



# MORPHOLOGY

Critical Concepts in Linguistics

*Edited by*  
*Francis Katamba*

Morphology: its Relation to Phonology



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## MENOMINI MORPHOPHONEMICS

*Leonard Bloomfield*

Source: *Travaux du cercle linguistique de Prague* 8 (1939): 105-115.

1. The Menomini language is spoken by some 1700 people in Wisconsin; most, but not all, speak English as a first or second language; some, especially among the pagans, have ~~also a speaking knowledge of Ojibwa or Potawatomi~~. Menomini texts will be found in Publications of the American Ethnological Society, volume 12 (New York 1928). Menomini belongs to the widespread Algonquian family of languages; see Michelson in the 28th Annual Report of the American Bureau of Ethnology (Washington 1912).

2. Analysis of Menomini speech-forms by formal-semantic resemblances yields a fairly clean division of forms into phrases, compound words, and simple words. The words in a phrase and the members in a compound word differ but little in different combinations; such variations as occur, constitute the *external* or *syntactic* sandhi of the language and will not be discussed in this paper. Simple words and the members of compounds, in turn, resolve themselves, under analysis, into morphologic elements which vary greatly in different combinations; the present paper describes these variations, the *internal sandhi* or *morphophonemics* of the language.

3. It is necessary to distinguish these morphophonemic alternations from certain others, which we may call *morpholexical* variations. In Menomini, as in other Algonquian languages, different words often contain morphological elements of otherwise identical meaning but differing somewhat in form. Thus, the word *tahkikamiw* *it is cold water* contains a suffix *-kamy* *-water, liquid*, but this form of the suffix occurs only in a few words; the freely usable form of the suffix is *-ākamy-*, which may, of course, be described as consisting of *-kamy-* and a presuffixal element *-ā-*: *menwākamiw* *it is good liquid*, *apisākamiw* *it is black liquid*, *mas-kāwākamiw* *it is strong liquid*, and so on. These morpholexical variations are quite distinct from internal sandhi; we shall deal with them only to the extent that they appear in the necessary preliminary survey of morphology, §§ 6 to 9.



4. The process of description leads us to set up each morphological element in a theoretical *basic* form, and then to state the deviations from this basic form which appear when the element is combined with other elements. If one starts with the basic forms and applies our statements (§§ 10 and following) in the order in which we give them, one will arrive finally at the forms of words as they are actually spoken. Our basic forms are not ancient forms, say of the Proto-Algonquian parent language, and our statements of internal sandhi are not historical but descriptive, and appear in a purely *descriptive order*. However, our basic forms do bear some resemblance to those which would be set up for a description of Proto-Algonquian, some of our statements of alternation (namely, those in §§ 10 to 18) resemble those which would appear in a description of Proto-Algonquian, and the rest (§§ 19 and following), as to content and order, approximate the historical development from Proto-Algonquian to present-day Menomini.

In our theoretical forms we shall separate morphologic constituents by hyphens. The symbol ~ means "is replaced in alternation by". The colon (:) means "appearing in the actual Menomini word"; the word cited after the colon will generally involve alternations which have not yet been stated at the time of citation, but a reader who has gone through all of our statements will be able, returning to the citation, to account for all of these features.

5. The morphophonemes in our basic forms are:

Syllabics (short and long vowels)

	front	back
higher	e ē	o u ō
lower	ə ε ē	a ā

Non-Syllabics

semivowels	y w
consonants	p t k ʧ s h ʔ m n N

In actual speech, ə is replaced by e, § 36, and N by n, § 13. On the other hand, the alternations result in two additional phonemes i and ī §§ 20, 35 and a semi-phoneme ū, § 35. The morpho-phoneme u seems to occur in only one suffix, -uw- forming transitive verbs, as pītuwew *he brings it to him*; in the actual language, u arises also by the alternation of § 35. Hence the actual Menomini phonemes are

Syllabics (short and long vowels)

	front	back
high	i ī	u (ū)
mid	e ē	o ō
low	ε ē	a ā

Non-Syllabics

semivowels	y w
consonants	p t k ʧ s h ʔ m n

The *clusters* in our basic forms are

č	before	p, k
s	before	p, t, k
ʔ	before	p, t, k, č, s, n
h	before	p, t, k, č, s, n
n	before	p, t, k, č, s

In the actual language, the basic clusters of *n* plus consonant are replaced by those with *h* plus consonant, § 23. In the basic forms, any consonant or cluster may be followed by one or two semivowels; in the actual language such combinations are greatly restricted by § 16 and § 20.<sup>1</sup>)

6. The morphologic features of Algonquian appear in three layers: inflection, secondary derivation, and primary formation. All three consist chiefly in the use of suffixes. Processes other than suffixation demand some preliminary comment (§§ 7 to 9).

7. In inflection, suffixes are added to stems of nouns, verbs, and a few particles. Four prefixes are used in inflection: *kē-* *thou*, *Nē-* *I*, *wē-* *he*, and, occurring only in some dependent nouns (§ 9), *mē-* *indefinite personal possessor*: *kenēh* *thy hand or arm*, *kenēh-kenawan* *our (inclusive) hands*, *kenēhkwawan* *your hands*, *nenēh* *my hand*, *menēhkenawan* *our (exclusive) hands*, *onēh* *his hand* (§ 17), *onēhkwawan* *their hands*, *menēh* *someone's hand*, *a hand*. Before a vowel, the prefixes (in their basic form, hence by morpholexical variation, § 3), add *t*: *ōs* *canoe*, *ketōs* *thy canoe*, *otōnowaw* *their canoe*, and so on.

There are certain irregularities of prefixation, of which we shall mention only one: before dependent noun stems (§ 9) in *ē-* and *ō-*, the prefixes drop their vowel: *kēyaw* *thy body*, *nēyaw* *my body*, *wēyaw* *his body*, *kōhneʔ* *thy father*, *nōhneʔ* *my father*, *w-ōhn-* *ōhnan* *his father* (§ 17), cf. *owōhnmaw* *the father*, *a father*.

8. Certain inflectional forms of verbs have *initial change*: the first vowel of the stem is altered as follows:

*a, ε ~ ē*: *aʔtew* *it is in place*, *ēʔtek* *that which is in place*; *kēmew-*: *kēmēwah* *if it rains*, *kēmew-*: *kēmewah* *when it rained*; *wēn-et-*: *onēt* *it is pretty*, *wēn-et-k-*: *wēneh* *that which is pretty*.

*o ~ ō*: *koskōset* *if he wakes up*, *kōskoset* *when he woke up*.

*y-* prefixes *a*: *yāčehtok* *if he renews it*, *ayāčehtok* *when he renewed it*.

Stems beginning with consonant plus *y* or *w* prefix *ay* to the *y* or *w*: *pyāt* *if he comes*, *payyāt* *when he came*; *kwāhnet* *if he jumps*, *kaywāhnet* *when he jumped*.

Otherwise, long vowel prefixes *ay*: *wāpamak* *if I look at him*, *wayāpamak* *when I looked at him*; *āčemit* *if he narrates*, *ayāče-mit* *when he narrated*; *pōneʔtat* *if he ceases*, *payōneʔtat* *when he ceased*.

There are some irregularities, which we shall not here describe.

9. Features of inflection are in some cases retained in secondary derivation. Apart from this, secondary derivation consists in the addition of suffixes to the stems of nouns or verbs, as enēniw *man*, enēniwew *he is a man, manly*.

In primary formation suffixes are added to a root: root mat- *bad*, suffix -aʔnemw- *dog*: matāʔnem *nasty cur*.

Throughout the morphology, zero suffixes must sometimes be set up. It is a striking feature of Algonquian that in certain cases we must set up the root of a word as zero. In a few verb forms the stem is replaced by zero; thus, the stem en- *say so to* is replaced by zero before the inflectional suffix -ək-: enēw *he says so to him*, ekwāh *the other one says so to him*, netēkwah *he says so to me*. A large class of noun stems and certain particles contain no root and occur only with the prefixes of § 7: these are *dependent* nouns and particles, such as -nehk-, -ēyaw-, -ōhn- in § 7, or, say (with two suffixes), -ēt-aʔnemw- in kētaʔnem *thy fellow-cur*, wētaʔnemon *his fellow-cur*. No root begins with a cluster; since every word begins with a root or one of the four prefixes, no Menomini word begins with a cluster. The vowel e is probably nowhere to be set up in the first syllable of a basic form.

Roots, like suffixes, show morpholexical variation. Reduplication is the commonest form of this. Normally, it consists in prefixing the first non-syllabic followed by ā: pakam-: pakāmēw *he strikes him*, pā-pakam-: pāpakāmēw *he beats him*. There are also irregular types of reduplication, as pōhkonam *he breaks it across by hand*, pōʔpōhkonam *he repeatedly breaks it*.

10. When an element ending in non-syllabic precedes an element beginning with a consonant, a *connective* -e- is inserted. Thus, root pōN- *cease* with suffix -m- *by speech* gives pōN-e-m-: pōnemew *he stops talking to him*. Contrast, on the one hand, pōN-ēNem-: pōnēnemew *he stops thinking of him*, and, on the other hand, kēhkā-m-: kēhkāmēw *he berates him*.

11. If an element ending in vowel plus w precedes an element with initial w, the -e- is used: kaw-e-wēp-: kawēwēpenew *he flings him prostrate*; contrast kaw-eN-: kawēnēw *he lays him prostrate*, and sēk-wēp-: sīkwēpenam *he flings it scattering*.

Irregularly, -e- is used between consonant and w in a few combinations, as esp-e-wēp-: espēwēpahew *he tosses him aloft by tool or on horns*.

12. Irregularly, certain combinations do not take connective -e-. Root en-thither, thus with suffix -pahtā- *run*, gives en-pahtā-: ehpahtaw *he runs thither*; cf. en-ēNem-: enēnemew *he thinks so of him*, and wāk-e-pahtā-: wākepāhtaw *he runs a crooked course*. Verb stem kemewan-, with initial change (§ 8) kēmewan-, with inflectional suffix -k- gives kēmewan-k-: kēmewāhken *whenever it rains*, kēmewah *when it rained*; cf. kemēwan *it is raining* and ēʔteken *whenever it is in place*, ēʔtek *when it was in place*.

In such forms, if the first consonant is other than n, it is replaced by h: sēnak-at-k-: sēnakāhken *whenever it is difficult*, sēnakah *when it was*

*difficult*; cf. *sanākat it is difficult*; *atōt-pw-:atūhpwan table*, cf. *atōtapiw he sits on something*, *sakīpwak if I bite him*.

13. Before *e*, *ē*, *y*, final *t ~ č* and *n ~ s*. Thus, *pyēt-e-m- ~ pyēčem-:pīčemew he calls him hither*; cf. *pyēt-ohnē-:pītohnēw he walks hither*. *en-yā- ~ esyā-:esyāt if he goes thither*; cf. *en-ohnē-:enōhnēt if he walks thither or thus*. *-ēn-e- ~ -ēse-:wēs his head*; cf. *wēnowawan their heads*. *ōn-e- ~ ōse-:ōs canoe*; cf. *ōnan canoes*. *peʔ-e- ~ peʔče-:pēʔč by error*; cf. *peʔtenam he touches or handles it by error*.

In a few cases, the mutation is made before the suffix *-əh-* which derives local particles from nouns: *wēseh beside wēneh on his head*.

Certain *n*'s are not subject to this alternation; we designate these in our basic forms by *N*; in actual speech, then, this theoretical *N* is replaced by *n*.

14. Irregularly, in certain forms, *t* is replaced by *s* before *ε* and *ā*. So always before *-əhk-* *by foot or body movement* and *-āp-look*: *pyēt-əhk- ~ pyēsəhk-:pīsehkw it moves hither*; *weht-āp-:ohsāpomew he looks at him from there*, cf. *weht-εN-:ohtēnam he takes it from there*. Other suffixes, less often: *weht-ēyē-:ohsēčīnam he takes it bodily from there*.

15. Successive vowels are in every instance modified.

After long, short other than *o* drops: *asyē-εN-:asyēN-:asīnam he pushes it back, rejects it*, cf. *kāhtenam he stoves it*. *nakā-εN-:nakānam he stops it by hand*, cf. *nakāʔtaw he stops, comes to a standstill*.

*ā-o ~ ō*: *kyāʔtā-ohnē-:kyāʔtōhnēw he walks in a circle*, cf. *kyāʔtā-hsemw-:kyāʔtāhsemow he dances in a circle* and *pōN-e-hsemw-:pōnehsemow he stops dancing*.

*ē-o ~ yā*: *asyē-ohnē-:asyāhnēw he walks backwards*.

*ā-ā ~ ā*: *nakā-āpyē-:nakāpīnaʔsow he brings his horses to a stop*, cf. *mat-āpyē-:matāpīnaʔsow he drives badly*.

Between other long vowels, *y* is inserted. *akwā-ēʔn-:akwāyēʔ-nen it is blown to shore*, cf. *akwā-čemē-:akwāčemew he paddles to shore*; *asyē-ēʔn- ~ asyēyēʔn-:asīyēʔnemew he blows him back*; *weNē-āhk-:onīyāhkwahew he gets him up from bed*, cf. *wēNē-:onēw he gets up*.

16. After consonant, the first of two semivowels is dropped: *ahkehkwyān-:ahkēhkyan hearth*, cf. *ahkēhkoh in the kettle* (§ 20); *aʔseNy-wēk- ~ aʔsenwēk-:aʔsenikat it is hard-woven cloth*, cf. *aʔsenyak stones*, *wāpesk-wēk-:wāpeskīkan white linen*, *wāpeskesew he is white*; *mehkw-wēk- ~ meṇkwōēk-:mehkīkan red flannel*, cf. *mehkwākom red blanket*, *netākom my blanket*. In some basic forms, we write *twy* instead of *ty* merely to bar § 13; thus, we set up *pēnt-ēkon-āhtwy-* to give *pēhčekonāh sacred bundle*, plural *pēhčekonāhtyan*.

17. Initial *w-ō- ~ ō-* with *kēyaw*, *nēyaw*, *wēyaw* compare *kōhneʔ*, *nōhneʔ*, *w-ōhn-:ōhnan* in § 7.

Initial *w-ε- ~ o-* with the preceding compare the normal forms of the prefixes: *ke-*, etc., as *ketān thy daughter*, *netān my daughter*, *we-tāN-:otānan*

his daughter, otānew he has a daughter, but, with initial change, wētānet the parent of a daughter.

Initial w does not occur before o; initial y does not occur before short vowels, either in basic forms or in the actual language.

Initial wyē- ~ ī- is set up for a few forms like wyēw-ēw: īwēw *futuit illam*.

18. When an element in vowel plus w precedes an element with initial ε or ə, the combination is normally retained, as kaw-εN-: nekāwenan *I lay it flat*. Irregularly, however, in certain forms, a replacement is made. This happens always when the w ends a verb stem and the ε or ə begins an inflectional ending, but there are also other cases. The following rules hold for ə as well as for ε.

awe, āwe, owe ~ ō: ket-enaw-ene- ~ ketenōne-: ketēnōn *I resemble thee*, cf. ket-enaw-e-m: ketēnawem *thou resemblest me*; -amow-ene- ~ amōne-: kes-āka?samōn *I give thee tobacco*, cf. kesāka?samowem *thou givest me tobacco*; Net-əhtanaw-em- ~ netəhtanōm-: netēhtanōm *my domestic animal*.

Before k, t, s, however, verb stems in -aw- and -amow- have ā instead of ō: enaw-ək-: enāk *the other one resembles him*; -amow-ək-: nesāka?samāk *he gives me tobacco*; enaw-etw-: enātowak *they resemble each other*; -amow-esw-: nātamaw-: nātamowēw *he helps himself*, cf. nātamowēw *he helps him*.

uwe, wāwe ~ wā: pyēt-uw-ək- ~ pyēt-uwāk-: pīt-uwāk *the other brings it to him*, cf. pīt-uwēw *he brings it to the other*; mamwāw-ək-: mamwāk *the other takes it from him*, cf. mamwāwēw *he takes it from the other*.

ewe, ēwe, ēwe, yāwe ~ yā: wēt-yēw-ək- ~ wēčyāk-: wīčyāk *the other one accompanies him*, cf. wīčyāk *he accompanies the other*; -neNyew-ehkwēw- ~ -nēnyāhkwēw-: maskīhkīwenenyāhkiw *medicine woman*, cf. maskīhkīwen-eniw *medicine man* and pītēhkiwēw *he brings a woman*; omē?nomenēw-ehkwēw-: omē?nomenyāhkiw *Menomini woman*, cf. omē?nomenēw *Menomini*; nēw-ək-: nyāk *the other sees him*, cf. nēwēw *he sees the other*; kyāw-ehkom-: kyāhkomēw *he is jealous of him*, cf. kyāwēw *he is jealous*.

In a few forms, however, ēwe, ēwe is replaced by īyo: wyēw-ək- ~ īw-ək-: īyok *fututa est ab illo*; wyēw-etw- ~ īw-etw-: īyotowak *alter alteram futuunt*.

19. Irregularly, in a few forms, vowel plus w contracts with other vowels, chiefly aw-ā ~ wā: kēsaw-ākamy- ~ kēs-ākamy-: kīs-ākamiw *it is warm liquid*, cf. kēsawan *it is warm*.

20. After consonant, y, w plus vowel other than a, ā are replaced by vowels.

yē ~ ē: kōNy-ēwe-: kōnēwew *it is snowy*, cf. kōNy-: kōn *snow*, plural kōNy-ak: kūnyak *lumps or masses of snow*, and awē-tok-ēwe-: awētokewew *he, it is of spirit nature*, from awētok *spirit*, plural awētokak.

wē ~ ō: Nētyānw-ēwe-: nīčyānōwew *he is childish*, cf. Nētyānw-: nīčyān *child*, plural Nētyānw-ak: nīčyānok (§ 21) *children*.

ye, we ~ i: Ne-menw-e-hsenē- ~ nemenihsenē-: nemēnihsenēm *I am well placed*, cf. menw-āp-ant-: menwāpahtam *he sees it well*.

yē, wē, ~ ī: mən-w-ēNent-:menīnehtam *he likes it*, cf. en-ēNent-:enēnehtam *he thinks so of it*; pyē-w:pīw *he comes*, cf. pyā-t:pyāt *if he comes*, and, for the morpholexical variation of ā and ē, nepēw *he sleeps*, nepāt *if he sleeps*. To stems which we set up with wyē- (§ 17), the prefixes are added with t and the replacement is made: ket-wyēw-āw:ketīwāw *futuis eam*. Similarly, ket-wyēw-enē-:ketīyon (§ 18) *te futuo*. However, wē after consonant is kept in -wēp- *throw* (§ 7) and in a few words such as mahwēw *wolf*, moswēn *shawl*.

yē, yə ~ e: aʔnapy-ēhkē-:aʔnapehkew *he makes nets*, cf. aʔnap *net*, aʔnapyak *nets*, and wēkewamēhkew *he builds houses*, wēkewam *house*, plural wēkewaman; aʔdēNy-əh:aʔseneh *on the stone*, cf. aʔsen *stone*, aʔsenyak *stones*, and wēkewameh *in the house*; aʔsēNy- -ens-ak ~ aʔsenenōak:aʔsenēh-sak *little stones*, cf. wēkewām-ens-an-:wēkewamēhsan (§§ 22, 34) *little houses*.

wē, wə ~ o: ahkēkw-ēhkē-:ahkēhkohkew *he makes kettles*, cf. ahkēkw-:ahkēh *kettle*, ahkēkw-ak:ahkēhkoh (§ 21) *kettles*; ahkēkw-əh:ahkēhkoh *in the kettle*; ahkēkw-ens-ak ~ ahkēhkon-sak:ahkēhkōhsak *little pails*; sak-e-pw-ent- ~ sakepont-:sakēpoh *if he is bitten*, cf. sak-e-pw-ak:sakīpwak *if I bite him*, and suffix -ent- in pakam-ent-:pakāmēh *if he is struck*; sak-e-pw-ək-w- ~ ḍakepokw-:sakēpok *the other bit him*, cf. pakam-ək-w-:pakāmek *the other struck him*. To initial wē- the prefixes are added with t and replacement is made: Net-wetāNe- ~ netotāne-:netōtānem *I have a daughter*, cf. wetāNe-:otānew *he has a daughter*, from we- -tāN-:otānan *his daughter*.

For yō, yo I can cite no cases.

wō ~ ō: there seems to be no example in my notes; as I am not a native speaker, I cannot guarantee words which I form, but I should not hesitate to say ēhk-w-ōnt-:ēhkōhtah *as far as he carried it on his back*, cf. ēhkwahah *as far as he went into the water*, and panōhtam *he dropped it from his back*.

wo ~ o: ēhkw-ohnē-:ēhkohnet *as far as he walked*, cf. ēn- -ohnē-:ēnohnet *the way he walked*.

21. ya, wa, yā, wā are retained: aʔsenyak *stones*, mēʔtekwak *trees*, pyāt *if he comes*, mwāk *loon*. In actual sound, yā, wā after non-syllabic are falling diphthongs [i: a, u:a].

Irregularly, in certain forms, wa after consonant is replaced by o. This occurs when the a begins an inflectional ending in the paradigms of most nouns and verbs: ahkēkw-ak:ahkēhkoh *kettles*; contrast, with wa kept, mēʔtekwak *trees*; mēhk-amw-ak:mēhkāmok *they find it*, cf. mēhk-amw-:mēhkām *he finds it*, and pītawak *they bring it*, beside pītaw *he brings it*. In word-formation less often: wāp-osw-akom-:wāposokom *beside wāposwakom rabbit skin*, but always apēhs-osw-akom-:apēhsosokom *deerskin*, cf. wāpos *rabbit*, apēhs *deer*, with plurals wāposok, apēhsosok.

22. Before n plus consonant, e is replaced by a: pakam-ent ~ pakament-:pakāmek *if he is struck*; en-ent- ~ enent-:enēh (§ 31) *if he is called so*; ke-set-ens-an ~ kesetens-an:kesētēhsan (§ 34) *thy toes*; mēt-enkwām-w- ~ mētenkwām-w-:mītehk-wamow *dormiens se concacat*.

23. Clusters of *n* plus consonant are replaced by *h* plus consonant; examples in § 22.

24. Final vowels are dropped: āsetē-:āset *in return*, cf. āsetē- -hsem-: āsetēhsemew *he lays them to overlap*, āsetē-ehkaw-: āse- tēhkawew *he crosses paths with him*; contrast the treatment of final *t* before -ehk- in § 14; ōse-:ōs canoe, etc., § 13.

25. Final non-syllabics are dropped until only one is left: meʔ- tekw-: meʔtek *tree*, cf. meʔtekwak *trees*; ahkēhk-: ahkēh *kettle* aʔnapy-: aʔnap *net*, cf. aʔnapyak *nets*.

Excepted are the clusters ʔč and ʔs: peʔt-e- ~ peʔčē-: pēʔč *by error*; namēʔs-: namēʔs *fish*.

26. Irregularly, in certain forms, one of two like consonants together with the intervening vowel, is dropped (haplology): sēhk- -ākamy-: sēhkamiw *it is open accessible water*, cf. sēhkehn *it lies beached*; kēhk-e-kātē- ~ kēhkātē-: nekēhkatep *my garter*, cf., without haplology, kēhk-e-kātē-: kēhkēkātēp *garter*.

27. Metathesis and distant dissimilation occur in a very few forms: wēskew-ese- ~ wēskyāse-: wyāske sew *he is good*, cf. wēs- kew-at-w-: wēske-wat *it is good*, and mat-ese-: matēsew *he is bad, ugly*; me-motwy-ens-: menūtiḥ *someone's bag, a bag*, cf. kemūtiḥ *thy bag*, nemūtiḥ *my bag*, omūtiḥ *his bag*.

28. Alternation of short and long vowels is complex but very regular. In this alternation, the long vowel corresponding to *ə* is *ē*: for basic *u* I have no example. Certain words are excepted from this alternation; we shall call them *atonics*.<sup>2</sup>

29. In monosyllables, short vowels are replaced by long: peʔt-e ~ peʔč-: pēʔč *by error*; mw-akw- ~ mok-: mōk *the other eats him*. Contrast atonics: sew *as it were*.

30. A syllable whose vowel is followed by a cluster is *closed*; any other syllable is *open*. After a closed syllable, a long vowel in an open syllable is replaced by a short vowel: kōhn-ēw-: kōhnēw *he swallows him*, cf. mēnēw *he gives it to him*; metēhn-ēw-: metēhnēw *he tracks him*; neʔn-ēw-: neʔnēw *he kills him*; kēhkā-m-: kēhkamēw *he berates him*, cf. kēhkā-nt-: kēhkāhtam *he berates it*. Exceptions, e.g. anohkīw *he works*, maskīhkīweneniw *medicine man*.

31. If the first two vowels of a word are short, the second is replaced by a long. Excepted are *glottal* words, whose first syllable contains a short vowel followed by ʔ. Ne-pemāt-ese-: nepēmātesem *I live*, cf. pemātesew *he lives*; pem-ohnē-: pemōhnēw *he walks along*, cf. pītohnēw *he walks hither*, Ne-pem-ohnē-: nepēmohnem *I walk along*, pēm-ohnē-: pēmōhnet *when he walked by*; kan-ək-: kanēk *the other escaped him*, cf. pakam-ək-: pakāmek *the other struck him*; en-ent- ~ enent-: enēh *if he is called so*, cf. pakam-ent-: pakāmeh *if he is struck*; Net-ahkow-ək- ~ netahkōk-: netāhkok *he comes next after me*, cf. ahkow-ək-: ahkōk *the other comes next after him*,

so also in the compound word *nenaw-ahkōk* *he will come next after me*, for internal sandhi does not carry across the suture of compound words. Further, for instance, *mēhk-amw-:mēh-kām* *he finds it*, *Nē-mēhk-ān-:nem-ēhkan* *I find it*, but, in compound, *nekēs-mēhkān* *I have found it*; contrast *pōn-amw-:pōnam* *he puts it in the pot*, *nepōnān* *I put it in the pot*.

Glottal words are excepted: *nē?nēw* *he kills him*; when a prefix is added, the resulting form is not a glottal word: *Nē-nē?n-:nenē?naw* *I killed him*; *pe?tenam* *he takes it by error*. Atonic, for example, *nekot* *one* (but *nekōtēs* *at one time*); *mesek* *and, also*; *anohkīw* *he works* (but *netānohkim* *I work*).

32. If the even (second, fourth, etc.) syllable after the next preceding long vowel or after the beginning of a glottal word, is open and has a long vowel, this long vowel is replaced by short: *nōhtaw-ēw-:nōhtawew* *he hears him*, cf. *pakam-ēw-:pakāmēw* *he strikes him*, *pāpakam-ēw-:pāpakamēw* *he beats him*; *pā-pēm-e-ke-h-ēw-:pāpemekehew* *he brings him up*; *ačēt-e-kāpowe-h-ēw-:ačēčekapo-wehēw* *he stands him upside down*, cf. *en-e-kāpowe-:esēkāpowew* *he stands so*; *Nē-kehken-ān-:nekēhkenan* *I know it*, cf. *nenaw-kehkēnān* *I shall know it*; *a?sek-e-eN-ēw-:a?sekenew* *he picks them up*, cf. *pe?t-eN-ēw-:pe?tenēw* *he touches him by error*.

33. If the even syllable (as in § 32) in closed and contains a short vowel, this short vowel is replaced by a long: *kēhken-ank-wā?-:kēhkenāhkwa?* *that which they know*, cf. *kēhken-ank-:kēhkenah* *that which he knows*, *kehken-ank-wā?-:kehkīnahkwa?* *if they know it*, *kehken-ank-:kehkēnah* *if he knows it*; *kēmew-an-ken-:kēme-wāhken* *whenever it rains*, cf. *kēmew-an-k-:kēmewah* *when it rained*, *kēmew-an-k-:kemēwah* *if it rains*; *māmat-ēhkā-:māma-sēhkaw* *it goes poorly*, cf. *pōnehkaw* *it stops going*; *ko?t-ank-wā?-:ku?tāhkwa?* *if they fear it*, cf. *ko?tah* *if he fears it*, and, with initial change (not a glottal word, since the first vowel is long), *kō?t-ank-wā?-:kū?tahkwa?* *that which they fear*; *a?sek-eN-ank-wā?-:a?se-kenāhkwa?* *if they pick it up*, cf. *a?sekenah* *if he picks it up*, *pet?e-nahkwa?* *if they take it by accident*.

34. Certain forms retain a long vowel against the above habits. So the suffix *-wēk-* *cloth*, as *wāpeskīkan* *white linen*; the word *onāwanīk* *brown squirrel*. The diminutive suffix *-ens-* (together with its variations, such as *-ons-* § 20) always lengthens its vowel: *kesētēhsan* *thy toes*, *anēmew-ens-* *anēmōhsak* *little dogs*. Some alternations of quantity are morpholexical rather than morphophonemic. Thus, when the abstract noun suffix *-N* is added to verb stems in *-kē-*, the result is *-kaN-:kēskesekēw* *he cuts things through*, *kēskesekan* *scythe*.

35. If postconsonantal *y*, *w*, or any one of the high vowels, *i*, *ī*, *u*, *ū*, follows anywhere in the word, the vowels *ē* and *ō* are raised to *ī* and *ū*, and the vowel *o* in the first syllable of a glottal word is raised to *u*: *mayīčekwa?* *that which they eat*, cf. *mayēček* *that which he eats*; *āte?nūhkuwew* *he tells him a sacred story*, cf. *āte?nōhkew* *he tells a sacred story*; *sehk-e-hsen-k-wā?-:sehk-ē-hsehk-wā?-:seh- kīhsehkwa?* *if they lie down*, cf. *sehkēhseh* *if he lies down*; *ku?natwā?* *if they fear him*, cf. *ko?načēn* *if he fears him*. This



alternation sometimes fails to take place in long words: *kēwaskēpiw* beside *kīwaskēpiw* *he is drunk*. On the other hand, it is often extended to compound words and short phrases: *kīs-pīw* beside *kēs-pīw* *he has come*. Since *ū* occurs only in this alternation, it is not a full phoneme.

36. The morphophoneme *ə* is replaced by *e*: *pakam-əkw-:pakāmek* *the other one struck him*; *wēkewam-ah-:wēkewameh* *in the house*.

37. The vowel *ε* is replaced by *e* in the first syllable of words except before a cluster of *h* or *ʔ* plus consonant: *pemohnē-:pemōhnew* *he walks along*; *Neset-:nesēt* *my foot*. Contrast *Nehsehs-:nehseh* *my younger brother or sister*; *Neʔneh-:neʔneh* *my elder brother*; *peʔtenam* *he touches it by error*; *kehkēnam* *he knows it*.

38. The forms now arrived at are *phonemic* forms of the actual Menomini language. Menomini phonetics, however, allows a great deal of latitude to some of its phonemes, and of some overlapping between phonemes. Thus, phonemic *ε* is rather widely replaced by *e*, except where *h*, *ʔ* plus consonant follows; we have used the morphophoneme *ə* for the cases where this replacement is universal and therefore phonemic. Some speakers partially and some quite constantly replace *i* by *e*.

- 1) A few phonetic indications, while not strictly relevant, may be of interest. The high vowels, *i*, *ī*, *u*, *ū*, are much as in French *mis*, *mise*, *doux*, *blouse*; the long mid vowels *ē*, *o* much as in German *weh*, *wo*; the short mid vowels *e*, *o* somewhat as in English *pit*, *put*, but *ow* is somewhat as in English *sowing*; *ε*, *ē* are even lower than the vowels of American English *bed*, *bad*; short *a* ranges from German *hat* to English *hut*; *ā* from French *pâte* to English *saw*. The semivowels *y*, *w* are as in English, but after a non-syllabic, *yā*, *wā* are falling diphthongs: *payiāt* *when he came*, *kwāhnew* *he jumps* are phonetically [payi:at, ku:ahnew]. Of the consonants, only *m*, *n* are voiced; *ʔ* is a well-marked glottal stop, often with vocalic echo; *p*, *t*, *k*, *č*, *s* are lenes with slow opening. Non-syllabics are often strongly palatalized or labiovelarized by the preceding vowel, initial non-syllabics by the following vowel: *mīp* *early in the morning* (both consonants palatalized); *mwāk* *loon* (both consonants labiovelarized); *nektī's* *my son* (palatal *k*); *okī'san* *his son* (labiovelar *k*). In word, compound, or close-knit phrase, a long vowel in the next-to-last syllable and a long vowel followed in the next syllable by a short vowel, have a strong stress accent: *pakāmew* *he struck him* (stress on *-kā-*); *pemātesew* *he lives* (stress on *-mā-*). This seems to be the only actualized difference between *ow* and *ōw*: *nēmowak* *they dance* (stress on *nē-*), *manetōwak* *game animals* (stress on *-tō-*). Successions of syllables that do not contain such an accent, are varied by less stable ups and downs of stress: *peʔtenamoken* *it is said that they touched it by error* will be stressed on the first and third, or on the second and fourth syllables, or in other ways.
- 2) Historically, they are either words which were atonic at a bygone time when the language had a stress accent which produced the present alternations of quantity, or loan words from languages which have not the Menomini alternation. Stress is not distinctive in the present-day language.