C.C. Uhlenbeck was interested in genetic relationships between languages.¹ From the moment that Edward Sapir proposed in 1913 that two as yet poorly documented languages spoken in California were genetically related with the Algonquian languages, Uhlenbeck expressed his opinions about this possible connection at several points in his career. In this paper, I will describe the position, or rather positions, that Uhlenbeck held in this debate. This paper will go beyond Swiggers (1988), who briefly discussed this issue in the context of his study of Algonquian languages. I will put this in the context of the discussion on long-distance relations between Amerindian languages.

It happens quite frequently that new genetic relationships are proposed between Amerindian languages, but it is nowadays very rare that such proposals end up being generally accepted. Campbell (1997:260-329) provides an overview of such proposals of long-distance genetic relationships. One of the rare cases with regards to North American languages is the acceptance of the genetic relationship of two languages of California with the widespread Algonquian language family, from which they are separated geographically by a distance of 1500 kilometers (see map 1). In fact, this may have been the last time that a proposed distant relationship was – in the end – accepted by specialists in Native North American languages. And this proposal is almost one hundred years old.

The history of this achievement has been told and updated many times (e.g. Uhlenbeck 1927c:233-237; Haas 1958, 1964:v-vi; Goddard 1975; Golla 1986; Swiggers 1988; Poser 2003). Golla (1986) also took correspondence into account, and is therefore exceptionally detailed. Briefly, in 1913 the linguists Dixon and Kroeber asserted a genetic connection between two Californian languages formerly assumed to be isolates, Yurok and Wiyot, and called the family the Ritwan family (Dixon and Kroeber 1913). Lexically these languages appeared, as Dixon and Kroeber said, to have some roots in common with each other, but nothing with the other languages spoken in California, and they therefore assumed a genetic connection. That same year, Edward Sapir published a paper in which he argued that these two languages were actually Algonquian languages, and.

¹ C.C. Uhlenbeck and the Ritwan languages of California

Peter Bakker

Canadian Journal of Netherlandic Studies XXIX.ii/XXX.i (Fall 2008/Spring 2009):151-163
related to the huge family of languages spoken in Canada and the east coast of the USA (Sapir 1913).

Map 1. The Algonquian languages of North-America and the Ritwan languages of California

The prominent Algonquianist Truman Michelson was not impressed and demanded more evidence (1914, 1915), to which Sapir reacted again (1915a, b). Poser (2003) shows that Sapir had in fact not given the definitive proof, which was first given by Haas (1958), when better materials on the two Ritwan languages had become available. Even her results were not generally accepted (e.g. Robins 1958:xiv), or at least there were some who remained unconvinced of the proof, e.g. Teeter (1965:224): “All of this suggests that Wiyot and Yurok are, in fact, not Algonquian languages - it would then appear that in the famous Sapir-Michelson controversy it was Michelson who was correct insofar as this was the burden of his argument.”

The current consensus is that the Ritwan languages are related to the Algonquian languages, but not as part of the Algonquian family. The label “Algic” is used for the Algonquian languages plus Wiyot and Yurok, either as a grouping with three separate bran-
ches (Algonquian, Wiyot, Yurok) or as a group with two branches (Algonquian, Ritwan), as shown in Figure 1.

![Figure 1. Proposed family trees for the Algic languages](image)

In the historical overviews referred to above, the modest role that the Dutch linguist C.C. Uhlenbeck played has never been fully discussed. The reasons are probably that all his comments were published in the Netherlands, in journals not widely read by specialists in the pertinent languages, and in addition some of them were in German or Dutch – languages not widely read by Americanists. Haas (1958) states explicitly in her historical overview of research on the connection between Ritwan and Algonquian that she did not take Uhlenbeck’s contributions into account because of the language problem: she could not read them. Others who do read Dutch do not mention him (Goddard 1975), or do not take all his pertinent work into account (Poser 2003). The generally excellent *Bibliography of Algonquian Linguistics* (Pentland and Wolfart 1982) has missed some of Uhlenbeck’s minor publications on this matter. It is therefore time to reassess Uhlenbeck’s position.

Uhlenbeck had been involved in the study of Sanskrit (he was appointed professor of Sanskrit in 1892) and Germanic languages (the subject of his dissertation of 1888). He had published a series of articles on etymology and etymological dictionaries in his early career (see Bakker and Hinrichs 2009). Uhlenbeck had already developed an interest in other language families, such as Basque (see Bakker 2009) and Eskimo (see Van der Voort 2008). He was very much interested also in the Native languages of North America (Genee 2003; see also Genee 2005). In 1908 he published a well-informed overview of the languages of North America, which however never became very influential, probably partly because it was published in German. In this article no mention is made of Yurok and Wiyot, even though other small Californian languages are listed. In 1910 Uhlen-
beck published a sort of appendix to this paper, with additions (1910b). Here he mentions two new articles about Californian languages (1910b:779) which contain information about Yurok and Wiyot, but he does not mention a possible link of those with Algonquian. This is not surprising, as the connection with Algonquian was first suggested three years later by Sapir (1913). Trombetti (1921) claimed that he had found the connection independently from Sapir (Poser 2003).

Uhlenbeck’s major publications in Amerindian studies related to Algonquian languages, rather than to the two Ritwan languages. Uhlenbeck published his first work on Algonquian in the following areas: grammatical analyses of Ojibwe, a Central Algonquian language (1909, 1911a), a comparative morphology of Algonquian (1910a), and the first data of his field research in Montana in 1910 and 1911 on the Blackfoot (Plains Algonquian) language (1911b, 1912c, d). However, he followed the discussion about Wiyot and Yurok closely.

In the same period, Uhlenbeck summarized and reviewed, in English, a few articles about the languages of California. He reviewed Kroeber (1911a), in which a number of sketches of Californian languages are given (Uhlenbeck 1912a). The reviewer is glad that those materials have become available, but he finds the sketches lacking in “psychological depth”, and he reproaches the author for not being aware of discussions on relevant subjects in Europe (probably alluding to his own publications). His other review deals with Kroeber (1911b) a shorter paper on the phonetics of Californian languages. This review just consists of a number of quotes, with one comment of his own (Uhlenbeck 1912b).

Dixon and Kroeber (1912, 1913) were the first to argue that the two California isolates Wiyot and Yurok are related to one another. Their 1913 paper was published shortly after they had reported that they had been able to establish, on the basis of a study of the similarities of a large number of basic words, a number of language families in California, among which the Ritwan family, comprising Yurok and Wiyot – without providing details yet (1912:692). Three years after the publication of Dixon and Kroeber’s claim that the two Californian languages were related, Uhlenbeck reviewed their paper (1916), to be discussed below.

In the meantime, inspired by this paper, Edward Sapir began to search for relatives of these Ritwan languages outside of California. At first, in letters written in June 1913, Sapir suggested some parallels in numeral classifiers between the Salish languages of the Northwest coast and Yurok (Golla 1984, letters 107, 110; Golla 1986:28). In the following months, an intensive correspondence between Kroeber and Sapir took place regarding the connections between Ritwan and Algonquian. This culminated in Sapir’s 1913 ground-breaking paper in which he claimed to be able to prove that Algonquian and Ritwan were genetically related (Golla 1986:28; Golla 1984: letters 115-127); in support of this thesis he proposed dozens of lexical cognates. Sapir’s 1913 paper was reviewed by Uhlenbeck in 1915 in a Netherlands-based journal. Uhlenbeck considers “that the lexical and morphological evidence brought forward by Dr. Sapir is very considerable and, to a
certain degree, convincing” (1915:271). Despite some specific proposals that Uhlenbeck considers to be wrong, “there will remain enough to prove that Wiyot and Yurok, if not actually members of the Algonquian stock, at least are distantly related to it” (1915:272). Uhlenbeck also praises Sapir for his rigorous methodology, especially his quest for regular sound changes. In a paper published the following year (Uhlenbeck 1916), in a short review of Dixon and Kroeber (1913), he had apparently also accepted the evidence, when he wrote: “Dr. Sapir has shown already that Ritwan (Wiyot and Yurok) is genetically related to the Algonquian languages” (Uhlenbeck 1916:38).

However, ten years later Uhlenbeck appears to have changed his mind: he no longer accepted a genetic relationship between Ritwan and Algonquian. In 1925, Gladys Reichard published a grammar of Wiyot, based on her fieldwork on the language. This gave Uhlenbeck the opportunity to get back to the question of its relationship with Algonquian. In a review of a book about the languages of the world he wrote that the Algonquian origin of Wiyot and Yurok “may as yet not be considered as definitively proved” (1927a:231). At first sight the Wiyot-Algonquian connection, now possible because of Reichard’s description, does “not look very hopeful” (ibid.). He wrote a fairly extensive review of Reichard’s grammar of Wiyot – in German (1927b). In his review, Uhlenbeck writes about Sapir’s (1913) original demonstration that the two languages were Algonquian, and claims that it was

ein kühner Versuch, dieses bisher als isoliert betrachteten Sprachen in den grossen Zusammenhang des algonkischen Sprachstammes einzureihen. Ich nannte das einen kühnen Versuch. Eigentlich aber war es nicht viel kühner, Wiyot und Yurok in irgendwelcher Sprachenfamilie unterbringen zu wollen als deren Unabhängigkeit von einander und von anderen Sprachstämmen zuversichtlich zu behaupten, denn die damals bekannten Daten waren ja gewiss zu dürftig als dass man darauf eine brauchbare Arbeitshypothese hätte aufbauen können. (Uhlenbeck 1927b:153)

But despite his initial positive evaluation Uhlenbeck was now no longer convinced:


Uhlenbeck continues with a discussion of the proper methodology required to prove a genetic connection. He mentions the “harsh, perhaps too harsh” (1927b:153), attack by Michelson (1914, 1915) on Sapir’s thesis (see also Ruhlen 2001), whereas other scholars such as Dixon and Kroeber (1919), Paul Radin (1919:490), Alfredo Trombetti (1921), Paul Rivet (1924:608, 610) and Wilhelm Schmidt (1926:167 ff.) did accept the genetic connection.

Written after his review, but published a little earlier in the same year, was
Uhlenbeck’s paper in which he evaluated the lexical similarities between Wiyot and Algonquian (1927c) that Sapir had pointed out in 1913 and 1923 (Sapir 1913, 1923). With the help of Reichard’s word list (1925:106-140), which was part of her newly published grammar, Uhlenbeck feels confident enough to reassess Sapir’s claims with regard to the genetic relation between Wiyot and Algonquian. At first, Sapir’s paper had made “a favorable impression” (1927c:236) on Uhlenbeck, but in the meantime his “scepticism in the area of a genetic relation has grown” (1927c:236). Uhlenbeck accepts the similarities between Wiyot and Algonquian pronouns and possessive markers, some of the numerals, the presence of one case-suffix, perhaps also the third person possessive suffix. On the other hand, there are no similarities in the verbal conjugation and in the vast majority of lexical stems. Verbal conjugations are “as incommensurable entities as for example those of Indo-European and Semitic” (p. 238). Wiyot is therefore, according to Uhlenbeck, not an Algonquian language, and cannot be a descendant of Proto-Algonquian. He considers the similarities to be borrowings (1927c:254). The considerable physical distance between Ritwan and the geographically closest Algonquian languages, which Ruhlen (2001:199) estimated at 600 miles, is apparently no problem for his suggestion of language contact influence.

The bulk of Uhlenbeck’s paper is devoted to the lexical similarities proposed by Sapir. Uhlenbeck discusses potential cognates in the nominal realm, because “the verbs in the two areas provide too serious difficulties in the analysis” (1927c:239). He discusses suggested cognates from several semantic domains: persons (14; almost all doubtful according to Uhlenbeck), body parts (17 forms, some five of them judged to be possible cognates), animals (8 forms, half of them possibly cognates), plants (four discussed, one possible), natural phenomena (seven words, all but one rejected), and manufactured objects (two words, none accepted). In short, only one fifth of the 50 cognates proposed by Sapir are taken seriously by Uhlenbeck. He concludes that Wiyot is not an Algonquian language, not even a deviant one. Nevertheless, a very distant genetic relationship is not excluded, on the basis of similarities in numerals, grammatical elements and person markers. The few nouns that show similarities can “probably be ascribed to secondary language mixture or borrowing” (Uhlenbeck 1927c:254).

In 1939 Uhlenbeck returned to the matter once again, in a Dutch article whose title translates as ‘Grammatical influence of Algonquian on Wiyot and Yurok’. Here he says that Sapir’s thesis that the Ritwan languages would be Algonquian was “not confirmed” (1939:41) since Reichard’s new data on Wiyot had become available in 1925. He specifies what he means by “Algonquian”: “it is not a language that can be reduced to the type specified by Michelson” (1939:41), by which he means Michelson’s typological sketch of Algonquian (Michelson 1926). In Uhlenbeck’s opinion neither Wiyot nor Yurok “may be integrated into the Algonquian language family” (Uhlenbeck 1939:42). He even casts doubt on the genetic unity of Wiyot and Yurok, because the lexical similarities between the two languages could be explained by language contact – despite a number of striking
similarities in the grammatical system. According to Uhlenbeck, Sapir was too much focused on searching genetic groupings, neglecting other possible explanations for similarities. Language contact (called “influence by contact” [“verkeersinvloed”], “secondary cultural influences” [“secundaire cultuurinvloeden”], and “levelling acculturation” [“gelijkmakende acculturatie”] with Uhlenbeck’s idiosyncratic undefined terminological innovations; 1939:42) can explain not only lexical similarities, but also phonological, morphological and syntactic similarities. A limited number of similarities is not enough. “For the proof of divergent individual development from one proto-language, more is needed” (1939:43).

Uhlenbeck does recognize that “certain ancient (because reflected by intimate specificities of the patterns of these languages) grammatical relations between Wiyot and Algonquian are unmistakable” [“Zeekere aloude, immers door intieme eigenaardigheden van het patroon der onderhavige talen gereflecteerde, grammatische betrekkingen tusschen Wiyot en Algonkisch zijn onmiskensbaar”] (49). He stresses the need, however, for a sufficiently large set of lexical similarities that would allow the deduction of regular sound correspondences (1939:43) – the minimal demand for genetic proof in historical linguistics. But even then, these similarities could be due to Algonquian influence on proto-Ritwan (1939:44, 49). Another possibility would be that the similarities between the Ritwan languages could be “the result of secondary influence from an Algonquian language on a perhaps still unified Ritwan” (1939:44). There is also a third possibility in this case that could explain the similarities between Wiyot, Yurok and Algonquian: Algonquian could have influenced both Wiyot and Yurok independently, creating similar types of languages. Uhlenbeck, however, prefers the idea that Wiyot and Yurok are genetically related to each other, but are not Algonquian languages.

Uhlenbeck considered the lexical evidence insufficient – at least based on the limited state of knowledge of the languages at that time (1939:44). He focuses instead on the grammar, and expresses his skepticism on the following points.

(A) In Algonquian there are striking similarities between possessive inflection and person marking on the verb, but this is not the case in Wiyot and Yurok.

(B) The distinction between transitivity and intransitivity is pervasive in Algonquian verbs, but not in Ritwan.

(C) Obviation – found in all Algonquian languages, even in Blackfoot, the least typical of the Algonquian languages – is lacking in Ritwan.

(D) The pronominal elements and their portmanteau and linear occurrence – limited to the verb – in Ritwan are very “un-Algonquian”.

(E) The formation of the “repressive modes” (Dutch: “repressieve modi”; 1939:45; it is not clear what Uhlenbeck means by this, perhaps the non-independent modes such as conjunctive, subjunctive, imperative – as suggested by Inge Genee) does not show similarities between the two groupings.

Uhlenbeck discusses the possibility that the Algonquian and Ritwan types could go back to
a single type, but he considers that unlikely (1939:45). On the other hand, he admits that some temporal and other prefixes do show similarities, but “such prefixes are more loosely connected to the verb than person markers” and therefore not decisive (45). The verbal person markers are very different in Uhlenbeck’s eyes, and no trace of Algonquian can be found there (46).

In the nominal realm, however, the picture is different. The personal pronouns and the forms of the possessive elements on nouns in Wiyot and Yurok are the same, and on top of that there is “a complete identity” of the initial sounds of Wiyot, Yurok and Algonquian, including the non-possessive m-prefix (used for “someone’s X”), and a possible link for the third person marker in Wiyot with the Algonquian obviative marker. There is also the presence of a locative case suffix with similar forms in Wiyot, Yurok and Algonquian. However, as there are so few lexical similarities and no regular sound correspondences, Uhlenbeck considers this insufficient for genetic proof, and pleads for a search for other explanations.

Additional similarities can be found in the fact that both Ritwan and Algonquian have no adjectives but use verbs instead – a trait so general in North America that nothing can be concluded on this basis, Uhlenbeck justly adds (1939:47). Uhlenbeck also mentions the similarities in verbal structure, especially the use of morphemes referring to body parts in the verb, noun incorporation, and the use of prepositional and adverbial elements in the verb (47) – according to him, however, insufficient for proof of genetic unity “because all of them can be encountered in other language families in North America” (47), and they could be “ethno-psychological” as well. The similarities in the lower numerals and the presence of locative cases constitute additional connections between Ritwan and Algonquian (48). Nevertheless, the existence of these features in combination cannot be attributed to chance, according to Uhlenbeck, and it is conceivable that they were caused by Algonquian influence on the Ritwan languages (48).

Uhlenbeck also returns to the relative dating of the grammatical and lexical similarities between Algonquian and Ritwan. In his earlier study, he attributed the grammatical layer to an older layer of influence than the lexical layer. He now prefers to assign both to one wave of influence (48-49). He concludes that the grammatical similarities cannot be explained from a genetic unity, as one would in that case expect more shared lexicon and regular sound changes. The fact that there are so few of them indicates, in Uhlenbeck’s view, that these constructions and words are borrowed, and the result of language contact rather than genetic affiliation.

The crucial question is, of course, where this contact could have taken place. Uhlenbeck considers it unlikely that Algonquians penetrated into California, but rather hypothesizes that these influences date from a period when the Wiyot and Yurok were living more to the north and east of their current habitat. This is, by the way, quite compatible with recent research, where both archaeological and linguistic data point to an origin of both Ritwan and Algonquian on the Columbia Plateau (Foster 1996; Denny 1989, 1991) in
and around Idaho.

The Danish linguist Louis Hjelmslev reviewed Uhlenbeck’s paper briefly (1941). He stated (my translation from French) that Uhlenbeck attacked Sapir’s thesis of a genetic connection between Ritwan and Algonquian, and Hjelmslev commented on Sapir’s method, in agreement with Uhlenbeck: “The method contrasts strikingly with the one used in traditional linguistics, in which on the contrary regular sound correspondences would constitute the proof to support a genetic relationship” (Hjelmslev 1941:68).

By the end of his life Uhlenbeck had not changed his mind. Forty years after he published his classification of the languages of North America, he returned to this subject. He briefly discusses the relation of Ritwan to Algonquian, which he still calls “a puzzling case” (Uhlenbeck 1948:223). Referring to his own two main papers on the question (Uhlenbeck 1927c, 1939) he says he provided a “tentative solution of the vexatious question” (Uhlenbeck 1948:223).

We can conclude that Uhlenbeck did not support a genetic classification of the Ritwan languages as part of the Algonquian family, or as descendants of one ancestor, except in an early stage when not much was known about these languages. He did recognize some kind of connection, most likely early contact between the groups. In this he was not alone. There were other skeptics and agnostics. Reichard (1925:6) did not overtly take a position in her grammar of Wiyot, and Robins (1958:xiv) declared the question of the affiliation of Yurok and Algonquian “undecided”. Teeter (1964) does not take a clear side about the connection of Wiyot with Algonquian. Bloomfield (1946:85) wrote: “Two languages of California, Wiyot and Yurok, have been suspected of kinship with Algonquian,” suggesting that he was not convinced of a genetic connection. Bloomfield also gives Uhlenbeck (1930) as a source, but here Ritwan is not mentioned. The infixation patterns discussed for Plains Algonquian Arapaho in Uhlenbeck (1930) have clear parallels in Yurok (Berman 2003). There is indirect evidence that Boas was skeptical as well: “About Wiyot Prof. Boas believes that complete material of this language we have now at our disposal does not bear out Sapir’s hypothesis of its Algonquian origin” (Uhlenbeck 1926:115; see also Haas 1966:102).

Haas thought she had settled the controversy in her 1958 paper (see also Haas 1966, Greenberg 1997 and Poser 2003). In fact, however, many of her proposed etymons turned out false (Goddard 1975). Also, Sapir’s statement was based on partly incorrect evidence. Goddard (1986) critically examined all the Algonquian-Ritwan cognates proposed by Sapir. He only accepted between 36 and 40 of Sapir’s 182 proposed etymons, or only around 20% (197) – and that is more than Uhlenbeck. Nevertheless, Goddard (1975) has shown that the similarities between the Ritwan languages and Algonquian can only be explained as resulting from a common ancestor, hence a genetic connection. Since then, no one has expressed doubt about the genetic unity of Ritwan and Algonquian. This may have been the last time in the history of the study of North American languages that a proposal of a genetic relationship between languages was accepted by the specialists –
even after so many decades after it was first proposed.

Many larger genetic groupings have been proposed for the ca. 60 documented language families and isolates in North America. The most famous is probably the one by Joseph Greenberg (1987), which was received quite critically by Amerindianists. Lyle Campbell (1997) devotes a chapter to proposals for distant genetic relationships, dismissing a number of proposals for genetic connections between Amerindian languages and languages from other parts of the world as “far-fetched” (1997:261-262). Moreover, none of the North American proposals is accepted by him. He uses the criteria of probability, i.e. how convincing the data are, and the confidence with which he states this. He discusses Macro-Siouan (Siouan-Iroquoian-Caddoan, perhaps also Yuchi: 20% probability and 75% confidence), Aztec-Tanoan (0% probability, 50% confidence), Eskimo-Aleut with Chukotkan (25% probability, 20% confidence), Na-Dene (0% probability, 25% confidence), Tlingit-Eyak-Athabaskan (75% probability, 40% confidence), Mosan (60% probability, 65% confidence), and others (Campbell 1997: chapter 8). None of these deeper genetic connections are deemed certain. Campbell concludes with his remark that he is “impressed both by the sheer amount of success (...) and by the amount of research still necessary” (329). Similarly, Mithun (1999:301-310) discusses some hypotheses of more remote relationships. She too takes the proposals seriously, but none of them has met with general acceptance.

Amerindianists stick vehemently to the strict principles of proof involved in establishing genetic connections: similarities in grammatical and lexical elements, and regular phonological correspondences. The genetic link between Ritwan and Algonquian was the last one to be universally accepted by specialists – all be it many decades after it was first proposed.

Uhlenbeck had attributed the similarities between Ritwan and Algonquian to ancient borrowing, but it was a genetic connection. Uhlenbeck had kept the possibility of a genetic connection open, when he had written earlier: “There will remain enough to prove that Wiyot and Yurok, if not actually members of the Algonquian stock, at least are distantly related to it” (1915:272). Sapir was right with regard to the genetic connection, but Uhlenbeck was right in not accepting Sapir’s insufficient evidence. The availability of more material and better models of language change have provided the proof of genetic relationship that was unattainable to either of them.

REFERENCES


Uhlenbeck, C.C. 1911b. *Original Blackfoot texts, from the Southern Peigans Blackfoot Reservation, Teton County, Montana; with the help of Joseph Tatsey.* Amsterdam: Johannes Müller.


Uhlenbeck, C.C. 1912d. *A new series of Blackfoot texts, from the Southern Peigans Blackfoot Reservation, Teton County, Montana; with the help of Joseph Tatsey.* Amsterdam: Johannes Müller.


Uhlenbeck, C.C. 1927a. Rev. of P.W. Schmidt, *Die Sprachfamilien und Sprachenkreise der Erde* (Heidelberg: Carl
NOTES

1 I am grateful to Jan Paul Hinrichs of the University Library Leiden for his assistance in obtaining a number of papers that were otherwise difficult to get, to Juliette Blevins for discussion of Ritwan, to Iris Bakker for the artwork, and to Inge Genee and anonymous referees for comments on an earlier version of this paper.

2 ‘A bold attempt to include these two languages [Wiyot and Yurok], hitherto considered to be isolates, in the broad context of the Algonquian language family. I called it a bold attempt. In fact, however, it was not much bolder to wish to subsume Wiyot and Yurok under any language family whatsoever, than to claim their independence from each other and from other language families with confidence, as the data known at that time were certainly too poor to enable one to build up a useful working hypothesis’ (Uhlenbeck 1927b:153).

3 ‘Sapir’s attempt made a very favorable impression on me in the beginning, despite some obvious shortcomings. But when I now reread my assessment of Sapir’s study [Uhlenbeck 1915], I must admit that more reservations from my part would have been appropriate’ (Uhlenbeck 1927b:153).

4 ‘La méthode s’oppose d’une façon frappante à celle de la linguistique classique, pour laquelle tout au contraire les correspondences régulières des phonèmes dans les formants seraient probants pour soutenir une parenté génétique’ (Hjelmslev 1941:68).