METATHESIS AS A GRAMMATICAL DEVICE

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1. Metathesis is well attested as a historical development in languages the world over. Sturtevant (1961:50–1, 64–5; 1947:89, 92–3) saw instances as primarily extensions

1 A working paper on this topic was presented at the Third International Conference on Salish Languages, at the University of Victoria, August 1968, and we have profited from the discussion on that occasion. The materials on Salishan languages represented here were collected in an ongoing survey of the languages of Northwestern North America. We gratefully acknowledge here the support of the National Science Foundation through grants to the University of Washington and the University of Hawaii.

We are likewise grateful to a number of individuals for private discussion of metathesis as a possible synchronic grammatical process. R. H. Robins reminded us that in a sense inversion of word order, as in English *he can* vs. *can he?*, or apparent inversion of stress elements, as in English *impôr* vs. *impôr* might be construed as cases of metathesis. Gordon Fairbanks called our attention to certain contrasts in Arabic which might be handled as involving metathesis, but as we understand the cases there is nothing to support a preference for this explanation over the usual treatment.

Some other cases are treated in more detail below. M. Dale Kinkade furnished detailed references to the Miwok phenomena, and Mary R. Haas directed our attention to Rotuman. We wish to thank Bruce Biggs especially for sharing his experience with Rotuman and Tongan, for referring us to some other reports of metathesis in the Pacific, and for kindly making available to us his copy of the rare Churchward grammar.

from speech lapses. For the most part other treatments seem to agree that they are in any case sporadic (cf. for example, Paul 1920:63–5; Bloomfield 1933:391; Hockett 1958:391; Lehmann 1962:169–70). However, Grammont (1933:239–49, 339–57) cites extensive examples and makes an imaginative effort to explain these (alongside other special evolutions) in terms of his concept of increased ease of articulation within the autonomous syllabic patterns of individual languages and dialects. Although his sampling was perhaps too confined and his notion of syllabic ity perhaps too limited, his efforts to get at such dynamics remain important, and worthy of more follow-up than they have had outside the circle of French-trained linguists on whom he had so much effect. (In this connection, see Sommerfelt 1962:226; note also his prefatory note on p. 7.) More recently Pitkin (1969) has formulated a patterning of historical metathesis in the context of continuants. For examples of the phenomenon in the New World we may mention here discussion on such diverse linguistic families as Muskogean (cf. Haas 1941:51, 53) and Penutian (cf. Hymes 1964:218; Shipley 1966:493). Salishan comparisons, too, show many cases of metathesized elements (e.g., *brain*: Nooksack məc̓ qin, Cowichan, Musqueam səm̥qən, Lummi səm̥qən, but Snohomish, Skagit səbqəʔ, Thompson səm̥qən; *wide*: Cowichan, Musqueam lə́ʔt, Clallam, Lummi lə́ʔt, but Snohomish, Skagit lə́ʔt, Coeur d'Alene lə́ʔt).

On the synchronic scene, however, metathesis is less pervasive. We may call attention here to the exceptional cases noted by Bloomfield in Tagalog (1933:391) and
Menomini (1962: 88), and the more systematic morphophonemic alternations involving metathesis in Zoque, discussed by Wonderly (1951: 117). Mary Haas (p.c.) adds to her published account mentioned above that morphophonemic metathesis is common in several of the Muskogean languages. Thus Creek ca- /C/ ~ ac- /C/; lst pers sg pronominal prefix; Koasati hu- /C/ ~ uh- /C/ plural prefix. In his introduction to morphological analysis Nida (1949: 16–7) treats metathesis in the context of phonologically defined morphophonemic alternations, referring to Sudan Colloquial Arabic and Zoque. Elson and Pickett (1967: 44–5) also draw on Zoque for illustration of this kind of problem, and Gleason (1961: 86) mentions a similar case in Hebrew. Koutsoudas (1966: 64) provides a problem drawn from Korean suffixation to exemplify the process.

Freeland (1951: 12) names metathesis as a grammatical process in Sierra Miwok, and Hymes (1964: 218) suggests that it may also have had a grammatical function at earlier stages of Penutian. However, Broadbent (1964: 37) makes clear that in the modern languages the alternating stem shapes with consonants and vowels switching position are predictable in terms of immediately following suffixes, thus relegating the phenomenon again to the realm of morphophonemic alternation.

Given the number of times where metathesis operates in morphophonemic alternations, we should not be surprised to find that in some languages, as a result of historical restructuring, metathesized forms might be set into contrast with one another and convey by themselves differences of meaning. General treatments of the grammatical processes that signal semantic contrasts seem not, however, to include metathesis in this capacity. Thus it seems pertinent to describe two instances where such an analysis seems indicated.

2. In Rotuman, an Austronesian language of Oceania, nearly every base has two forms, one shorter than (and derivable from) a long or full form. Biggs (1959; 1965: 387–9) shows that the development of the short forms accounts for the appearance of several vowels beyond the five presumed for Proto-Central-Oceanic. At some time in Pre-Rotuman, Biggs (1965: 388) explains, “the language innovated wholesale metathesis of final syllables of bases...” Possibly simultaneously with the metathesis, but more probably after an interval of time each metathesized form was reduced one syllable, by (a) reducing the less sonorous of two vowels to a semi-vowel, or (b) coalescing two similar vowels in the quality of one of them, or (c) coalescing two unlike vowels and retaining features of the quality of each.” For the most part the short forms of type (b) origin would by themselves simply suggest apocope (examples from Churchward 1940: 13–4): e.g. tokiri, tokir to roll; hoto, hot to jump; but those of type (a) origin reveal the metathesis: e.g. seseva, seseav erroneous; hosa, hoas flower; pure, puer to rule, decide; tiko, tiok flesh. (Biggs would rewrite these short forms of type (a) respectively as follows, to show the difference of sonority: sesyav, hwas, pwer, tyok.) And cases of type (c) origin have innovated vowels: e.g. futi, füti to pull; famori, famör human being; tafi, tāf (in Biggs’ orthography tof, toef) to sweep. In these latter cases, an earlier stage of the short form is assumed (*fuit, *famoir, *tofi, respectively) which shows metathesis of the final CV of the base.

Churchward (1940: 13–4, 85–101; cf. also 15–8, 23–5) recognizes a kind of aspectual difference between the two forms, which he terms the ‘incomplete phase’ (the shorter form) as opposed to the ‘complete phase’ (the full form). Although the forms seem to be partially predictable in compositional or syntactic terms, there are many cases in which a contrast is conveyed by means of this opposition of short and long forms. In nominal expressions, Churchward specifies an opposition between ‘definiteness’ and ‘indefiniteness’, so that, for example
(Churchward 1940:15 [orthography as cited there]): famori 'ea the people say; famôr 'ea some people say; 'epa la hoa' the mats will be taken: 'eap la hoa' some mats will be taken.

With other expressions the circumstances are considerably more complex and it is unclear to what extent the differences of 'phase' are automatic. However, Churchward (1940:96–7) summarizes the 'underlying principle' as a kind of asceptual contrast that would seem to pervade the whole language—an opposition of completeness vs. incompleteness.²

² It is interesting that Churchward (1963:269) later noted a parallel asceptual opposition in neighboring Tongan, where the 'definitive' (corresponding to the Rotuman 'definite') is conveyed by shift of stress from the penultimate syllable to the ultima. Haudricourt (1957–58) and Grace (1959:54–5) have discussed further the possible historical connection of these two sets of phenomena, and suggested that the development of short forms in Rotuman may have begun with a difference in accentuation of the type observable in Tongan. This still, of course, leaves unexplained precisely why metathesis entered the Rotuman picture, as clearly it did, rather than, say, simple apocope of final unstressed vowels, with perhaps some lingering anticipatory coloring of the preceding vowel. (Anticipatory vowel coloring of this sort can hardly have entered into the picture; else we should expect to find the non-final vowels of the Rotuman long forms so affected, especially if they went through an earlier stage in which they were the nucleus of the unstressed syllable preceding a stressed ultima.) For other discussions of Rotuman vowels see Grace (1959:27–8) and the further references cited by Biggs (1965:387).

The phenomenon perhaps has a wider distribution in Austronesian. Deck (1954:3–4, 6) comments that in Kwaräse (on Malaita in the Solomons) metathesis, especially of word-final syllables, is common in rapid speech. Fox (1950:18–41) says that this summary description of Deck's gives no idea of its extent in the spoken language. He asserts (139) 'It is remarkable how deep is the instinct for metathesis in Melanesian languages' and gives also examples from Rowa in the Banks Islands. Neither of these descriptions makes clear just how metathesis operates in these languages; Fox's discussion mixes comments apparently relating to synchronic phenomena in a single dialect with correspondences among different dialects. In any case further investigation certainly seems in order.

3. The Straits languages of Coast Salish (Swadesh's [1950:163] Lkungen group; for more recent placement of the group see Suttlies and Elmendorf 1963) have an asceptual distinction which is similar to the perfective-imperfective opposition of Slavic. What corresponds roughly to the central semantic coverage of imperfective, however, appears to be the marked category in these languages, so that we have chosen the term actual for it; non-actual forms cover other situations in a typical unmarked fashion. In the following discussion actual forms are often glossed simply by using the -ing form of an English verb; the semantic range is roughly action or state in effect at a particular moment. Examples are cited here from Clallam, spoken in aboriginal times in a number of villages along the north coast of Washington's Olympic Peninsula.³

Actual forms relate to their non-actual counterparts in a number of different ways. Several different morphological classes are observable; the phenomenon is complicated by morphophonemic alternations, and by

³ Only a handful of elderly people still speak Clallam fluently. Material for the present study was collected as time permitted over the last five years primarily from Mrs. Elizabeth Prince of Jamestown, Washington, and Mrs. Martha John, of Little Boston, Washington. A preliminary grammatical sketch has been prepared (Thompson, in press). Examples in this paper are cited in the phonemic transcription presented there, which may be summarized as follows. Vowels are /a/ back rounded; unrounded: /i/ high to upper mid front, /e/ lower mid front; and with some rounded allophones: /a/ low, and /a/ central and centralized. Consonants fit a typical Salishan pattern: glottalized stops and affricates /p t č s č q k x xʷ/?, plain stops and affricates /p t č k q x xʷ/; voiceless spirants /s l š x xʷ h/; resonants /m n l y ŋ w/. Syllables are primary-stressed /k/, secondary-stressed /k/ or unstressed (unmarked). Intonations need not be discussed here, since no intonational contrasts figure in the examples. Many cases of unstressed /o/ are predictable in morphophonemic terms (separating resonants from one another or from voiceless consonants, and /o/ from voiceless consonants). Other cases, however, are not. Predictable /a/ is noted in the transcriptions here.
the fact that in longer derivatives actual aspect is sometimes signalled more than once. It is beyond the purposes of this paper to describe the entire system in detail. It will suffice to say that stems of a large class appear in their actual form with an infix -t. The following examples are cited with the suffix -t control, which indicates that some agent is in control of the situation; the suffix is separated from the stem by a period. Predictable -a- is enclosed in parentheses.

Examples of non-actual versus actual are: ?éč.t wipe, ?é?-č.t wiping; čúč.t nudge, čú.-č.t nudging; čáč.t make, čá?-č.t making; púx.-t blow, pú?-x.t blowing; hún(a).t set fire, hú?-n(a).t setting fire; čúñ(a).t push, čú?-q(a).t pushing; máya?-t kick, má?-ya.-t kicking; sóṁ(a).č.t cover, só?-m(a).č.t covering.

Stems of this class with the vowel -i- have rather -e- in the actual: x̌s.t shake, x̌e?-č.t shaking; čúč.t wring, čé?-č.t wringing; q̌éŋ(a).t take out of water, q̌é?-q(a).t taking out of water.

Stems of another large class, however, differ in the two aspects in terms of metathesis. Examples of non-actual versus actual are again cited with the suffix -t control. (Following a palatal stop, s regularly assimilates to š.) čúš.t throw, čúš.t throwing; čúk?-č.t shoot, čúk?-x.t shooting; x̌lč.t scratch, x̌lč.t scratching; q̌x̌l.t tie up, q̌x̌l.-t tying up; q̌q̌l.t restrain, q̌q̌l.t restraining; ččš.t shatter, ččš.t shattering; x̌x̌č.t grasp, x̌x̌č.t grasping; y(ə)q̌ą.t swallow, y(ə)q̌ą.t swallowing; m(ə)ǩš.t pick up, m(ə)ǩš.t picking up; q̌q̌š.t burn, q̌q̌š.t burning; čččš.t tear, čččš.t tearing; q̌š(a)m?š.t chop, q̌š(a)m?š.t chopping; č(ə)q̌ą?š.t bite, č(ə)q̌ą?š.t biting; m(ə)ččš.t put in water, m(ə)ččš.t putting in water.

The regularity of the pattern is somewhat obscured by a regular morphophonemic alternation: between consonants semivowels are replaced by their corresponding vowels: ǩq̌nšt. (i.e. ǩnyq̌nšt) pour, ǩnyq̌š.t pouring.

Some stems combine metathesis with infixation of -(ə)?: e.g. sáč.t command, s-(ə)?-áč.t commanding; súý(a).t inflate, s-(ə)?-yú.t inflating; q̌?š(ə).t beat, q̌?-(ə)?-čú.t beating.

Others add a reduplicative element; e.g. ?ňx.t scrape, ?ň?x.t scraping; ?ňŋ(a).t step, ?ň?-ŋšt. stepping.

(There are also actuals marked by a reduplicative element alone; e.g. yá?-t prepare, yá-ya?-t preparing.)

3.1. Early in the analysis it appeared that these different forms must reflect different ablaut grades (perhaps of basically dissyllabic roots), probably determined by the position of stress, and this approach to the problem has also been suggested by others in discussion; but more careful consideration of the data leads away from such an analysis.

The position of stress in Clallam is a complex matter. The characteristic Salishan pattern is evident in that roots appear in reduced grade when stress shifts from the root to some suffix; certain suffixes regularly take the stress in this fashion, while certain others capture the stress only from roots of a particular class (variable-stress roots). Thus the position of stress is determined by the kind of root and suffix combination present in a given form.

The manner of marking the contrast between actual and non-actual aspect in normal grade roots, however, is dependent on a different sort of class cleavage—as we

In reduced grade (where the root’s characteristic vowel is absent) two patterns are observable—one in which this aspecutal distinction is unmarked (but turns up rather in the suffixal string), another in which the actual form has -(ə)?- inserted between the first and second consonant of the root. It appears that the first pattern is regular in the presence of suffixes which always take the stress, while the second pattern is limited to variable-stress roots when preceding suffixes which capture their stress, but the details are not yet entirely clear.

The most economical description of the system as a whole derives non-actuals from actuals. In addition to the productive classes there are a number of unpredictable oppositions; e.g., ǩščt. butcher: ǩš?-čšt. butchering, q̌ščšt. lock: q̌š?-u-čšt. locking.
have seen, the two most important classes are those infixing glottal stop and those involving metathesis. Of the latter class there are two subtypes: first, those in which the basic Salishan canonical root shape CVC appears in the actual form; second, those in which this basic root shape appears rather in the non-actual. The stress regularly accompanies the characteristic vowel of the root. An attempt to make the stress determine the position of the basic root vowel in such forms would then require generalizations about stress which are additional to (and different from) those outlined above, and which are quite complicated in themselves. It seems more economical and more revealing of the structure of the language to recognize a kind of ‘flip-flop’ pattern of the position of the characteristic root vowel—in more traditional terms, metathesis.

This analysis is borne out by another feature of the system. Suffixes in Clallam appear, as we might expect, in fixed order following roots. The suffix -i persistent is one of those which regularly takes the stress, leaving the root in reduced grade. With typical roots in reduced grade, it creates a stem CCI-; in non-actual forms this stem is followed by inflexional suffixes, but in their actual counterparts this -i metathesizes with the following suffix. Thus with -t control (exemplified with simple roots in the forms cited above) we find the opposition -i-t (NON-ACTUAL): -t-i (ACTUAL). The following examples are based on the root *âkʷ grasp, with the pronominal enclitic ... (a)n 1st pers sg in subordinate predicates: *âkʷá.t (a)n [if] I grasp [i], *âkʷ.t (a)n [that] I was taking hold of; *âkʷá.t (a)n [if] I hold [i], *âkʷ.t-i n [that] I was holding. It seems evident that the principle of metathesis distinguishing actual from non-actual aspect is extended to embrace polymorphemic stems.

3.2. This treatment has the advantage of not requiring the setting up of special hypothetical base forms like *çukʷut, with actual and non-actual forms derived by vowel deletion, or positing special stress patterns inserting vowels in different positions with relation to root consonants. The current popular tendency to resort to such abstractions (even where they may be well motivated in historical-comparative terms) is at variance with objective consideration of the facts of particular language structures and tends to obstruct our efforts to understand how languages change and to obscure phenomena important in the consideration of typological similarities. Comparative evidence is of interest in this connection. In two nearby Salishan languages—Puget Sound Salish to the southeast (see, for example, Hess 1967:27–8), and Squamish to the northeast (see Kuipers 1967:71–5)—there are many cases parallel to the Clallam forms cited with -t, in which we find CVCV-, with the two vowels identical. (Hess treats the second vowel as part of the stem, Kuipers as part of the suffix; the forms, in any case, are very similar.) It could well be that Clallam went through such a stage and developed its present metathesizing stems out of forms with contrasting stress and eventual loss of the unstressed vowels. On the other hand, we do not yet know the history of these forms in any of the languages, and it is also possible that Squamish and Puget Sound (either independently or in some kind of mutual development) created their CVCV- stems as harmonic extensions of CVC roots; in fact, they may even have gone through a stage analogous to that of modern Clallam, with metathesizing stems, which later merged to CVCV- stems through some kind of analogical leveling. In this connection we should note that at least in Puget Sound aspctual distinctions reminiscent of the actual-non-actual opposition of Straits languages are signalled uniformly by prefixes (or proclitics). Both from the point of view of the general Salishan picture and from that of the variety and formal irregularity of the distinction in Straits languages this would appear to be innovative. So the CVCV- stems are dubious models for the Clallam metathesis. The earlier history of
all these stem types remains to be worked out.

4. In any case, it seems of considerable typological interest that in such a large number of cases this pervasive asp ectual distinction is carried in Clallam by metathesized forms, and it is of further interest that there are at least some general similarities in both form and meaning to the opposition in far-away Rotuman. It also seems worth inquiring whether metathesis appears with a grammatical function in still other languages of the world.

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