COMMUNICATION ACROSS POLYNESIAN LANGUAGES[1]

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One area of linguistics that is in dire need of theoretical investigation is that of communication across genetically related languages. In this paper we propose a theory of trans-systemic communication which is predicated on the similarities between related dialects and related languages. One of the immediate consequences of this study is that it offers us a model by means of which we can further investigate such phenomena as mutual comprehension, non-reciprocal communication, hyper-correction, dialect and language imitation, distance along a speech chain, and the relationship between languages and dialects.

INTRODUCTION

Communication across genetically related languages is a common phenomenon. Linguists have always been cognizant of this fact, but few have ever seriously investigated it.[2] As a consequence there is no viable model available for describing communication across language systems. One of the reasons for this lack of concern may be attributed to the traditional dichotomy of languages versus dialects. What this nomenclature does is obscure the relationships that genetic languages and related dialects have in common, viz.,

1) Both are historically related in that they are the products of a common ancestor.

2) Both are manifestations of regional and/or social linguistic variation.[3]

3) Both are members of a class in that languages consist of related dialects, and language families are composed of related languages.

4) Both can be viewed as sharing abstract lexical representations and rules.

5) Both reflect the phenomenon of "distance" along a speech chain.[4]

6) Both can be imitated with various degrees of facility.

7) Both display a graduated scale of comprehension. At one extreme we have mutual comprehension, and at the other we have a total lack of verbal communication. The prevalent pattern, however, is that of non-reciprocal communication, and this appears to be contingent upon the "distance" that separates these languages or dialects.

From a theoretical point of view, genetic languages form a stark contrast with dialects. The former group is, at present, virtually devoid of theoretical consideration. The latter group, on the other hand, is replete with theoretical models. This exigency presents us with a problem. It forces us to ask ourselves whether or not a viable model of trans-systemic communication is possible. It is our contention that the establishment of such a theory, de novo, is feasible. The languages of Polynesia will be employed in substantiating this claim, and the genesis for such a theory is predicated on the similarity that exists between related languages and related dialects. It is for this reason that we will initiate our discussion with those concepts which have met with the most success in dialectology.

THE DEPENDENCY PRINCIPLE

The first successful model in dialectology has been that of Halle (1962). According to this approach the various dialects of a language are assumed to be similar because they share the same underlying forms or lexical representations. When a difference occurs this is attributed to a variance in the rules. Some dialects may contrast as a result of the addition or deletion of a rule, and other dialects may contrast by applying the same rules in a different order. Since all of the dialects of a language depend on the same underlying forms, this concept has come to be known as "the dependency principle."[5]

Halle has illustrated this new approach to dialectology with the following dialects of Canadian English.[6]

	"typewriter"	"write"	"ride"
Underlying Forms	/tayprayter/	/rayt/	/rayd/
Dialect I	/⌐tayprayder⌐/	/rəyt/	/rayd/
Dialect II	/⌐təyprəyder⌐/	/⌐rəyt⌐/	/⌐rayd⌐/

The phonological processes operative in these dialects can be readily explained. The low vowel /⌐a⌐/ is raised to a mid vowel /⌐ə⌐/ in a syllabic nucleus before a voiceless stop.

Hence the following rule.

VOWEL RAISING

$$a \longrightarrow \quad / \quad \underline{\quad} \quad \begin{bmatrix} C \\ -voi \end{bmatrix}$$

This rule explains why we have a schwa in "write" in both dialects. The other phonological process which is evidenced by the data is the voicing of alveolar stops in intervocalic position under certain conditions of stress.

CONSONANT LENITION

$$t \longrightarrow d \; / \quad V \; \underline{\quad} \; V$$

With these two rules we can adequately derive the forms of the first dialect.

	"typewriter"	"write"	"ride"
Underlying Forms[7]	/taypraytər/	/rayt/	/rayd/
C LENITION	tayprayd͡ər	-	-
V RAISING	təyprayd͡ər	rəyt	-
Phonetic Forms	/[təyprayd͡ər]/	/[rəyt]/	/[rayd]/

When we attempt to derive the phonetic forms of the second dialect we notice that our rule of vowel raising is not adequate because the low vowel /[a]/ is raised to a mid vowel /[ə]/ before both voiceless and voiced stops in lieu of just before voiceless stops. It would appear from this fact that a third rule is needed in order to account for the data. Halle argues that the need for a third rule is obviated if we consider the application of the same two rules in a different order. Hence by reversing the rule order he derives the phonetic forms of the second dialect of Canadian English as follows.

	"typewriter"	"write"	"ride"
Underlying Forms	/taypraytər/	/rayt/	/rayd/
V RAISING	təyprəytər	rəyt	-
C LENITION	təyprəyd͡ər	-	-
Phonetic Forms	/[təyprəyd͡ər]/	/[rəyt]/	/[rayd]/

There are several advantages associated with the dependency principle. First, it accounts for the fact that the dialects of a language are similar and it attributes this similarity to their common underlying forms. Second, it enables us to systematically account for the manner in which dialects differ, viz., in the applications of their rules. Third, it provides us with a

mechanism for dialect imitation. Finally, it also provides us with a mechanism for mutual comprehension.[8]

THE DEPENDENCY PRINCIPLE IN GENETIC LANGUAGES

One of the reasons for invoking the dependency principle in dialectology has been to account for the phenomenon of mutual comprehension across the dialects of a language. The question that we must now ask ourselves is whether or not this principle can also account for mutual comprehension across related languages. The following data suggests that this is possible.

	"shelf"	"house"	"octopus"	"pluck"
Underlying Forms	/fata/	/fale/	/feke/	/futi/
Tongan	[fata]	[fale]	[feke]	[fusi]
Samoan	[fata]	[fale]	[fe?e]	[futi]
Maori	[fata]	[fare]	[feke]	[huti]

Let us first consider the phonetic differences between Tongan and Samoan. These can be related to their common underlying forms by means of two rules. The first is a rule that assibilates [t] to [s] before the high front vowel [i].

ASSIBILATION

$$t \longrightarrow s \; / \; \_\_ \; i$$

The application of this rule is evidenced in the following derivation of the Tongan forms.

Underlying Forms	/fata/	/futi/
ASSIBILATION	-	fusi
Phonetic Forms	[fata]	[fusi]

Given the dependency principle we can explain that one of the reasons why Tongan differs from Samoan is to be found in the Assibilation rule: Tongan has it, and Samoan does not. The second process that differentiates Samoan and Tongan is to be found in their treatments of the velar stop [k]. It remains unchanged for Tongan, but it shifts to a glottal stop in Samoan.

GLOTTAL SHIFT

$$k \longrightarrow ?$$

This rule accounts for the following Samoan forms:

Underlying Forms	/feke/	/kai/
GLOTTAL SHIFT	fe?e	?ai
Phonetic Forms	[fe?e]	[?ai]

Again we find that the difference between sets of lexical items in Tongan and Samoan can be attributed to the addition of a rule to the phonology of one of the languages. In this case, Samoan has the rule, and Tongan does not.

A third rule is needed to differentiate Maori from both Tongan and Samoan. It is a rule that changes a labio-dental fricative [f] into a spirant [h] before the back vowels [u] (and [o]).

ASPIRATION

f ⟶ h / — u, o

The effect of this rule can be seen in the following derivation of Maori forms.

Underlying Forms	/futi/	/feke/
ASPIRATION	huti	-
Phonetic Forms	[huti]	[feke]

So far we have only considered the addition or deletion of rules between related languages. The following data is used to show that the order in which the phonetic rules occur also distinguishes related languages from one another.

	"inland"	"hear"
Underlying Forms[9]	/quta/	/roŋo/
Tongan	[?uta]	[oŋo]
Samoan	[uta]	[roŋo]

Three rules are needed if we are to derive these forms from a common underlying form, viz.

Rule I r ⟶ ?

Rule II ? ⟶ ø

Rule III q ⟶ ?

Rule II must be ordered before Rule III in Tongan as the following derivation demonstrates.

Underlying Forms	/quta/	/roŋo/
Rule I	-	ʔoŋo
Rule II	-	oŋo
Rule III	ʔuta	-

Samoan shows the reverse ordering of Rules II and III, with Rule I being deleted.

Underlying Forms	/quta/	/roŋo/
Rule III	ʔuta	-
Rule II	uta	-
Phonetic Forms	[uta]	[roŋo]

What all of these derivations demonstrate is that the various languages of Polynesia are amenable to the dependency principle, and that it is this principle that enables us to account for the fact that mutual comprehension does occur among the languages of Polynesia.

THE INDEPENDENCY PRINCIPLE

We initiated our discussion with the assumption that the dialects of a language all shared the same underlying forms. We then proceeded to transfer this principle to the study of related languages, and here we considered the underlying forms of all of the related languages to be the same. This assumption has met with opposition. There are those who argue that the underlying forms of a dialect must not be ascertained from comparative evidence, but that each dialect abstracts its own underlying form. If the data which confronts one dialect is different from that of another, then there is no reason to assume that their abstractions should be the same. This concept has come to be known as the independency principle because the underlying forms of the dialects are derived independently of one another.[10]

Luelsdoff (1971) offers the following lucid example of this principle from his study of Black English (BE) and its relationship to Standard English (SE).

	"pen"	"pin"
Underlying Forms[11]	/pen/	/pin/
SE	[pen]	[pin]
BE	[pin]	[pin]

According to the dependency principle the Black English forms can be derived from the same underlying forms as that of Standard English. This is done by means of a rule that neutralizes the contrast of [i] and [e] before nasals.

VOWEL NEUTRALIZATION (BE)

$$e \longrightarrow i \,/\, \_\_ \left[\begin{matrix} C \\ +nas \end{matrix} \right]$$

The application of this rule in Black English has the following derivation:

Underlying Forms	/pen	/pin/
V NEUTRALIZATION	pin	-
Phonetic Forms	[pin]	[pin]

According to the independency principle the underlying forms for the Black English speaker are both the same, hence he needs a rule that will create a surface contrast, i.e. a rule that will lower [i] to [e] before nasal stops.

VOWEL LOWERING (BE)

$$i \longrightarrow e \,/\, \_\_ \left[\begin{matrix} C \\ +nas \end{matrix} \right]$$

When the speaker of Black English applies this rule to the underlying form of the lexical item "pen", /pin/, he will produce the surface form [pen].

Underlying Form	/pin/
VOWEL LOWERING	pen
Phonetic Form	[pen]

The claim that is being made here is that these dialects differ both in their underlying forms, and in their rules. If it weren't for the fact that they also shared other underlying forms, and phonological rules, this would be tantamount to saying that they were unrelated languages.[12]

Now that we are confronted with two competing models, we must ask ourselves the inevitable question. Is there any evidence in favor of one hypothesis over the other? Those who advocate the Independency Principle answer this question in the affirmative. They point to the fact that Black English speakers hypercorrect, i.e. they say [pin] for "pen", and vice versa. This could never happen if both dialects shared the same abstract representations.

There are many advantages associated with the independency principle. First, it accounts for the fact that there are legitimate constraints on dialect imitation, and one of the ways in which this is manifested is when hypercorrections take place. Second, it also accounts for the fact that there are legitimate constraints on dalect comprehension. Not all comprehension is mutual. Most of it is non-reciprocal, and the independency principle is concomitant with this fact. Finally, it allows us a means for ascertaining the degrees of "distance" along the speech chain of the dialects of a language. The greater the disparity between the underlying forms, and the phonological rules, the greater is the distance along the speech chain.

THE INDEPENDENCY PRINCIPLE IN GENETIC LANGUAGES

The independency principle can be readily applied to the languages of Polynesia as evidenced by the following data:

	"eye"	"root"	"louse"
Underlying Forms	/mata/	/aka/	/kutu/
Maori	[mata]	[aka]	[kutu]
Tahitian	[mata]	[a? a]	[?utu]
Hawaiian	[maka]	[a?a]	[?uku]

According to the dependency principle all of these phonetic forms would be related to their common underlying forms by means of two rules. The first changes a dental stop [t] into a velar stop [k].

VELAR SHIFT

t ⟶ k

The second rule is one which we have already encountered in our discussion of Samoan. It shifts a velar stop [k] to a glottal stop [?].

The forms of Maori, under this analysis, would not require any of these rules as their underlying forms match their phonetic forms. Tahitian would only require a glottal shift rule, and this is demonstrated in the following derivation:

Underlying Forms	/aka/	/kutu/
GLOTTAL SHIFT	a?a	?utu
Phonetic Forms	[a?a]	[?utu]

Hawaiian differs from that of Tahitian in that it also requires a velar shift rule, and moreover, it also requires that these rules be ordered. Hence the following derivation:

Underlying Forms	/kutu/	/tiki/
GLOTTAL SHIFT	ʔutu	tiʔi
VELAR SHIFT	ʔuku	kiʔi
Phonetic Forms	/ʔuku/	/kiʔi/

The proponents of the independency principle would argue against these derivations (vide supra) because there is no evidence in these languages for either a glottal shift rule or a velar shift rule. Knowledge of these rules is ascertained by means of comparative evidence. When we consider each language individually we see that this, indeed, seems to be the case. In these examples the abstract forms do not differ from their concrete counterparts, and it is for this reason that there are no rules to map the former into the latter.

PAN-DIALECTAL GRAMMARS

The independency principle may appear to be a panacea, but it is not. It introduces a new problem, viz., that of explaining why communication across dialects should continue to occur when the underlying forms of these dialects are so different. Bailey (1969) proposes a solution to this dilemma. He suggests that the sundry speakers of related dialects all share the same underlying forms because no one is completely isolated from the other dialects of a language. It is this fact, Bailey argues, that favors a return to the dependency principle. By constantly being aware of the surface forms of other dialects we are put into the advantageous position of being able to do a sychronic comparative analysis of these dialectal variants. This activity results in the establishment of the same highly abstract forms for all of the dialects of a language.

According to Bailey's line of argumentation, we find that the speakers of Black English and Standard English can no longer argue for different abstract lexical representations because both dialects of English are now viewed as sharing the same data. Since the data is the same, the underlying forms which are abstracted from this data are also the same.

A PAN-GENETIC GRAMMAR OF POLYNESIA[13]

We have already mentioned on numerous occasions that there are many similarities between related languages and related dialects. It is due to these similarities that we have been able to successfully apply the theoretical concepts of dialectology towards a theory of

communication across genetically related languages. The concept of a pan-dialectal grammar is no exception. When the comparative method is synchronically applied to genetically related languages, we speak of a pan-genetic grammar. The reason for this new terminology is to be found in the necessity of distinguishing the traditional diachronic use of the comparative method from its synchronic use. Another reason for this term comes from the fact that we need to differentiate its synchronic application to dialects, on the one hand, and its application to related languages on the other.

The feasibility of a pan-genetic grammar of the Polynesian languages is evidenced by the following data:

	"road"	"nose"	"fish"	"eye"
Underlying Forms[14]	/hala/	/isu/	/ika/	/mata/
Tongan	hala	ihu	ika	mata
Samoan	ala	isu	i?a	mata
Maori	ala	ihu	ika	mata
Tahitian	ara	ihu	i?a	mata
Rapa Nui	ara	ihu	ika	mata
Marquesan	a?a	ihu	ika	mata
Hawaiian	ala	ihu	i?a	maka

	"shadow"	"torch"	"act"	"bury"
Underlying Forms	/qata/	/rama/	/saŋa/	/tanu/
Tongan	?ata	ama	haŋa	tanu
Samoan	ata	lama	saŋa	tanu
Maori	ata	rama	haŋa	tanu
Tahitian	ata	rama	ha?a	tanu
Marquesan	ata	rama	haŋa	tanu
Rapa Nui	ata	?ama	ha?a	tanu
Hawaiian	aka	lama	hana	kanu

	"season"	"three"	"set down"	"eight"
Underlying Forms	/taqu/	/tolu/	/tuku/	/walu/
Tongan	ta?u	tolu	tuku	valu
Samoan	tau	tolu	tu?u	valu
Maori	tau	toru	tuku	varu
Tahitian	tau	toru	tu?u	varu
Marquesan	tau	to?u	tuku	va?u
Rapa Nui	tau	toru	tuku	varu
Hawaiian	kau	kolu	ku?u	walu

In order to derive the phonetic forms of these Polynesian languages from their common underlying representations we must appeal to the following set of rules.

SYNOPSIS OF PHONOLOGICAL RULES[15]

Rule 1 $h \longrightarrow \emptyset$

Rule 2 $s \longrightarrow h$

Rule 3 $t \longrightarrow s \,/\!\!\_\!\!\_\, i$

Rule 4 $f \longrightarrow h \,/\!\!\_\!\!\_\, (u,o)$

Rule 5 $q \longrightarrow ?$

Rule 6 $? \longrightarrow \emptyset$

Rule 7 $k \longrightarrow ?$

Rule 8 $ŋ \longrightarrow n$

Rule 9 $n \longrightarrow ŋ$

Rule 10 $ŋ \longrightarrow ?$

Rule 11 $t \longrightarrow k$

Rule 12 $w \longrightarrow v$

Rule 13 $l \longrightarrow r,\ r \longrightarrow l$

Rule 14 $r \longrightarrow ?$

In Bailey's proposal of a pan-dialectal grammar the phonological rules were presented in a marked order. Our pan-genetic grammar differs from his in that our phonological rules are unordered. Another difference is that in our system we have assigned an ordered subset of rules for each language. This ordered subset is employed for the purpose of intra-language communication. In the event of inter-language communication any one or all of the

modifications may take place:

1. Rules may be added to the subset.
2. Rules may be deleted from the subset.
3. Rules may be reordered.

The ordered subsets for each language are listed below:

Tongan	(R 2, R 3, R 14, R 6, R 5, R 12)
Samoan	(R 5, R 6, R 7, R 9, R 11, R 1, R 13, R 12)
Maori	(R 5, R 6, R 1, R 2, R 4, R 12, R 13)
Rapa Nui	(R 5, R 6, R 1, R 2, R 4, R 13, R 12)
Marquesan	(R 5, R 6, R 1, R 2, R 4, R 10, R 13, R 14, R 12)
Tahitian	(R 5, R 6, R 1, R 2, R 4, R 7, R 10, R 12, R 13)
Hawaiian	(R 5, R 6, R 1, R 2, R 4, R 7, R 11, R 8, R 13)

It should be noted that some languages require more rules in their derivations than others, and this fact appears to be roughly correlated with the distance of a language along the speech chain. The more rules a language requires in its derivation, the farther along it is on the speech chain.

RESIDUAL PROBLEMS

There are three residual problems that the pan-genetic approach fails to explain. The first involves the concept of hypercorrection. As we have seen this phenomenon is concomitant with the independency principle, and hence it is inconsistent with a pan-genetic grammar. The second residual problem is that of non-reciprocal communication. If all of the speakers of the languages of Polynesia shared the same abstract lexcial representations, then we would only expect mutual comprehension. Surely this is not the case. Non-reciprocal communication does exist. The third problem is due to the assumption that the speakers of a dialect or language are always cognizant of other related dialects or languages. This may be true in a highly fluid society where social and regional variations are always in contact. However, it cannot account for rigid societies where dialects are socially stratified, nor can it account for regional dialects which are geographically isolated. The languages of Polynesia provide an excellent example of the latter, i.e. geographical isolation.

HYPERCORRECTION

There has been a tacit assumption among generative dialectologists that we must either argue for the dependency principle or against it. We can't have both. The rationale behind this position is understandable. Mutual comprehension is characteristic of related dialects and the dependency principle captures this fact. The independency principle, on the other hand, claims that dialects have different underlying forms, and this is tantamount to claiming that they are unrelated languages.

It appears to us that neither extreme is representative of related linguistic systems. Both principles can and must co-exist. They need not be disjunctive. If we can accept the fact that the dialects of a language can differ in the number of rules they share, or the kinds of rules they employ, or the order in which they are employed, then we should not find it inconceivable that dialects are similar in that they share the same abstract forms, and they differ where they do not.

One of the immediate consequences of accepting this necessary compromise is that we can assume that the dialects of a language share the same abstract structures, and only in those cases where hypercorrection takes place do we propose a difference, and the exact nature of that difference can be readily ascertained as the following example of hypercorrection across genetically related languages demonstrates.

	"sit"	"to act"
Maori	/noho/	/haŋa/
Hawaiian	/noho/	/hana/

When a Hawaiian speaker tries to imitate a Maori, he hypercorrects. This is done by shifting the dental nasal /n/ of his language to a velar nasal /ŋ/ in order to approximate the nasal stops of the Maori language.

Hawaiian	/noho/	/hana/
VELAR SHIFT	ŋoho	haŋa
Maori	* /ŋoho/	/haŋa/

The Maori speaker does not hypercorrect because he starts out with a dental/velar nasal contrast in his underlying forms, and he applies a rule that neutralizes this contrast on the surface.

Maori	/noho/	/haŋa/
NEUTRALIZATION	-	hana
Hawaiian	/noho/	/hana/

Thus we have systematically accounted for the phenomenon of hypercorrection.

NON-RECIPROCAL COMMUNICATION

Another immediate consequence of accepting a merger between the dependency principle and the independency principle is that it provides us with a means of accounting for non-reciprocal communication. This is deducible from the following examples:

Maori

kua kite te ariki ki te taŋata

Hawaiian

ua ʔike ke aliʔi i ke kanaka

"The chief saw the man."

It is easier for a Maori to understand a Hawaiian upon initial linguistic contact than vice versa. This non-reciprocal communication merits an explanation. It is evident that the underlying forms of these languages differ enough so that mutual communication is initially blocked, and it is evident that the Maori possesses an advantage over that of the Hawaiian. In order to account for this we propose that the following ordered rules are added to the repetoire of phonological rules in Maori. These rules will enable a speaker of Maori to match the phonetic output of the Hawaiian speaker, and thereby effectuate communication.

RULES ADDED TO MAORI PHONOLOGY

GLOTTAL SHIFT	k ⟶ ʔ
VELAR SHIFT	t ⟶ k
LATERALIZATION[16]	r ⟶ l
NEUTRALIZATION	ŋ ⟶ n

The effect of these rules can be seen in the following derivation:

Underlying Forms	/kua	kite	te	ariki	ki	te	taŋata/
GLOTTAL SHIFT	ʔua	ʔite	-	ariʔi	ʔi	-	-
VELAR SHIFT	-	ʔike	ke	-	-	ke	kaŋaka
LATERALIZATION	-	-	-	aliʔi	-	-	-
NEUTRALIZATION	-	-	-	-	-	-	kanaka
Matched Output	/ʔua	ʔike	ke	aliʔi	ʔi	ke	kanaka/

Notice that the outputs need not be matched exactly. This is because linguistic structures are also being processed on the syntactic and semantic levels. Furthermore, the processing is terminated whenever communication is effectuated.

What is important about this hypothesis is not only that it is plausible, but also that it accounts for the direction of non-reciprocal communication. It is plausible for the same reason that people can speak in one language, and listen in another. It accounts for the direction of non-reciprocal communication because the processing is from the complex abstract structures to the simple one.

PROCESSING THE OUTPUT

The final residual problem that we must seriously consider from a theoretical point of view is that of latent communication. This can be defined as the eventual change from a state of non-reciprocal communication to one of mutual comprehension. This phenomenon is both systematic and commonplace. It is found to occur among the distant dialects of a language, as well as among the distant languages within a family. Its systematicity is attributed to the fact that it takes a longer time to accomplish when languages or dialects involved are farther apart in the speech chain.

An illustration of this concept is available to us from our discussion of non-reciprocal communication. What starts off as a non-reciprocal event, terminates with mutual comprehension. The Maori can understand Hawaiian, at first, but not vice versa. The only feasible explanation for this phenomenon is that the Hawaiian speaker has adopted certain linguistic strategies that will enable him to bridge the gap across these languages. These strategies differ from those employed by the Maori. The Maori added some rules to the end of his subset of phonological rules. The Hawaiian must add these same rules to the phonetic output of the Maori's speech, and when a match occurs, communication is

accomplished. Hence the following derivation:

Maori Phonetic Forms	/kua	kite	te	ariki	ki	te	tanata/
GLOTTAL SHIFT	ʔua	ʔite	-	ariʔi	ʔi	-	-
VELAR SHIFT	-	ʔike	ke	-	-	ke	kanaka
LATERALIZATION	-	-	-	aliʔi	-	-	-
NEUTRALIZATION	-	-	-	-	-	-	kanaka
Matched Output	/ʔua	ʔike	ke	aliʔi	ʔi	ke	kanaka/

Evidence in favour of this strategy comes from psychological reports of "shadowing." This is when one speaker immediately repeats what another speaker says. Still further evidence can be found in lapsus linguae.

CONCLUSION

The process of communication across genetically related languages has much in common with that of dialects of a language. We have relied heavily on this in our effort to develop a theory of communication across related structures. In our investigation we have found that some problems were solved by appealing to the dependency principle, and others were solved by the independency principle. We have incorporated these two principles into our general theory. However, this action was not a panacea. There were the residual problems of explaining the direction which non-reciprocal communication takes, and the problem of latent communication. Our solution to these problems has been to appeal to linguistic strategies.

FOOTNOTES

1. A preliminary version of this paper was patiently read by James Hartman of the University of Kansas. I wish to acknowledge his helpful criticism, and his many insights regarding the nature of dialectology and its relationship to this terra incognita.

2. The studies by Wolff (1969) and Troike (1969) appear to be most promising.

3. There are many similarities between such a social phenomenon as diglossia (Ferguson 1959) and that of genetic languages. The differences, when they exist, can be viewed as one in which diglossia is socially stratified language, and genetic languages are regionally dispersed. Both are exemplary of linguistic variation.

4. The concept of "dialect distance" comes from McQuown (1958). We find that the concept of the distance along a speech chain is also relevant for genetic languages, and it is for this reason that we have deemed it necessary to coin the term "language distance."

5. This terminology is taken from Luelsdoff (1970), where he calls it the dependent principle.

6. Halle chose his examples and rules from Joos (1942).

7. These underlying forms were chosen for pedagogical purposes. For an explanation of the more abstract forms "write" /rīt/, etc., cf. Chomsky and Halle (1968).

8. Imitation can best be regarded as an encoding process, and comprehension as a decoding and matching process (Halle and Stevens 1964). Both involve the addition, deletion, or reordering of rules.

9. These forms are representative of Proto-Polynesian.

10. Luelsdoff calls it the independent principle.

11. The lax vowels of English are represented in lower case letters.

12. We shall return to this point in our treatment of hypercorrections.

13. This term is based on Bailey (1969).

14. In a pan-genetic grammar the underlying forms approximate proto-forms. This is due to the fact that we are applying the comparative method synchronically.

15. Rule 4 can best be viewed as an extension rule (Klima 1964). What this means is that the environment of this rule may be deleted, thereby extending the scope of the rule. Rule 13 is a mirror image rule. Its use is constrained by rule features in the lexicon.

16. This rule may be irrelevant as there is no lateral/medial contrast.

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