by the facts of physical anthropology), or that there has been in comparatively recent times a migration backward from this continent to Asia. In as much as the bulk of American Indian languages are spoken on this continent, from a purely linguistic point of view the latter hypothesis is the most probable. But the essential fact in any case will remain unchallenged, namely, that we have American-oid languages spoken in northeastern Asia.

Let us now turn to the almost unparalleled number of linguistic stocks on this continent. We have an apparent anomaly as compared with most parts of the world. The point at issue is whether such a multiplicity of stocks is original or not. In the first place, in the study of American Indian languages we are at a decided disadvantage as compared with the study, say, of Indo-European languages. Suppose that modern English and modern Russian were the sole survivors of the entire stock. It would be impossible to prove absolutely that they were both genetically descended from a common ancestor, no matter what we might surmise. It is only because we have continuous written records of both covering several centuries, and have the aid of other related languages which have even earlier records, that we can absolutely prove this. For this reason it is clear that there always will be American Indian languages whose genetic connection we may suspect, but which we can not prove. It may be urged that we can actually see what has taken place in the development and differentiation of languages which have been historically transmitted, such as Indo-European languages, and that we should apply the principles derived from such a study to American Indian languages in determining the stocks. The methodical error in such a procedure lies in this, namely, that there are less than a half a dozen, different stocks in
the entire world of which we have records going back continuously for more than a thousand years. The percentage of the total stocks so transmitted is altogether too small to afford a firm and sure foundation for such a mode of action. If we could establish from a minute study of the dialects of some dozens of stocks that the kind of differentiation, etc., was on the whole of a similar nature in these stocks, we would be entirely justified in applying the principles derived from such a study to the determination of the limits of stocks in American Indian languages and other stocks as well. Unfortunately such a study has not been made, nor is there any prospect of it being done in the immediate future.

We have a similar difficulty in the reconstruction of parent-languages of American Indian linguistic stocks. In the case of Indo-European languages we again can take advantage of principles derived from a study of the historical development of the separate members of the stock, and apply the results to the prehistoric period. We can not do this in the case of American Indian languages. The nearest approach to this would be a very minute study of the dialects of known stocks. In some cases there is no doubt that this would even largely counterbalance the difficulty spoken of. For example, most of the dialects of the Algonquian stock are so closely related that it can readily be ascertained in at least many cases what is archaic and what is secondary. Thus it is certain that the Fox e and i vowels are more primitive than the Ojibwa i vowel, and that the terminal vowels preserved in Fox, Sauk, Kickapoo, Shawnee, and Peoria, but not appearing in Ojibwa, Ottawa, Potawatomi, etc., are archaic. Hence these features are to be ascribed to the Algonquian parent language. However, we can not know that precise quality of the prehistoric e and i vowels. Similarly the combination of a sibilant followed by a surd stop in Cree is more archaic than the correspondents in many of the related languages, and so is to be likewise ascribed to the parent language. (The actual proof that the Cree combination is more

archaic is too complicated to be given here, as it would of necessity be altogether disproportionate to the length of this paper.) Naturally, in some instances, absolute proof would be wanting. Thus in certain cases Ojibwa *nd* corresponds to Cree and Menominee 't. Fox *t*. It can be easily shown that the Fox *t* in this case is in all probability unoriginal; and most philologists will assume that Ojibwa *nd* is more archaic than Cree and Menominee 't. But probability and assumption are not the same as proof.

A further obstacle to the reconstruction of the parent languages of American Indian stocks is our frequent inability to formulate phonetic laws in a manner such as is demanded by all modern Indo-European philologists. These contend that phonetic laws in themselves admit of no exceptions; and that wherever we find apparent exceptions, there is some extraneous reason, or reasons. The historical study of the individual Indo-European languages shows that analogy and the like have been potent factors in transforming them, and are fully as important as the actions of phonetic laws. For example late Latin *potebam* is not a phonetic transformation of Latin *poteram*, but is due to the influence of other imperfects in *6am* preceded by a long vowel. For this reason we are justified in extending the principles derived in this manner to the prehistoric period, to harmonize discrepancies among the historical languages which cannot be accounted for by phonetic laws. Thus the Italic languages have an ablative singular of *à* stems in *àd* (retained in Oscan and early Latin; final *d* lost in classical Latin by phonetic law). The collective study of Indo-European languages shows conclusively that the ablative singular of *à* stems was the same in form as the genitive. Since the same study demonstrates that *o* stems in the Indo-European parent language had an ablative singular in *öd* (preserved in early Latin; *d* lost phonetically in classical Latin), and that no other stems in the Indo-European parent language had a special case form for the ablative singular; and since we know that in historica Indo-European languages analogy has been a potent transforming factor, we have an entirely legitimate right to assume that the Italic languages developed an *àd* abla-
tive singular for \( \ddot{a} \) stems by the influence of the \( \ddot{o} \) ablative singular of \( o \) stems. In one sense the proof is not absolute, but it is as absolute as it is possible to give when dealing with prehistoric phenomena. It must be admitted that at times even Indo-European philology is at sea, and that purely subjective speculation may come into play. Happily these instances are rare. These remarks are inserted because although the facts are well-known to Indo-Europeans, they are largely unknown to Americanists.

The bearing the above has on the problems of American linguistics is this: since American Indian languages have not been transmitted to us in the manner that Indo-European languages have, we do not know what has disturbed phonetic laws in many given cases, and for the methodical reasons outlined above, we are not justified in assuming that the same influences have been at work in American Indian languages as in Indo-European languages. Herein lies our difficulty in formulating phonetic laws that are entirely satisfactory to the Indo-Europeanist. For example, \( n \) becomes \( c \) in Fox before \( i \) which is a new morphological element; it remains if the \( i \) is not such an element. There are some specific grammatical categories in which the law does not work. A study of several related dialects shows that this change also takes place in them, and hence must be very old. At the same time the apparent exceptions have not been explained. Whether they ever will be, is questionable. Yet an Americanist does not object to the formulation of the law as it works in practice. The Indo-Europeanist will object vigorously to such a formulation as it is contrary to his accepted canons. If the canons of Indo-European philologists be accepted, it is quite evident Americanists cannot reconstruct the parent languages of American Indian stocks in an entirely satisfactory manner. However, most Americanists are far more interested in observing actual phonetic correspondences and the like between the different dialects of linguistic stocks as they actually occur, than in speculations which from the nature of the case must rest upon rather slim foundations. It may also be noted in this connection that Indo-Europeans have begun to interest
themselves more with the linguistic problems of historical languages, and less with the remote Indo-European parent language. Let us return again to the question of the multiplicity of American stocks. As stated above, this is today almost without parallel. However it does not follow that this has always been the case. In Europe we know definitely that Etruscan has been wiped out; but we do not know how many distinct stocks were obliterated by the spread of Indo-European languages. It is entirely possible that many have been so obliterated. If they have, we have then a case quite analogous to the situation in America. But this is merely speculation. The problem may be approached from a different point of view. There is no reason to suppose that the migration from Asia was all from a single stock, in other words, that the differentiation has all been on American soil. Were that the case, in spite of the enormous lapse of time, surely we would be able to find at least one striking morphological trait common to all American Indian languages, for the morphology of a language is its most permanent feature.

Though, as intimated above, we have an apparent multiplicity of stocks which can not be reduced, nevertheless a number have resemblances to each other. An example is Siouan and Muskogeans. The question resolves itself to this: Are these resemblances indicative of a common origin so remote that it is no longer possible absolutely to prove it, or are such similarites due to borrowings? To settle the question we must know what may be borrowed. That sounds may be borrowed across extremely divergent linguistic stocks is abundantly proved by the languages of the Northwest coast where we have the condition that languages whose morphology and vocabulary are distinct have practically the same phonetic elements. That vocabulary may be borrowed across linguistic stocks is too well-known to require illustration. That syntax may be borrowed across linguistic stocks is shown by the languages of Mexico where Spanish syntax has patently influenced that of American Indian languages. At this point we may ask a question, namely, can morphological features be borrowed? This is one of the most pressing problems of linguistic science awaiting solution. Unfortunately we have
little material at hand definitely to prove or disprove it. Such as we have tends strongly to establish it. For example it is patent that the post-positions of Wishram (Chinookan stock) are due to the influence of Sahaptian, a distinct though contiguous stock. Similarly, classifiers are common to the Salishan, Wakashan, Chimmesyan, Koluschan, and Skittagetan stocks which are at the same time contiguous. One may suspect, indeed, that the first pair, and similarly the last pair, have differentiated from a common ancestor. Yet at the very best we would have a single striking morphological trait spread throughout three stocks which otherwise have nothing in common in either morphology or vocabulary, but only have resemblances in sounds. It is too great a strain on the imagination to believe that this is wholly the result of chance. If the accepted definition of stock is to remain, namely, a stock consist of one or more languages all of whose sounds, morphology, syntax, and vocabulary genetically have descended from a single ancestor, we must admit at once that this trait which is held in common, is due to borrowing. For the differences in vocabulary and morphology are so enormous that it is inconceivable that the present differences are solely due to later differentiation. The vocabulary and morphology which cannot be explained at present are just as important as the extremely small percentage that can. There are a few other cases in which morphological borrowings between stocks is plausible, but they are entirely too few in number to warrant us at present in applying the principle broadcast. So we have to content ourselves in the meanwhile in pointing out structural resemblances between stocks, such as between Esquimoan and Algonquian, which resemble each other strikingly in their pronominal systems, and to a much less extent in the building up of verbal stems, in the hope that a careful and minute study of all the dialects of such stocks may enable us definitely to affirm whether such traits are due to early differentiation from a common remote ancestor or to comparatively recent borrowings.

It must be admitted that recently there has been a decided tendency among Americanists to consolidate such stocks as
show only a moderate amount of common lexical and morpho-
logical resemblances. In some cases, such as Uto-Aztecan, it must
be conceded that the burden of proof is now definitely on those
who maintain that the two "stocks" are true distinct stocks, and
not differentiations from a common ancestor. It is on the other
hand equally certain that the genetic connection has not been
established with absolute nicety. In the same manner Athapascan,
Koluschan, and Skittagetan are almost certainly genetically
related. Their morphological resemblances are so numerous and
so special that it is incredible that they are due solely to
borrowings, and not to genetic relationship. However, the amount
of lexical material the three have in common is an exceedingly
small percentage of their total vocabulary. The extremely large
percentage of the unexplained lexical material forces us to admit
that this has been derived from outside sources, and with our
present definition of "stock," a purely genetic relationship
between the three breaks down. After all, our difficulties all hinge
on our definition of "stock," and the proofs necessary to show that
one or more languages constitute such a "stock." Though the
definition of "stock" given above, may be rigorously correct, the
actual application of it would practically obliterate the total
number of "stocks" in the world, and we should be worse off than
ever. For in that sense, there are few, if any, languages which
constitute a stock. In the writer's opinion philologists have taken
over biologists' concepts without inquiring whether they are
suitable to their own science. "Stock" must be redefined in a way
that has some real meaning, and some term or terms invented to
cover those larger groups which apparently are only remotely
related, which may be related in sounds, morphology, syntax, and
vocabulary, but not all combined as a unit. It goes without saying
that the nature of the proofs then demanded will be in accordance
with our definitions.

To revert to a point brought out above. If the morphology of
languages can not be borrowed, with scrupulous nicety we must
assume an enormous number of distinct stocks at the very dawn
of man, which certainly is not plausible. If on the other
hand sounds, morphology, syntax, and vocabulary have no innate connection (vide supra) then we would have a series of various borrowings instead of "stock" in its present sense. It may be well however, to state that no matter how "stock" is defined at present, it certainly is not used in that sense alone, but in a more loose way, almost according to the whim of the author.

The most decisive proof that two or more languages belong to the same stock, used in a somewhat free sense, is numerous and detailed resemblances in their structures. A large percentage of vocabulary held in common is a welcome additional proof. The most decisive proof that a single language constitutes a special stock is numerous unique morphological features. No amount of purely lexical resemblances between languages, no matter how far apart geographically, would prove that they belonged to a single stock. For, experience has shown us that vocabulary is very often borrowed in large amounts, and hence is not a good criterion. If the tribes were far apart geographically, that would not preclude the possibility that in prehistoric times they had been in contact, and at that time extensive borrowing had taken place. Another reason why vocabulary is not a good criterion is that the number of words in even distinct stocks that superficially resemble each other is really considerable. An example is Sanskrit (Indo-European stock) āsan-, Fox (Algonquian stock) asn*, both meaning "stone." Comparisons of vocabulary are only valuable when we know that the morphology of the languages compared are the same, or at least very similar. Otherwise we should not know whether we were dealing with comparable elements, even if the words in their totality resembled each other. For example, the comparison of the pronoun Avestan cīs, Greek quīs, Latin quis, Oscan pis, all meaning "who," is entirely justifiable, because the structure of all four languages is fundamentally the same; and, which is also important, it has been shown that though these words apparently resemble each other only slightly, yet as a matter of fact the correspondence of the various sounds forming these words is precisely what we should expect from our knowledge.
of comparative Indo-European phonology. Another example of a case where words of two different stocks superficially resemble each other is Sanskrit \textit{nasta-} "dead," Fox \textit{ne'tow} "he kills." It will be recalled that the combination of a sibilant followed by \textit{t} appears as \textit{t} in Fox. As soon as we note that Sanskrit \textit{nasta-} is composed of the elements \textit{nas}+\textit{ta-} and Fox \textit{ne'tow}' of the elements \textit{ne}+\textit{to}+\textit{w}, the comparison ceases to interest us. [The Fox word can, as I think, be reduced still further in analysis, but this only still further emphasizes the point at issue.] We should exercise the same prudence in comparing morphological elements. For example the verbal termination of Latin in the third person singular is \textit{*} which superficially resembles Tsimshian \textit{t}, to say nothing of similar terminations in various Algonquian dialects. Again Greek \textit{ipa}, the verbal termination of the first person plural, has an entirely fortuitous resemblance to Ojibwa \textit{min in ni}—\textit{min, ki}—\textit{min} of the independent mode.

Turning now to the classification of the languages belonging to single stocks,—it must be said that very little work has been done on this important topic in American linguistics. The three stocks of which we have the best knowledge in this respect are Salishan, Siouan, and Algonquian. To a certain extent the classification is arbitrary. We select a number of salient features and base our classification on it. In most cases we have overlappings which are indicative of more than one association. For example, Peoria fundamentally belongs with the Ojibwa division of Central Algonquian languages; at the same time there are certain traits which clearly prove that it has also had an association with the Sauk, Fox, Kickapoo group, also one with Cree; and there are some indications of contact with Delaware-Munsee. Nevertheless in spite of such shortcomings, we can make classifications which are entirely satisfactory even to the Indo-European philologist. The object of our classifications is to determine the prehistory of the tribes' of any given stock. For example, the Abnaki dialects exhibit so many special traits in common with Shawnee, as well as Sauk, Fox, Kickapoo, that it is absolutely certain that in prehistoric times the tribes
which of course will be counted as the great fact of Indo-European philology.

To change to a different topic. The study of American Indian languages will show that there is no such thing as superiority in language. They all possess the necessary machinery to express the most complicated ideas. The point is simply that what is grammar in one language may be vocabulary in another, and vice versa. For example there are no prepositions in Algon-quian languages, but what we call prepositions are expressed by grammatical processes or special features in vocabulary. Thus "on" will be expressed by the locative case. "To come in" in Fox is píí, "to go out" is nówi. Nor is the language of primitive peoples indicative of low mentality. Thus Fox has but two fractions, one-half and one-quarter. It does not follow at all that the Fox Indians can not conceive of other fractions. As a matter of fact they can. The point is that ordinarily their life is such that there is no necessity for expressing them. I have tested this again and again by asking interpreters how to say, "Give me a third of that pie," and the like. In every case they were able without the slightest hesitation to render the idea, though not the precise words. I mention this simply because Gobineau apparently still has a goodly number of followers and admirers.

In conclusion, the study of American Indian languages is an extremely attractive field for students of general linguistics; and one that as yet is almost virgin soil. By their study the Indo-European specialist will find his scope vastly broadened, especially in the so-called philosophical bearings of his science. The American ethnologist who neglects their study, places himself wholly at the mercy of interpreters; or at the best must rely on the ipse dixit of his wiser colleagues. For these reasons their scientific study should be fostered in every possible way.