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## AN OFO PHONETIC LAW

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1. Importance of Ofo to comparative Siouan
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1. In an earlier article in the *International Journal of American Linguistics* I have endeavored to prove that certain consonant groups—chiefly those in which the last component was a stop sound—were at one time contracted into a single stop consonant in languages of the Dhegiha branch of the Siouan family. I succeeded in collecting a sufficient number of examples to show that the consonant arising in this way corresponded to the series which Dorsey terms *SONANT-SURD*. In the course of my demonstration an attempt was made as well to account for this evolution in Dhegiha by the application of phonetic principles, and I finally thought my views were corroborated by establishing intermediate forms surviving in Hidatsa.

By the time my paper was about to be sent to America, I had just started to peruse the material which Swanton collected in 1908 from the last survivor of the Ofo tribe, published in form of an Ofo-English Dictionary, in BAE-B47 (1912), pp. 319 sqq. This was a fortunate coincidence, for without my attention directed toward the problem of the Ponca sonant-surds, I should no doubt never have suspected that this fragmentary list of words and phrases would contain anything of value for the comparative study of the Siouan languages. It was therefore with no little surprise that I

first recognized principles of Ofo phonetics, perfectly analogous to those already laid down for the northern Siouan languages, and finally also “missing links” in the chain of demonstration thus far established.

As appears from Swanton’s historical résumé (p. 12), Ofo is now an extinct language. Once spoken along the lower course of the Yazoo river and on the Mississippi, it was most closely related to the language of the neighboring Biloxi tribe, equally on the verge of extinction. Swanton<sup>1</sup> thinks both are more closely related to the eastern than to the northern Siouan dialects, and if by “eastern” we understand such a language as the now extinct Tutelo, I think the statement is fairly reasonable; in any case, as far as those particulars go which are to be treated in the present paper, the latter language often shows striking Ofo analogies (cf. for instance Tutelo *ita’ñi*, *itá’ñ*, Ofo *itho’*, *itho’ñ great*). As to Catawba—another eastern language near extinction—in so far as it is to be reckoned among the Siouan languages at all, I fail to see any Ofo analogies whatsoever.

In the article referred to, while dealing with initial consonant clusters, I expressed my opinion that an original \*qt- appears as iht- in Hidatsa, thus making possible the identification of Hidatsa *ihti’a great, large* with certain common forms in the other Siouan languages (Mandan *xta, xte*, Dakota *t’a’ka*, etc.). The question arises whether or not all initial clusters obtain a prosthetic i- in Hidatsa, as one would expect. True

<sup>1</sup> Op. cit., p. 12. Evidence that Biloxi, Ofo, and Tutelo form a branch of Siouan is presented by C. F. Voegelin, *Internal Relationships of Siouan Languages*, AA 43. 246-9 (1941).

enough, the initial clusters in this language, judging from the material contained in Matthew's Dictionary,<sup>2</sup> are very rare, but on account of the ambiguity of initial *i-* (it is in many cases a petrified possessive prefix *his, hers*) I find myself at a loss when looking for definite analogies. In certain cases, moreover, (e.g., Hidatsa *to'hi blue*, cf. Ponca *tu*) the supposed initial cluster is quite differently represented in Hidatsa.

The importance of Ofo for our knowledge of primitive Siouan lies in the fact that this language reiterates the principle formulated for Hidatsa, as we see from the form *itho'ñ*, *itho'ñ big, large*. It differs, however, on two points from the Hidatsa form (at least according to the description given by Swanton; see above), namely (1) by showing no direct trace of the lost implosive (appearing as *-h-* in Hidatsa), and (2) by retention of the aspiration of the second consonant in the cluster, as in Dakota (cf. *itho'ñ* and Teton *t'a'ka*). In this way we lose in exactness on one point what we gain on another.<sup>3</sup>

As soon as the identification of Ofo *itho'ñ*, Hidatsa *ihiti'a*, Dakota *t'a'ka* (where the former bridges the gap between the latter two) is rendered irrefutable, we may look for the solution of other cases of initial Dhegiha sonant-surds by an examination of Swanton's short vocabulary. There appears to be in Ofo a great number of words beginning with a vowel, where the other Siouan languages lack it, and to make the study of these cases as complete as possible I shall give the entire list of them. Since *i-* appears in Hidatsa *ihiti'a* as well as in Ofo *itho'ñ*, I consider it most appropriate to begin with cases of this vowel.

<sup>2</sup> U. S. Geological survey of the territories, VII. 1877.

<sup>3</sup> The aspiration is sometimes very marked in Ofo, as appears from the writing *itxa'ñ*, *i'txo'ñ* for *itho'ñ big*. Strangely, even the glottalized form (*t'*, etc.) appears to get aspiration in Ofo, as in the, *txe die* (= Dakota *t'e*), *akhu give* (= Dakota *ku*).

2. The Ofo word has an initial *i-*, where incontestable correlatives in Dhegiha and Dakota begin with a consonant, in the following cases (the spelling of the forms is simplified as far as to leave phonological values unimpaired):

Ofo *ifthe'pi'*, *ifthi'pi black*: cf. Biloxi *supi'*, Osage *ça'be*, Ponca *sa'be*, Dakota *sa'pa* (notice that Ofo *f* corresponds to Siouan *s, z*, as in *afha'ñ white* (= Dakota *sa*), *amo'ñ iron* (= Dakota *ma'za*).<sup>4</sup>

Ofo *iftapta'ñ ten*: cf. Osage *ça'to'ñ five*, Ponca *sa'ta'ñ five*, Dakota *za'pta'ñ five* (for *-ft-*, cf. the preceding word and further below).

Ofo *itca'ki hand, fingers*: cf. Biloxi *teak hand*, Osage *sha'ge hands, paws, claws*, Hidatsa *ša'ki human hand*, Dakota *šake' nails, claws, hoofs*. In this case there is some doubt as to the *i-*, which may be the possessive prefix (cf. Hidatsa *iša'ki his, her hand*).

Ofo *itca'nti the heart*: cf. Biloxi *yandi, yanti, id.*, Dakota *č'ate', id.* The same remark holds for this word as for the preceding one.

Ofo *itce'pi door*: cf. Biloxi *aye'pi, aye'wi door*, Osage *šsi' zhebe (house) door*, Ponca *ri-je'be, id.*

Ofo *itchi' fat, oil, grease*: cf. Biloxi *tei'ñ grease*, Dakota *wašif' fat*.

Ofo *itcho'hi green, unripe*: cf. Biloxi *tohi', to'hü blue, green*, Ponca *tu, id.*, Dakota *t'o, id.* The Ofo form is not quite identical with those in the other languages, but may be said to bear the same relation to the latter as Dakota *ša'pa dirty, defiled, blackened* to Dakota *sa'pa black* (cf. Boas, *Some traits of the Dakota language, in Language*, vol. 13). Cf. Ofo *itho'hi*, below.

Ofo *ichoti neck, throat*: cf. Biloxi *do'di the throat*, Osage *do'dse throat, gullet*, Dakota *dote' throat* (here *i-* is probably the possessive prefix).

Ofo *itco'ñ, itca'ñ, i'tco'ñ tree, wood*: cf.

<sup>4</sup> In the same cases Osage has *ç*, (approximately) the first sound in English *thin*.

Biloxi aya<sup>n'</sup> *tree, wood*, Osage zho<sup>n'</sup>, *id.*, Ponca ja<sup>n</sup>, *id.*, Dakota é'a, *id.*

Ofo ithe'fi, the'fi *belly*: cf. Osage tse'çe, Dakota tezi' *belly* (here i- is probably the possessive prefix).

Ofo itho'hi, ito'hi *blue*: cf. Ponca tu, Dakota t'ò, *id.*

Ofo itho<sup>n'</sup>, itho'ñ *big* (see above): also cf. Ofo itho<sup>n'</sup> *grow*.

Ofo ito' (ito'ki) *man, male*: cf. Biloxi inoke' *male animal*, Osage doga', Ponca nu, Dakota mdo, mdoka' *man, male* (< \*mlo).

Ofo itxa' ahe' *deer horn*: cf. Biloxi ta, ita' *deer*, Osage ta, *id.*, Ponca ta, *id.*, Dakota t'a, *id.*

Ofo i<sup>n'</sup>tco, i<sup>n'</sup>tco' *body, flesh, corpse*: cf. Biloxi yo (1) *body, etc.*, (2) *fruit of any plant*, Osage zhu *flesh, body*, Ponca ju, *id.*, Dakota éo (Riggs) *kernel, meat of grain*.

Ofo ifhi' *foot* (this form was recorded once by Swanton along with teifhi'): cf. Biloxi si, Osage çi, Ponca si, Dakota siha' *foot*.

Ofo i'fhu *seed*: cf. Biloxi su, *id.*, Osage waṭo<sup>n'</sup> -çu *squash or pumpkin seed*, Dakota su *seed*.

3. We shall now enumerate some words beginning with any of the other vowels:

Ofo a'pha *head*, cf. Biloxi pa, Osage pa,<sup>5</sup> Ponca pa, Dakota p'a *head*.

Ofo athi' *house(s)*: cf. Biloxi ti, Osage tsi *house*, Ponca ri, Dakota t'i, *id.* (also = *live, dwell*).

Ofo aphe'ti, aphi'ti *fire*: cf. Biloxi pe'ti *fire*, Osage pe'dse, Ponca re'de, Dakota pe'ta, *id.*

Ofo a'ni, ani' *water*: cf. Biloxi ani', ni *water*, Osage, Ponca ni, Dakota (Teton) m.ni (māni), (Santee) mi'ni, *id.*

Ofo atchu'ti *red*: cf. Osage zhu'dse, Ponca ji'de, Dakota du'ta *red* (this word shows

<sup>5</sup> k, p, t, etc., are sonant-surds, corresponding to Ponca k, p, t; historically they take the place of original aspirated tenues as well.

the consonant alternation \*l-: \*é-: cf. Ofo itcho'ti, above).

Ofo akhi'si (aki'si) *turtle*: cf. Ponca ke, Dakota ke (Riggs), Mandan pke.

Ofo ako<sup>n'</sup>si *bee*: cf. Biloxi ka<sup>n'</sup>xi', *id.* (Ofo s corresponds to x in the other languages, as in nashu'si = Biloxi nixuxwi', Ofo nashe' *listen*, where sh = s + h: cf. Dakota nah'q' *hear*, no'ge *ear*).

Ofo amo<sup>n'</sup>fi, amo'fi *iron, pot, etc.*: cf. Biloxi ma'sa *iron, metal*, Osage mo<sup>n'</sup>çe, *id.*, Ponca ma<sup>n'</sup>ze, *id.*, Dakota ma'za, *id.*

Ofo amo<sup>n'</sup>ki *breast*: cf. Biloxi mak, Osage mo<sup>n'</sup>ge *chest, breast*, Dakota maku' *breast* (cf. below).

Ofo atchu'ñki *dog*: cf. Biloxi tcu'ñki, tcuñki' *dog*, Osage sho<sup>n'</sup>ge *dog, wolf*, Ponca cañ'ge *horse*, Dakota šu'ka *dog, horse, etc.*

Ofo ako<sup>n'</sup>ti *peach*: cf. Osage ko<sup>n'</sup>dse *plums*, Ponca kan'de, Dakota ka'ta, *id.*

Ofo atafte' (-fthe') *burn* (and others in ata-): cf. Osage da-, Ponca na- (this prefix is lacking in Dakota). The relation Osage d-, Ponca n- recurs in Osage doga', Ponca nu *male*, Osage dse (< \*de), Ponca ne-u'θica<sup>n</sup> *lake*,<sup>6</sup> where Dakota has (Santee) md-, (Teton) b.l-, originally perhaps \*ml-. Here—as in some other cases—it is to be noticed that Hidatsa, too, has an initial a- (ara-, Matthews ada-, prefix denoting *action by fire*).

Ofo ato' *potato*: Biloxi ato', ado' *potato*, Osage do, Ponca nu, Dakota mdo (cf. under atafte').

Ofo ato'k(i) *summer*: cf. Osage doge', Dakota mdoke'tu, *id.*

Ofo a'tho<sup>n'</sup>hi *to run*: cf. Biloxi ta<sup>n'</sup>hi<sup>n'</sup> (i'ta<sup>n'</sup>hi<sup>n'</sup>), *id.*, Osage to<sup>n'</sup>thi<sup>n'</sup> *run*, Ponca ta<sup>n'</sup>θi<sup>n'</sup> *running*, Dakota ptā'ya *flurried*.

Ofo ahe', ahi' *horn*: cf. Biloxi ahi', ahe', he *skin, nails, horn, hoofs, bark, etc.*, Osage he *horn*, Dakota he *horn(s)*.

Ofo a'ho *bone*: cf. Biloxi aho', ahu', haho' *bone*, Osage wahi<sup>n'</sup>u' *a bone*, wahi'

<sup>6</sup> The last part of the word = Osage uthi'sho<sup>n</sup> *marching around in a circle* (suggesting a round body of water).

*bones* (probably vowel change in the plural: cf. Chiapanec *noca stone*, *nica stones*), Ponca *wahi'ge the bones*, Dakota *hu bone*, *bones* (*mihu, nihu my, thy bones*), *hi tooth*, *teeth* (*mahi my teeth*), showing the same vowel change (the original function of the front vowel is presumably diminutive).

Ofo *upo'fi night*: cf. Biloxi *psi, pus, pusi' night, dark*, Ponca *pa'ze evening*, Dakota *kpa'za, tpa'za dark(ness)*.

4. Regarding the initial vowel in Ofo we may safely say that it is a mutable or at least movable element.<sup>7</sup> We may compare the following forms in Ofo: *itho'ñ big*, beside *itca'ki tañ thumb (big finger)*, *no<sup>n</sup>-pi txo<sup>n</sup> Christmas (big day)*, *a'ni tha<sup>n</sup> the ocean (big water)*, *i<sup>n</sup>tufi txo<sup>n</sup> large room*; *atchu'ti red*, beside *a'ni tchu'ti, abo'ki tchu'ti Red river, pa-tchu'ti red-headed*; *upo'fi night*, but *o<sup>n</sup>'taske phu'fi morning star*; *ate'kna I go*, beside *bokxi' tekna I am going abroad*; in these examples the initial vowel is missing after another vowel. Besides we find many other word pairs, such as *amo'ñki: mo'ñki breast*, *i'dokfahi: do'kfahi old man*, *a'pha head: pa-tchu'ti red-headed*, etc. (along with others mentioned already before), where the alternation originally may have been motivated in the same way as in the first case.

In Biloxi, too, we find the same circumstance (I have usually given the Biloxi forms without the initial vowel, following the practice in Dorsey and Swanton's vocabulary).<sup>8</sup> In other respects the adventitious vowel shows a certain stability. I have

<sup>7</sup> These vowels are often represented as short, e.g., *akhu give* (a = English short u), *ato' potato*, *itho' big*, etc., but this probably has nothing to do with their origin. If *athi' house* differs from *athi' father* (with original \*a-) in Swanton's notation, this fact still does not prove that an anorganic initial vowel is of shorter duration, for in the same notation we find *ithe'fi belly*, in which i- most certainly is a possessive prefix (in primitive Siouan \*i-).

<sup>8</sup> BAE-B 47.

found no example of an alternation between different vowels in the same words, and the fixed quality of the vowel often remains even when we pass from one language to another. Thus we find i- (apart, of course, from the cases where this vowel is a clear possessive prefix) in Ofo *ito'* as well as in Biloxi *indoke' man, male*, in Ofo *itxa*, Biloxi *ita deer*, and a- in Ofo *athi*, Biloxi *a'ti, ti house*, Ofo *ani*, Biloxi *ani'*, *ni water*, Ofo *amo<sup>n</sup>fi*, Biloxi *amasi', masi', ma'sa iron*, Ofo *ato'*, Biloxi *ato'*, *ado' potato*, Ofo *afha<sup>n</sup>*, Biloxi *asa<sup>n</sup>*, *sa<sup>n</sup> white*, Ofo *atchuti*, Biloxi *atcūtka, tcūt, teti red*, where even Tutelo has *asūñi, asañi, asai, asei* and *atsūti, atçūti, atçūt*, respectively: in the latter language we find *ita'ñi, itāñ great* (= Ofo *itho<sup>n</sup>*),<sup>9</sup> but *atī house* (= Ofo *athi'*, Biloxi *a'ti, ti*).<sup>10</sup> As example of a divergent representation we may quote Biloxi *aya<sup>n</sup> tree* (= Ofo *itco<sup>n</sup>*), Biloxi *ayepi door* (= Ofo *itcepi*), Biloxi *atci<sup>n</sup>ni (tci<sup>n</sup>ni) fat* (= Ofo *itchi*), and Tutelo *asépi, asùp black* (= Ofo *ifhipi*), *otō green* (= Ofo *ithobi*).

We started the discussion of initial vowels in Ofo by quoting the analogy of Hidatsa *ihti'a* and Ofo *itho<sup>n</sup> great*. Yet the former word appears to be the only one of this type out of the few Hidatsa words that I am able to identify with corresponding Ofo forms (on the whole it appears that Hidatsa is far more distantly related to Ofo than are even Dakota and Dhegiha, while Ofo, Biloxi, and Tutelo apparently constitute a linguistic group of their own). The question now arises whether it is possible to explain the adventitious initial vowels in Ofo and other southern and eastern Siouan languages as supporting vowels before original consonant clusters, as evidenced by Dakota forms or indirectly by the oc-

<sup>9</sup> In Tutelo also this word loses its initial vowel after another vowel, as in *ye-tañi, ye-tañ*, etc., *ocean*.

<sup>10</sup> Notice that a- occurs in this word in Hidatsa also (*ati'*), which latter form has no pre-aspirated t and probably represents an original \*a-t'i.

currence of sonant-surds in Ponca, or in general by initial stress in the living Siouan dialects.

5. That most consonant clusters, whether initial or middle, are simplified in Ofo is beyond doubt: cf. Ofo ta'fe *bite*, Dakota yaksa', *id.* (Siouan y- > Ofo d, t, Siouan s, z > Ofo fh, f), Ofo tu'fafha *tear*, Dakota yuksa'ksa *break off* (the original Ofo form of which must have been \*yusasa: cf. Osage thiçe' *cut with scissors*). The few cases of remaining consonant clusters in Ofo (e.g., ktxe, kte *kill*: cf. Dakota kte, *id.*) are probably of secondary origin, depending on a later syncope: cf. Biloxi ksa<sup>n</sup>, Ofo kifa<sup>n</sup> *five*, Biloxi kte, kite' *hit*, which latter either equals Dakota kat'a' (Riggs; kaça') *kill by striking* or kikte' *kill one's own*; that the Ofo form does not represent original \*kte further becomes likely on account of the aspirated t, which, as we have said (note 3), may render an original glottalized \*t', as in Dakota kat'a'. In Biloxi many other cases of the same type might be quoted, such as teti *red* (= Ofo atchu'ti), psi *night* (also pusi' = Ofo upo'fi), etc. Exception has of course to be made for such clusters as remain in all Siouan languages, e.g., sk, st, etc., as in Ofo cpa<sup>n</sup> *rotten* (= Dakota špa *cooked, burnt, or frozen*).

6. That the initial vowel, which characterizes Ofo, Biloxi, and Tutelo, at least in many cases is an anorganic prosthetic element of secondary origin appears from two considerations: (1) that it is difficult to explain the loss of this vowel in Dakota and Dhegiha if it were ancient in Siouan, and (2) that it is often missing in Ofo, Biloxi, and Tutelo, especially when a vowel precedes in close context. The problem would be solved without difficulty if we did not have to consider the different representation of the supporting vowel.

The reason for the differentiation between prosthetic i- and a- (of u- we have but

a single instance, with which we shall deal later on) is not immediately perceived. Evidently it cannot be accounted for by the nature of the following consonant, neither by the root vowel. It thus remains to seek the different representation in the nature of the lost implosive, which latter is unfortunately in most cases an unknown quantity. In the few cases where it may be ascertained from comparison either with Dakota forms or with unsynopated Hidatsa forms we find, however, that an original labial consonant often enough corresponds to a prosthetic a- in Ofo, of which the following examples give evidence:

Ofo ani' *water*: cf. Dakota (Teton) m.ni, Hidatsa wi'ri (mi'di), Ponca and Osage ni (< \*mni).

Ofo akhisi *turtle*, if related to Dakota ke, Mandan pke, Ponca ke, Osage ke from \*pke or \*mke).

Ofo atho<sup>n</sup>hi *run*: cf. Dakota pta'ya *flurried* (from \*ptan-).

Ofo ato' *potato*: cf. Dakota mdo, Ponca nu, Osage do (from \*mlo).

Ofo atchuñki *dog*: cf. Hidatsa mašu'ka (Matthews), Dakota šu'ka, Ponca cañ'ge, Osage sho<sup>n</sup>ge (from \*mšonk-).

Ofo ako<sup>n</sup>ti *peach*: cf. Hidatsa makata *plums* (Matthews), Dakota ka'ta, Ponca kan'de, Osage ço<sup>n</sup>dse, *id.* (from \*mkant-); Biloxi tka'na, tokona' is hardly connected.

In the last two examples the relation between the Hidatsa and Dakota forms is as between Hidatsa mata', Dakota pta'ye'tu, Mandan pta *autumn* (cf. also Osage to<sup>n</sup> *fall of the year*).

We may add the verbal prefix ata- (expressing *action by heat*). Here the Ponca and Ofo representations (na- and da-, respectively) let us suppose the same initial cluster as in ato' *potato* (probably \*ml-).

The only word which breaks with the above system is Ofo ito' (ito'ki) *man, male* (Biloxi indoke', *id.*), to which correspond Dakota mdoka', Ponca nu, Osage doga' (hence probably originally \*mlo-). But as

to this word we may question whether *i-* may not be a possessive prefix: cf. Biloxi *nsa intoki'* *buffalo bull* (lit. *buffalo, her male?*). In any case it is not improbable that such a form was at one time generalized as a convenient means of distinguishing between the words *male* and *potato* (in Ofo *ito'* and *ato'*, respectively). It might therefore rather be said that Ofo *ito'* represents original Siouan *\*i-mlo*, not *\*mlo*.

The theory that a labial implosive evolves a prosthetic *a-*, not an *i-* (as do presumably the other lost consonants), finds its support—as it seems—in the verbal inflection in Ofo. In this language we find a class of verbs which probably form the first person singular by a single *\*m-* (cf. Dakota *mda*, *mde*, Ponca *bθa*, *bθe*, Osage *bthe* *I go*: from original *\*m-ya-*). In the 2d person Ponca and Osage have a form in *\*ś-* (Ponca *cna*, *cne*, Osage *stse* *you go*: cf. Ponca *e'gi-m-a<sup>n</sup>* *I do*, *e'gi-j-a<sup>n</sup>* *you do*), the origin of which is not clear. This paradigm recurs in Ofo, where *te*, *ti* (< *\*ya-*) *go* has the following forms in the 1st and 2d persons singular: *a-te'kna* *I go*, *c-te'kna* *you go* (here, as mostly elsewhere, *c* represents the English *sh*). In Biloxi the form is *n-de'* (*kne*) in the 1st person.

According to the same paradigm the (Ofo) verbs *-to<sup>n</sup>hi* *see* and *-khu* *give* are conjugated: *a-to<sup>n</sup>hi*, *c-to<sup>n</sup>hi* (cf. Biloxi *n-do<sup>n</sup>hi* *I see*: Dakota *t'ai'* *visible*), *a-khu'hi* *I am giving it to him* (cf. Biloxi *xku* *I gave it to*); we must then assume that *\*m-y-* (like *\*m-l-*) gives *nd-* and *\*m-k-*, *xk-* in Biloxi.

It may perhaps be objected here that *a-* does not necessarily represent a Siouan *\*m*, but, on the contrary, that both in Ponca and Osage *a-* is a common sign of the 1st person singular, corresponding (in meaning and function) to the Dakota *wa-*. Whatever the origin of this *a-*,<sup>11</sup> it does not enter

into the paradigm in which *ś-* functions in the second person. Furthermore, Ofo has an alternative 1st person prefix in *ba-* (e.g., *ba-tu'tcha* *I wash*, *ba-bute* *I shine*, etc.), which evidently formally covers Dakota *wa-*, whence a third form *\*a-* would seem superfluous.

It is worth noticing that Ponca *pi* *I come back* (beside *gi* *he comes back*: from *\*m-ku*, *\*ku*) corresponds to Ofo *a-kiu'kna* *I come* (cf. *kiu'kna* *he comes*), and this evidently is a very old form. In Osage the verb *do<sup>n</sup>be* *see* (= Ponca *da<sup>n</sup>ba-*) is conjugated as follows: *a'to<sup>n</sup>be*, *a'shto<sup>n</sup>be*, *do<sup>n</sup>be*, corresponding to Ponca *ta<sup>n</sup>'be*, *cta<sup>n</sup>'be*, *da<sup>n</sup>'be*, in which we may conclude that the first person at one time contained the complex *\*m-tampa*. It is evident that *a-* is a later increment in Osage, which I think can be explained from the occurrence of the same initial element in verbs originally containing the verbal prefix *a-* (e.g., Osage *a'do<sup>n</sup>be* *escort*, of which the 1st person singular is *a'to<sup>n</sup>be*, from *\*a-m-tampa-*). This *a-* must have been mixed up with the *a-* of the 1st person singular, found in the parallel conjugation (e.g., Ponca *a-na'a<sup>n</sup>* *I hear*, which is *na-wa'-h'q* in Dakota), so that we obtain the contaminated form *a'to<sup>n</sup>be* *I see* in the single verb also, and then also *a'shto<sup>n</sup>be* in the second person. We find similar contaminated forms in Ofo also, e.g., *a'tho<sup>n</sup>hi* *run* (= Osage *to<sup>n</sup>'thi<sup>n</sup>*): *a-* was understood as the verbal prefix *a-*, whence the 2d person was made *a-c-tho<sup>n</sup>hi* *you run* (cf. *c-to<sup>n</sup>hi* *you see*, to *a-to<sup>n</sup>hi* *I see*), and the 1st person became *a-ba-tho<sup>n</sup>hi* *I run*, instead of *\*batho<sup>n</sup>hi* (corresponding to Osage *a-to<sup>n</sup>-bthi<sup>n</sup>* *I run*; also cf. Dakota *é'ate'-ma-ptaya* *my heart runs*, i.e., *I am angry*). The same thing has happened to Ofo *akhu* *give*, which was originally a form used in the 1st

<sup>11</sup> I think it might be explained in the following way: After the verbal prefix *o-* *in, into* (in Dakota *o-*, but in Ponca and Osage *u-*) the *w* of the personal prefix *wa-* *I was* merged into the *u*-sound and

lost. It still occurs in Osage (e.g., *u-wa'-çe* *I start a fire*, from *u-çe'*, *u-wa'-dse* *I seek*, from *u-dse'* = Dakota *o-wa'-de*), but evidently only as a glide between *u* and *a* (as it is absent in every other case). In Ponca the same verbs have *u-a'* in the first person singular.

person singular (\*m-ku, \*m-ku *I give*), alternative to bakhu (= Dakota wa-ku', Osage a-ku *I give*). When, however, a- came to be regarded as the verbal prefix, a new form a-ba'-khu was made (analogous to Dakota a-wa'-towa *I look at*, from a-to'wa *look at*).<sup>12</sup>

It now remains to account for the vowel u- in Ofo u-pofi *night*. Here we know incidentally that the lost consonant must have been either k or t (cf. Dakota kpa'za, tpa'za *dark*), but since the u-shade in the prosthetic vowel could have been effected by neither of these, nor from the following o (as we may ascertain from comparison with other similar words), the idea must be abandoned that u- originated from a supporting vowel in this word, which instead might be identified with Dakota o'kpaza, o'tpaza *darkness, night*, Osage u'paçe *evening*.

7. The following phonetic law may thus be established for Ofo: INITIAL CONSONANT CLUSTERS WERE AT ONE TIME PRONOUNCED WITH A SUPPORTING VOWEL, WHICH WAS A-BEFORE A LABIAL, IN OTHER CASES i-. THE CLUSTER WAS EVENTUALLY SIMPLIFIED, MUCH ON THE SAME LINES AS IN DHEGIHA, ASPIRATION IN THE LAST COMPONENT REMAINING AS IN KANZA. A similar law appears to be valid for Biloxi and Tutelo also.

In consideration of these facts, Hidatsa ihti'a and Dakota t'a'ka *great* are more easily derivable from a common source. By so doing we must grant preference to the form recorded in *Hidatsa Texts*<sup>13</sup> over the one given by Matthews (içti'a, with a palatal fricative). The most primitive stem attainable appears in any case to be \*Xtan-, as far as Dakota and eastern Siouan goes;

<sup>12</sup> Swanton gives aba'khu in the specialized sense of *I give to eat*, but as the verb ku *give* is neither in Dakota nor Dhegiha composed with the prefix a-, I think that this latter sense is not originally distinct from that of *give*.

<sup>13</sup> Prehistory Research Series of the Indiana Historical Society, No. 1.

in assuming relationship with the Hidatsa word, we must further reduce the primitive stem to \*Xta-, or even \*Xt- (where X stands for a certain non-labial stop). To determine the latter with safety, we must await the further results of comparative American Indian linguistics, as it is likely that no living Siouan dialect is phonetically conservative enough to be capable of furnishing the answer.

Some of the Ofo words quoted above afford special points of interest. Thus we find an intrusive -t- in ifthepe *black* and iftapta<sup>n</sup> *ten*. Here it seems possible that Ofo has preserved an original cluster by metathesis of a harsh combination (\*ts?) to one tolerated in Ofo (\*st > ft?).<sup>14</sup> In such a case we shall have to restore primitive bases \*t(ə)s'ap- (\*t(ə)s'əp-) and \*t(ə)sap(ə)t-, respectively. The accent in the Dakota and Dhegiha forms warrants the loss of an initial syllable in either word.

Ofo i-tca'ki *hand*, i-tca'nti *heart*, i-tchoti *neck*, i-the'fi *belly*, i-fhi' *foot*, and perhaps some others (for i-to' *man, male*, cf. above) no doubt contain a possessive prefix *his, her*, etc.; hence we find regular stress in Dakota šake', é'ate', dote', tezi'). The irregular stress in Osage (sha'ge, do'dse, tše'çe) may perhaps be due to the influence exerted by frequent use of the possessive forms (it is often quite impossible in American languages to express such words without a possessive prefix).

In Ofo ophe *come inside* (bo'phe, tco'phe *I, you come inside*)<sup>15</sup> we have, of course, the same prefix as in Dakota o'p'a *enter a camp*, Ponca ti u-pa' *enter a lodge*. The aspiration in the Dakota form is borne out by Ofo. In my previous article I postulated a primitive form \*pqa: perhaps the \*q, which in other positions seems to change to

<sup>14</sup> In itchepe *dirt, dust*, however, the difficulty is avoided by the change of \*š (cf. Dakota ša'pa *dirty*) to tc (= English ch) in Ofo, in which sound the supposed initial \*t- is readily merged.

<sup>15</sup> In Tutelo ope-wa means *go* (o-wa-pe-wa *I go*, etc.).



x in Dakota as well as in Ofo (cf. Ofo *nashe'* *listen*, Dakota *nah'o'*, Osage *no<sup>n</sup>ko<sup>n</sup>'* *hear*, < \*naq-) is responsible for the aspiration of the preceding p.

Among the Ofo words beginning with the prosthetic a- several problems arise. Apha' *head* (as against pa-tchu'ti *red-headed*) may, in analogy with some of the verb forms, be explained as a petrified possessive form, = *my head* (< \*m-p'a; cf. Dakota ma-p'a' *my head*). If this is so, the Dakota and Dhegiha forms (p'a and pa, respectively) are to be understood in the same way (sonant-surds p arising from \*p-p' < \*m-p'). In Ofo *athi' house*, however, the initial a- should no doubt be explained differently, as it occurs in Hidatsa as well (*ati'*); for the Dhegiha form, cf. my previous paper on sonant-surds in Ponca-Omaha (p. 84).

Before original s and ś (= English sh) any labial must be preserved in Dakota (as p-). Hence Ofo *afha<sup>n</sup>' white*, *atchu'ŋiki dog*, *atchu'ti red*, cannot strictly correspond to Dakota *sa*, *su'ka*, Ponca *ji'de*, respectively. In these words we must count with movable prefixes, the precise function of which may presently not be ascertained.

In the stems beginning with m- (*amo<sup>n</sup>'fi iron*, *amo'ŋiki breast*), it is more difficult to assume an original cluster, since the common movable prefix \*m(a)- might be supposed to fuse with the stem-initial m-, as in Dakota *ma'za*, etc. The Hidatsa form *uwa'ca* (c = ts: Matthews gives *u'etsa*), on the other hand, rather seems to correspond to a Dakota form \*o-ma'za, which I do not think is attested. Could it be possible that such a form once existed and that the general forward accent in this word is due to it? But *amo'ŋiki breast*,

*ribs* should doubtless be judged as *apha' head*, i.e., with a petrified 1st person possessive prefix.<sup>16</sup> Since this form, then, may be strictly analogical, *amo<sup>n</sup>'fi* is the only example to support the passing of \*m- into am- in Ofo. The accent in Dakota (*maku'*, as against Osage *mo<sup>n</sup>'ge*: cf. the forms with possessive i-) renders it highly probable that we have here a form with a possessive prefix.<sup>17</sup> In the same way Ofo, Biloxi *ahé' horn*, *aho' bone* may be explained (cf. Dakota *mihu' my bone, leg*): that \*m- turns into an implosive consonant before h becomes likely when we consider Dakota *e'pa* (Teton *e'p'a*) *I say*, from \*e-m-ha (cf. Hidatsa *ha-*, *he- say*), the difference being that the implosive is altogether suppressed in the former languages.

To sum up, we shall point to the following general characterization of the forms quoted in the preceding paragraphs: regardless of the manner in which the primitive Siouan form is to be restored in every particular case, the fact still remains that the occurrence of a prosthetic vowel in Ofo, Biloxi, and Tutelo is almost without exception concomitant with the appearance of initial sonant-surds in Ponca, as well as with initial word stress in the Siouan languages at large.

<sup>16</sup> It should be noticed that most people usually give the names of bodily parts by prefixing *my* (or sometimes *your*), at the same time pointing at the part in question.

<sup>17</sup> Dealing with these words merely from a Siouan point of view, I have been forced to assume that \*m- is a form of the 1st person possessive prefix. Looking at the problem more generally, I feel inclined to think that this movable \*m(a)- in Siouan is in reality a correlative to the Algonquian (Blackfoot) m(o)-, in for instance *motoká'ni head*, *m-oke'kin breast*, etc., where it expresses an indefinite owner.