NUPE THREE YEARS LATER

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In this reply to Harms 1973, a critical look is taken at Harms' arguments against 'abstract phonology'. Particular attention is focused on his unwarranted dismissal of the data from borrowing. In addition, it is argued that considerations of simplicity or economy do not provide any significant insights into the problem at hand. Finally, a modified approach to Nupe palatalization and labialization is outlined.

The challenge of Harms 1973 to my abstract Nupe solution (Hyman 1970a) is not so much a principled account of how Nupe must be analysed as it is a negative demonstration of our frequent inability to provide sound empirical evidence concerning the nature of phonological systems. My original solution with underlying /Ce/ and /Ca/ was arrived at in the framework of generative phonology represented by Chomsky & Halle 1968. Harms provides at least two alternate solutions avoiding 'absolute neutralization' (Kiparsky 1968). In one solution, /Cia/ and /Cua/ are the lexical representations for [C*a] and [C*w*a]; in the other, /Cya/ and /Cwa/ are posited. A third alternative solution, that of positing /C*a/ and /C*w*a/, is surprisingly not considered by Harms, despite the fact that a previous paper of his (1966) was devoted exclusively to questions of 'one phoneme or two' in such cases. I considered and rejected all three solutions for what I hoped were empirically and formally good reasons. It is important to note that Harms presents his arguments against my solution in the framework of an unformalized revised model of generative phonology—which, he implies, will disallow absolute neutralization. But the model still does not provide for a unique solution. It would have served his case well to discuss his theoretical model and to show how one explanatory Nupe solution (and not two) directly follows from it. Invoking the name of Sapir is as uninformative as it is irrelevant. I shall center my comments around the following three aspects of the controversy: the role of borrowing as a phonological criterion; arguments of simplicity; and arguments of naturalness.1

1. I believe the major weakness of Harms' paper is his dismissal of my attempts to explain the data of borrowing. In Hyman 1970b (which is referred to in Hyman 1970a, but which Harms does not cite), I presented two principles which were said to account for the facts of borrowing in Nupe. These are referred to as 'rule productivity' and 'rule interference'. The first principle is relevant to the present discussion and can be restated as follows:

(1) Foreign sounds identical to native underlying forms are lexicalized as such and undergo the phonological rules of the borrowing language.

I presented numerous instances of the operation of this principle; e.g., when a

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1 I should like to thank Josh Ard, Terry Flynn, and Vicki Fromkin for sharing their concerns about phonological theory with me. They do not necessarily agree with me, Harms, or anyone else.
speaker of American English pronounces the French word [mɔsø] monsieur as [maʃø], or the Spanish word [graʃas] gracias as [graʃəs], he is productively using the same phonological rule of palatalization that is responsible for the [ʃ] in [aymɪə] ‘I miss you.’

Harms claims that ‘to argue that some nativization, but not all, proceeds by way of the rules of abstract phonology would only effectively shield the claim from empirical test, and could hardly provide a coherent basis for explaining nativization, or serve as a justification for a questionable rule of abstract phonology.’ Quite to the contrary, my initial attempts at abstracting principles (which should be compared with the more recent findings of Ohso 1971, as reported by Stampe 1972) have led me to make further hypotheses about the form of phonology. Given the numerous examples of rule productivity, what about those rules which are not productive? I should like to think that rules which do not exert an influence in at least some cases are rules of a different type from those which cause interference. Thus no English speaker will ever repeat the foreign-sounding words [rizign] and [nixt] as [rizayn] and [nayt], respectively. What this suggests is that the /g/ in [rizayn] and the /x/ in [nayt] proposed by Chomsky & Halle are unmotivated. There are patterns to be accounted for, but apparently not by means of phonological rules. Thus, rather than shielding the claim from empirical test, the criterion of borrowing serves as a rule-tester with empirical consequences.

Harms would seem to prefer no explanation to the explanation that I provide for the Nupe data. My principles do not account for the nativization of foreign [b] in Finnish. They also do not explain why Frenchmen repeat English [ɔ] as [s] (cf. Hyman 1970b). Harms seems to disagree with, or not fully appreciate, Chomsky’s often repeated view that counter-examples are important only if they lead to the construction of a theory which can incorporate both the data previously accounted for and the counter-examples. Thus, until Harms (or someone else) comes up with a comprehensive theory of borrowing that explains both the Nupe and French examples, my theory, restricted as it is, still stands. Otherwise,

It is clear that some borrowed words fail to be nativized and must therefore be viewed as [+foreign]. In Hyman 1970b I was careful to state that I was interested only in accounting for the facts of nativization. If an American English speaker accurately pronounces [mɔsø] or [graʃas], this does not mean that he lacks the rule that converts English /sy/ to [ʃ] (cf. fn. 3).

Using the data in Smith 1967, Harms claims (fn. 2) that the rule in Nupe which converts the [+cor] stridents /s z ts dz/ to [ʃ i ʃ ʃ] before front vowels is not productive. This is not the case: some Nupes say [sisi] ‘sixpence’, some [ʃiʃi]. Cf. also the following three examples (Hyman 1970b:23), where an epenthetic [i] breaks up unacceptable consonant clusters:

- Hausa gɔsk7: yə: > Nupe ɡaʃık7ya ‘truth’
- Hausa fuʃkɔ > Nupe fuʃika ‘face’
- Hausa kɔskɔ: > Nupe kɑʃikɔ ‘shallow pot’

Note, however, that many Nupes, aware of the historical origin, pronounce [sk] sequences in borrowings with great facility. Others seem to insert a short [i] without palatalizing the [s]. The less contact a Nupe has had with Hausa, the more likely he is to fully nativize Hausa [skV] as Nupe [ʃiʃV].
we should be forced to conclude that the French example (or Harms' Finnish example) falsifies the explanation given with respect to monsieur and gracias above.

Part of Harms' argument against the evidence from borrowing rests on his non-acceptance of morpheme-structure conditions. The relevance of MSC's in the study of borrowing has already been questioned by Shibatani 1973. Both Shibatani and Harms argue for surface phonetic constraints, and these are undoubtedly needed; but so are underlying phonological constraints. In Yoruba, one must state a phonological constraint that nouns (but not verbs) always begin with a vowel (Courtenay 1968). Since there are rules of vowel elision, nouns do not always begin with a vowel in the surface phonetics. Thus, if the redundancy in the underlying representation of Yoruba nouns is to be captured, the theory must provide for phonological constraints of some kind. It may be the case, however, that all constraints, whether surface or underlying, should be stated in terms of syllables or words (cf. Vennemann 1972, Hyman 1972b). One cannot dismiss as easily as does Harms the role of phonological constraints in borrowing.

2. In arguing for my solution, several notions of simplicity were discussed. Harms claims, however, that his /Cia/ and /Cua/ solution is more economical than my /Ce/ and /Co/ solution (though he later rejects /Cia/ and /Cua/ in favor of /Cya/ and /Cwa/). I agree that we can dispense with the morpheme boundary in the vowel elision rule. But economy is not the issue. As pointed out by Zimmer 1970, notions of simplicity have not helped in solving any critical issues in generative phonology. Harms argues, at first, for the /Cia/ and /Cua/ solution by stating that a vowel deletion rule would be needed across morphemes, which would therefore also cover the morpheme-internal sequences. He later ignores his own argument, since he opts for a /Cya/ and /Cwa/ solution. But in so doing, he destroys not only the vowel elision argument, but also complicates the reduplication rule, which he neglects to discuss in the framework of /Cya/ and /Cwa/. The question is: if /Cwa/ is recognized, then how do we get the [u] in...
the reduplicated form [CuCwa]? We should expect *[CwiCwa] by Harms’ rules. Either the reduplication rule has to be seriously complicated, or else a ‘corrective rule’ (cf. Schachter & Fromkin 1968) is required to convert intermediate [CwiCwa] to [CuCwa]. I’m not suggesting that either of these modifications is necessarily wrong, but only that ‘Halle’s edict’ about the economy of rules taking precedence over the economy of MSC’s (for which no evidence was ever presented), which Harms uses against me, can also be used against him. Using simplicity criteria, Harms argues against my solution because I need an extra rule (absolute neutralization). But, his /Cya/ and /Cwa/ solution also requires an extra rule, i.e. a rule which ‘corrects’ [CwiCwa] to [CuCwa]. My conclusion is that economy provides a very shaky argument, at best.

Note also that [wá] ‘to want’ reduplicates as [wúwá] ‘wanting’ and not as *[wiwi]. Harms can get around this problem in his first solution (later rejected) by recognizing underlying /wía/ (and presumably the corresponding /yía/ for [ya]). The appropriate derivation of ‘wanting’ is

\[
\text{(2) } /\text{wía/ } \rightarrow \text{wúwú/ } \rightarrow [\text{wúwá}].
\]

First reduplication takes place, and then vowel deletion. There is no economical way to deal with [wúwá] in his second solution. A corrective rule would simply have to change the incorrect *[wíwá] to [wúwá] as in

\[
\text{(3) } /\text{wá/ } \rightarrow \text{wúwú/ } \rightarrow [\text{wúwá}].
\]

A third solution was argued in Hyman 1970b. Ignoring nasalized vowels, the phonetic sequences of Glide + Vowel found in Nupe are

\[
\begin{align*}
[\text{yi}] & \rightarrow [\text{wu}] \\
[\text{ye}] & \rightarrow [\text{wo}] \\
[\text{ya}] & \rightarrow [\text{wa}] \\
[\text{ha}] &
\end{align*}
\]

This near-complementary distribution, coupled with the facts of borrowing, led me to suggest recognizing the following corresponding underlying forms with one underlying glide (either /h/ or possibly an archiphoneme /G/):

\[
\begin{align*}
\text{(5) a. } /\text{Gi/} & \rightarrow /\text{Gu/} \\
/\text{Ge/} & \rightarrow /\text{Go/} \\
/\text{Ge/} & \rightarrow /\text{Go/} \\
/\text{Ga/} & \rightarrow /\text{ha/}
\end{align*}
\]

The underlying glide is converted to [y] before the front vowels /i e e/, and to [w] before the round vowels /u o o/. Later, /e/ and /o/ merge with /a/. The remaining tone languages:

\[
\begin{align*}
/\text{e} + \text{pà/} & \rightarrow [\text{épá}] \text{ (High-Falling)} \\
/\text{e} + \text{bà/} & \rightarrow [\text{ébà}] \text{ (no change)} \\
/\text{e} + \text{wà/} & \rightarrow [\text{éwá}] \text{ (High-Falling)}
\end{align*}
\]

A directly preceding voiced obstruent has a lowering effect on tone, while a directly preceding voiceless obstruent has a raising effect on tone. Sonorants are neutral. We do not obtain *[épá] in Nupe, because the voiceless obstruent blocks the ‘spreading’ of the preceding low tone. In the above languages (e.g. Ngizim) we do not obtain *[ébá] because the voiced obstruent blocks the ‘spreading’ of the preceding high tone.
dissertation rule then predicts the correct form [wūwā] as follows:

\[(6) /Go/ \rightarrow wō \rightarrow wūwō \rightarrow [wūwā].\]

I may have been wrong, but it is not on the basis of economy that my solution will stand or fall.

3. One of the arguments used by Harms against the abstract solution is that the palatalization/labialization rule applies optionally before /i e u o/, but obligatorily before /e o/. Since a consonant will, as a phonetic universal, always be somewhat fronted before [i e] and somewhat rounded before [u o], I chose to speak of degrees of palatalization and labialization, rather than of the optionality of the assimilatory processes. I argued that palatalization and labialization are always present (except before /a/), but that the offglide is more perceptible before instances of [a] deriving from /e/ and /o/. This I now believe to have been an error resulting from an inadequate theoretical conception of natural assimilation processes. In Hyman 1972a I discuss and illustrate the notion of 'phonologization' with particular reference to nasalization (cf. also Hyman & Schuh for examples dealing with tone). A vowel will always be somewhat nasalized in the context of a tautosyllabic nasal consonant; but a given language can phonologize this phonetic universal so that language-specific reference must be made to the process (via a phonological rule). At one time Nupe heavily palatalized and labialized consonants before the appropriate vowels. Such a situation is still found in closely related Gwari and Ganagana (cf. Hyman & Magaji 1970). But, as pointed out by Schane 1971, Nupe is losing palatalization/labialization as a phonologically relevant process. In other words, the two assimilatory processes are becoming 'dephonologized', and eventually the fronting and rounding of consonants will be due entirely to universal phonetic constraints on CV sequences. However, since I can in fact demonstrate that the assimilation rule was once obligatory and that [Cy'a] and [Cw'a] sequences were found at this same stage, Harms' argument does not in principle rule out absolute neutralization. Rather, we might suppose that, as the language further dephonologizes palatalization and labialization, the lexical representations /Ce/ and /Ca/ will become less acceptable. Note, finally, that the absolute neutralization rule can be reformulated in the following way:

\[(7) \begin{bmatrix} e \\ o \end{bmatrix} \rightarrow a / \begin{bmatrix} Cy \\ Cw \end{bmatrix} \]

That is, /e/ and /o/ are realized as [a] after [Cy] and [Cw], respectively. This reformulation is more than a trivial one. First, it directly incorporates the motivation for the vowel merger: the remaining assimilated consonants have assumed a distinctive function. Second, the absolute neutralization rule in 7 can now be said to be intrinsically ordered with respect to the palatalization/labialization rule, rather than extrinsically ordered as in Hyman 1970a (cf. Koutsoudas et al. 1971).

4. In summary, it is my view that the borrowing data cannot be so lightly dismissed, and that considerations of economy and naturalness are poor substitutes for the psycholinguistic evidence which we so sorely need.
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