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Language processes, theory and description of language change, and building on the past: lessons from Songhay

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Abstract

This paper is a continuation of earlier work on the controversial genetic classification of Songhay as Nilo-Saharan (Nicolai 2003), where I show that the results thus far (cf. Bender 1995, Ehret 2001) are unsatisfactory. This is attributable to the authors' models and methods, the assumptions these rest upon, the nature of the data, and *a priori* factors in research.

I discuss theoretical hypotheses regarding the ways in which languages change, the methods and procedures used by scholars, and the ways in which empirical data are used. This leads me to ask the following questions at the outset:

- 1) Are we entitled to make explicit use of virtual or real multilingual/multidialectal factors as normal theoretical parameters in building models of language change and proposing long-distance relationships? (This would imply changes to the classical tree representations and facilitate the incorporation of areal and contact phenomena.)
- 2) Would it be helpful to postulate an anthropologically defined setting for the interaction of structural linguistic forms, basic cognitive processes, and punctual input from historical contingencies, resulting in rearrangements of norms of use and formal structures? (This question is vital to the study of areal phenomena and situations lying beyond the theoretical constraints of the standard genetic model.)

These questions are in line with others raised during the Symposium with regard to the relations between theories of language structure and theories of cognition, the degree of conscious motivation for processes of language change and grammaticalization, and adaptability in language change and functionalization.

In answering them, I make a number of suggestions based on my overall views on the practice of comparative linguistics, the construction of theoretical frameworks, and my recent empirical results in Nilo-Saharan and Afroasiatic.

Il faut résister à un positivisme de premier examen. Si l'on manque à cette prudence, on risque de prendre une dégénérescence pour une essence (Bachelard 1934:159).

Prima facie positivism must be avoided. Carelessness here could lead us to take a degenerative form for an essential one.

Lessons from Songhay

It is always instructive to see methods of proven efficiency encounter serious difficulties in a particular instance. This awakens us to the possibility of widening our viewpoint, rearranging our theoretical and methodological apparatus to deal with the rebellious data, and defining previously unrecognized problems. A striking example of this in the field of problematic genetic classification has recently been provided by the Songhay group in Africa, composed of languages, most of which are trade languages with no written tradition, spoken mainly in the region of the Niger bend and displaying little internal differentiation beyond a division into northern and southern subgroups. Let us examine this case more closely.

I will divide my discussion into three parts. The first is empirical, the second looks to the future, and the third draws conclusions. To provide a concrete illustration, I will begin by summarizing the latest ideas on the genetic classification of Songhay which will show both the inadequacy of tree diagrams for representing language change and the fundamental importance of language contact in the origin and development of this particular language (for further details, see Nicolai 2003). I will also account for the participation of Songhay in what seems to be an area of convergence with the Mande languages.

In view of these results, I will suggest changes to our analytical framework which will give a central role to language contact phenomena and sociolinguistic hypotheses while in no way diminishing the importance of the more traditional approach. I will try to show that the resulting change in factor ranking will be crucial to the understanding of processes of language change.

Finally, I will make a few remarks on the possible impact of modelization in the field of language change.

Apparent genetic relationship.

The inclusion of Songhay in the Nilo-Saharan family, first suggested by Greenberg (1964), was subsequently impugned (Lacroix 1969, Nicolai 1990), and then ostensibly confirmed by studies of Nilo-Saharan as a whole (Bender 1995, Ehret 2001), though these two authors disagree regarding its position on the family tree. The latest

study¹ (Nicolai 2003) provides a detailed critique of the works which attach Songhay to Nilo-Saharan, and attempts to show that the models (tree model of language diversification) and methods (reconstructions, phonetic correspondences; isoglosses) they use, their basic theoretical assumptions (linear development), the nature of the data (no written tradition), and *a priori* factors in research² all contribute to a mistaken conclusion in this sense. Consequently, it is no longer possible to maintain that Songhay belongs to Nilo-Saharan, if ‘belonging’ is taken in its usual genetic sense and ‘Nilo-Saharan’ is meant to be a family (or a family-like phylum) of genetically related languages capable of being represented by a tree diagram.

My own analysis, founded on the entirety of the available Songhay dialectological data, has led me to seek hypotheses which might explain the absence of clear morphological correspondences with other Nilo-Saharan languages and the high proportion of likely Afroasiatic lexical items³ which are neither obvious recent loans from Arabic (e.g., àlbésèl **bʃl** *onion*, àlkámà **qmḥ** *wheat*, etc. or the religious vocabulary of Islam) nor the result of other bounded contacts (e.g., àddà *machete* from Hausa, tukamaaren *cheese* from Tuareg, etc.) but part of basic vocabulary; and not isolated units but sets covering complex lexical domains down to their fine structure (cf. Table 1). Songhay is thereby *reoriented* towards Afroasiatic, which is not to say that it stands in any genetic relationship with this family.

Table 1: Lexical designations⁴ of body parts.

head bòn [Kbl ⁵ : abbay head; cranium]	goiter bókò , soft spot below the lower jaw bokolo [Kbl: ffeqlj be flabby, fat, soft]
palate dáanà (dayna) [Kbl: aney / iney ; Amh: sənaḡ , tənaḡ , lanqa palate]	gums díinì [Hgr: tāyne gums; Tmz: taniwt gums]
hair/feather hámní; himbiri [Ar: ḥabl string; aʕbal thick, tightly-woven rope; Hgr: éhañilen long body hair; téhañilt short body hair; Wlm: abəndal hairy]	nerve, tendon linji Ar: ʕirq root; Tmz: leer nerve, tendon, vein, artery]

¹ Bibliographical recapitulation: 1) Songhay an isolated unit (Westermann 1927), typologically close to Mande (Delafosse), 2) Songhay a member of Nilo-Saharan (Greenberg 1964), 3) hypothesis impugned by Lacroix (1969), 4) Songhay a Tuareg-Mande creole (Nicolai 1990), 5) return to Nilo-Saharan (Bender 1995, Ehret 2001), 6) Songhay derived from a Afroasiatic *lingua franca* (Nicolai 2003).

² I distinguish ‘assumptions’ relating to the model (thus, the tree model of language diversification *assumes* a linear development) from *a priori* factors in research’ relating to the sociological and at times *emblematic* features of scholarly activity (thus, choosing Bachelard rather than Feyerabend or Lakatos as one’s epistemological reference necessarily categorizes the proponent).

³ Not previously identified owing precisely to *a priori* factors in earlier studies. There is no space here to present the data and analyses which support this affirmation. Nicolai (2003) provides a detailed discussion. See Nicolai (in press a) for a summary version. A few examples are nevertheless appended.

⁴ These are only a few examples. Nicolai (2003:296-306 and 384-497) contains an extensive list of useful items. Even that list, however, is neither exhaustive nor definitive.

⁵ *Kbl*: Kabyl; *Amh*: Amharic; *Hgr*: Tahaggart; *Tmz*: Tamazight; *Ar*: Arabic; *Wlm*: tawellemmet; *Gz*: Gueze; *Tms*: Tamajaq.

man]	
<i>fontanelle</i> lònḡò [Hgr: élenḡeou large nape of neck (derisive); Wlm: talləka sinciput // fontanelle]	<i>mouth</i> mē [Hgr: émi mouth, Tmz, Wlm: imi mouth, entry, orifice], <i>eye</i> mòy,mò [mghb: m-mm-w iris of eye, Hgr: emmah pupil of eye; Kbl, Tmz: mummu pupil, iris of eye]
<i>face</i> mòydúmà [Hgr: òudem face; Kbl, Tmz: udem face]	<i>cheekbone/smile</i> múmúsú [Tmz: smummey smile, pout; Wlm: ʃamməʃməʃ smile]
<i>sweat</i> súḡgéy [Hgr: enḡi trickle; Kbl: ssenḡi cause to flow; Gz: ʔngy, sngy, sng, sgd(d), gy melt, flow, sweat]	<i>sneeze</i> tísôw [Hgr: tòusou cough regularly; Kbl: tusut whooping cough; entez sneeze; Gz: ʔaʔasa sneeze]
<i>have diarrhea</i> sóorú [Ar: ishāl diarrhea; ʔaʔara press; Kbl: esrem cause diarrhea; Tmz: nmarsi diarrhea; Tms: zarrat diarrhea; Gz: ʔaʔara press out, press, squeeze, wring out]	<i>tear(s)</i> múndi [Ar: damaʔa tear(s); Hgr: āmit tear(s); Kbl: imeṭṭi tear(s); Tmz: ameṭṭ tear(s)]
<i>urinate</i> tòosì [Hgr: āseas bladder; Tms: tasəyast bladder]	<i>spit</i> tífà [Ar: taffa (tff) spit; Hgr: soutef spit; Kbl: ṭteṭef foam with wrath; Gz: tafʔa spit, spit out]
<i>defecate</i> wá [Gz: ʔəbā dung]	<i>drool</i> yólló [Hgr: ālidda drool (n); Kbl: aledda drool (n); arch: rayyal drool, foam, salivate]
<i>vulva</i> bùtè [Ar: buḡ vulva]	<i>chin</i> danka [Ar: ḡaqan chin; ḡaqn beard, whiskers]
<i>breast</i> fòfè [Ar: ʔubb breast, gusset; Hgr: éfef breast, teat; Kbl: iff teat]	<i>arm/hand</i> kàbè [Ar: kʔb ankle, heel; kaff, kaffah palm of hand]
<i>lung</i> kùfú [Hgr: ekef (be) inflated; Kbl: ikuftan foam]	<i>liver</i> tásà [Hgr: təsa belly (of person or animal); Kbl, Tmz: tasa liver]
Etc.	

Stratification of structural isomorphism and isoglosses.

At the same time, the typological structure of Songhay shows marked morphosyntactic affinity to that of the Northern Mande languages. The examples in Table 2 below (taken from Mandinga and Zarma, important representatives of West Mande and Songhay, respectively) show how extensive the isomorphism is.

Table 2: Examples of Mande-Songhay structural isomorphisms.

Derivation		Word formation:
<i>abstract quality</i> : ya	taráy	derivation and
mòko " mòkoyá	bòró " bòrtaráy 'huma	compounding:
'humanism'	nism'	Overall, both groups use

Compounding		comparable derivational processes and have highly productive compounding according to identical formal patterns; reduplication is also very productive.
jòlì 'blood', síla 'road' jòlìsíla 'vein'	kúrí 'blood', fǒndò 'road' kúrífòndò 'vein'	
Reduplication		
hùlá 'two', sìdì 'tie' hùlahulasìdì 'tie two by two'	ìhínká 'two', háw 'tie' háw ìhínkahínká 'tie two by two'	
Genitive construction⁷		<i>Noun modification:</i> Noun-modification structures are often parallel, including the use of two reversed orders: {Modifying Noun + Modified Noun}, {Modified Noun + Modifying Adjective}.
mdk̄ dèndikoo jifoo the garment, the pocket 'the pocket of the garment'	bànkàaràa zìibàa the garment, the pocket 'the pocket of the garment'	
Adjectival modifier		
móngón kèren nù 'the green mangos'	mángù bóogoo 'the green mango' mángù bóogu 'a green mango'	
Transitive proposition		<i>Predicative propositions:</i> There are clear similarities in the structure of predicative propositions {S Aux O V Cpl} and numerous affinities in the TAM system and the negative conjugation.
sékù dí mìsí sà 'feku bought the cow'	dáwda nà háwó dáy 'ðawda bought the cow'	
sékù mán mìsí sà 'feku did not buy the cow'	dáwda mán háwó dáy 'ðawda did not buy the cow'	
<i>Grammaticalization of lexical items:</i> In both Mande and Songhay, the heads of adjunct phrases are noun suffixes. Some of these derive from still extant lexical items (this phenomenon is of course far more widespread).		
<i>Semantic structure:</i> Subject to further information, these affinities in the structure of semantic fields and categorization would seem to be shared with languages across all of West Africa, rather than being characteristic of the Songhay-Mande alone		
<i>Phonological system⁹:</i> The table opposite lists a few indicative similarities, to which may be added structural features such as the	<i>West Mande</i>	<i>Songhay</i>
	primacy of disyllabic lexemes	
	seven-vowel systems (5 in western Mandinga and Soninke, 6 in Kita Maninka)	5- or 7-vowel systems

⁷ Juxtaposition expresses "inalienable possession" in Mandinga. This is the structure chosen here. It corresponds exactly to Songhay; the presence of the connective in "inalienable possession" does not affect the parallel in constituent order. The four examples marked "mdk" are from Mandinka, cf. Creissels (2001). The choice of Mandinka rather than Malinke does not mean that the structures illustrated do not exist in Malinke; rather that the data available to me for the latter do not contain a suitable example.

⁹ This subtable summarizes Vydrine's (2000) conclusions, which stresses the difference between West Mande and Mani-Bandama.

absence of /p/ and the absence of /t/ in initial position.	relatively large medial consonant inventories, particularly in the north	full consonant inventory in medial position
	length contrast in non-final position in many languages (in all positions in Mandinka)	length contrast in all positions
	2 tones; transition to accent systems in Mandinka, Kagoro, and some Jallonke dialects; 3-tone systems reducing to 2 in Kpelle	2 level tones + rising and falling contours analyzable as a succession of level tones; transition to accent systems (northern Songhay); loss of prosodic contrasts in eastern and western Songhay

But once overall isomorphism is recognized, its linguistic and geographical stratification must then be examined in full detail. Such examination has led us to observe that the structural processes operating in the subsystems of the language have been differently conditioned by the historical factors in play:

- phonological change seems more sensitive to the effects of contact than morphosyntactic change,
- morphosyntactic change seems more sensitive to functional phenomena of simplification deriving from use as a trade language.

At the same time, the contexts of language use (which may change over time) give rise to processes which can modify prior configurations. Thus, we find continual Songhay-Mande contact bringing about an intensification of apparent convergence on some points through the creation of a *Sprachbund*. This is evident from a detailed study of the geographical and linguistic stratification of the shared features (e.g., the geographically bounded merger of /s/ and /z/ in western Songhay in direct contact with Mande languages). Elsewhere, however, we find that convergence has been obscured by subsequent change resulting from the use of the languages in contexts requiring simplification (e.g., the loss of SOV word order in western and northern Songhay). For all these reasons, the phenomena of *linguistic stratification* themselves require particular attention; otherwise, should they be ignored, the resulting input will necessarily lead to mistaken interpretations (see Nicolai, in press b, on these points).

In conclusion, we may assume that, barring future evidence to the contrary, Songhay arose in a complex way from a *lingua franca*, an ancient sort of trade language, whose precise nature (Berber, earlier or later form of Semitic, Ethiosemitic, or other) remains to be established. This language, which was not necessarily homogeneous and probably

of a simplified nature, took on stable form when it was appropriated by populations which originally spoke neither Semitic nor Berber languages. Two hypotheses in this respect are possible *a priori*, neither of which can be excluded at this stage:

- a no longer existent *lingua franca* strongly impacted on and widely relexified another regional language, giving rise to Songhay, or
- that *lingua franca* "was" (in a sense yet to be defined) what has now become Songhay; in such case, Songhay was simply the result of the nativization¹¹ of this language.

Inferences

The language formation hypothesis illustrated by the Songhay data is concordant with the generally recognized criteria for the development of stabilized pidgin languages, and furthermore accounts for the impossibility (or perhaps merely the difficulty) of establishing strict phonetic correspondences despite the kinship in basic vocabulary.

At the same time, Songhay's continued status as a trade language, the anthropological diversity of its speakers, and the correspondence of the current situation to what we know of the medieval African world are all historical features which fit well with this hypothesis. It thereby becomes easier to understand the following three things:

1. *The diversity of the Afroasiatic sources to which the Songhay lexicon can be related.*

We would expect that a putative *lingua franca* with an Afroasiatic base spreading over white and black Africa would have taken over the lexical material required for its use from a number of languages, from Cushitic to Egyptian and Arabic to Berber. What we know of the Mediterranean *lingua franca* suggests variation of lexical sources (Venitian, Genovan, Provençal, etc.) over time showing that change in a comparable situation can be fairly fast.

2. *The extent of lexical diffusion of the Afroasiatic vocabulary shared by Songhay with neighboring African languages.*

If there really was such a *lingua franca* as I am suggesting, it is to be expected that many of its lexical items would have been incorporated into the neighboring Northwestern Mande languages, Wolof, the Saharan languages, and many others including the "truly" (?) Nilo-Saharan ones. A process of this kind would explain the amount of shared "ancient" lexical items revealed by a study of lexical diffusion over the entire West African region. It would also account for the similarities with Mande or Chadic that have been noticed (cf. Creissels 1981, Mukarovsky 1989, Nicolaï 1977, 1984, Zima 1988).

¹¹ Let us speak of 'nativization' of a language as we might speak of 'ethnicization' of a culture. Ethnic groups, like languages, are not necessarily formed by genetic descent; they may quite well come into being without *deriving from* some other one, and then only later provide themselves with a history.

3. *The morphologization of the pidginized language into the prevalent typological framework of the Mande area vs. the relexification of Mande*¹².

This is the phenomenon reflected in Songhay-Mande isomorphism, the extent of which is apparent from illustrations given above. Indeed, Songhay morphosyntax is relatively simple (economical in Houis's 1971 terminology), typologically similar to Mande, and classifiable as type B2 (as defined by Heine 1975) with respect to syntactic ordering.

Genealogical hypotheses and apparent areal convergence.

Clearly, once Songhay is assumed to be a Nilo-Saharan language, it follows that Mande and Songhay belong to two distinct genealogical units. Thereupon, any isomorphism *can also be logically interpreted* as the result of convergence between two groups of languages in close contact. But if the Nilo-Saharan affiliation of Songhay is incorrect, then the present form of the Songhay language is conceivably (or better, in all likelihood) *not an outcome* of a process of linguistic convergence; though long-term contact may reinforce the apparent convergence and end up superimposing a *Sprachbund* situation on the original one. It is *impossible*, on the basis of either of the two hypothetical modes of the creation of Songhay suggested above, to interpret this overall isomorphism with Mande as simply a phenomenon of language convergence in the sense of the archetypal phenomena observed, for example, in the Balkans. This impossibility, as implied by my modified conclusions, is methodologically instructive insofar as it illustrates the degree of interdependence among rival explanations and the effect any ill-founded empirical hypotheses will have on the construction and defence of an overall explanatory system; cf. Nicolai (in press b) for further discussion of the implications of Songhay-Mande isomorphism.

In sum, we are led to the conclusion that convergence is only apparent in the Songhay-Mande case. Rather than highly unlikely 'generalized convergence', we may assume that a 'new variety' of language displaying the major typological features of one preexistent group of languages and containing much of the lexical stock of another must have appeared in a specific sociological contact situation (or sequence of situations). It can be shown that only later did some 'classical' convergence phenomena, particularly of a phonological nature, affect the resulting languages on a limited scale.

The lesson to be learned is that not all observed isomorphisms can be attributed to what is generally known as a *Sprachbund* or area of convergence. Indeed,

- the identification and interpretation of what might seem *a priori* to be an area of convergence is intrinsically linked to the cultural and anthropological setting in which the languages involved arise. Comparable systemic features and a common

¹² Cf. Creissels (1981), Lacroix (1969), Nicolai (1977, 1984, 1990) for remarks on Songhay grammatical morphemes akin to Mande. For a broader view, see Nicolai (in press b).

geographical location are thus insufficient evidence on which to base a conclusion regarding the kind of process whose outcome is the current situation, particularly when the historical facts are poorly documented;

- isomorphisms which cannot be explained by genetic relationship may just as well result from processes of language creation as from processes of modification of preexistent languages.

An inventory of the kinds of contact situation which give rise to isomorphisms should therefore be established. This involves taking into consideration not just the analytical operations conducted by speakers, but *also* those of the descriptive linguist himself. While it may be absurd or simply wishful thinking to try to establish a one-to-one relationship between types of language development and types of contact situation or anthropological setting, such an attempt provides the groundwork for shaping hypotheses and in any case is essential to the descriptive process.

The consideration of these facts leads to two more conclusions of a more general nature:

- Whenever a model is improperly imposed on recalcitrant data, there is a danger that *conceptual arm-twisting* will give rise to fallacious representations (see Nicolai 2003). Forcing Songhay into the Nilo-Saharan framework provides a good example of this.
- Whenever the *shape* of a phenomenon (e.g., an area of convergence as defined by the set of isomorphisms found there) is established by linking concurrent factors and underlying processes without regard for any theoretical framework or prior analysis, there is a danger of a *semantic cover-up*, as when Songhay-Mande isomorphism is characterized as a convergence phenomenon (see Nicolai, in press b).

In the light of this case study, I should like to consider the frameworks which can be helpful in apprehending phenomena of language change. Their use as points of reference and the way they are linked to wider typological questions should, I believe, be seen in the light of two other issues, *the role of multiple codes*¹³ and *the anthropological context of their use*, though I am hardly able to provide definitive judgments on either of these points. My questions are:

- Should real or virtual multilingualism/multidialectalism not be one of the normal parameters of theoretical models of language change and long-distance relationship? If so, the shape of traditional tree diagrams is liable to change, and it becomes easier to integrate the effects of language contact and areal phenomena.
- Should an "area" not be defined on the basis of anthropological criteria within which language structures, elementary cognitive processes, and matters of historical contingency all come into

¹³ I use the term "code" here in the widest sense to refer to any formal feature shared under an explicit or implicit convention which allows a meaningful distinction to be made in a communicational exchange.

play in the recomposition of norms and codes? This would be vital to the study of areas of convergence and situations which do not fit well within the standard genetic model.

Any attempt to answer these questions should lead to a clearer view of the entire problem of language change in situations where the appearance of languages is inherently linked to contact phenomena and an anthropological dimension. I shall thus try to establish a connection between two deceptively complex intuitive notions which can be subsumed under the terms 'contact' and 'genetic origin'. In trying to do this, I shall keep in view what seems to me to be the essential nature of language itself: its social dimension and the inherent heterogeneity in the way humans exercise the cognitive capacity to restructure and rationalize what they construct as a language.

The invariables of language change

Linguistic situations of the Songhay type have shown how great the need is for analytical models of language change which give suitable priority to considerations regarding language contact and social behavioral contexts in processes of linguistic communication. Such considerations have, of course, never been totally ignored; yet they have often been treated as epiphenomenal on the basis of ordinary models of individual language structure within a given theoretical framework. Consequently, contact phenomena have been described as (unnecessarily) complicating a simple situation, rather than as part of a basically complex initial state of affairs, the very frame of study. Must we accept that linguistic processes can be correctly apprehended only on the basis of the theoretical *a priori* hypothesis that the right way to start is by postulating a homogeneous structural system? Or would we not be wiser to avoid such reductionism and try to set out from an initial *postulate of complexity*?

This choice of initial postulate is fundamental insofar as it must affect the framework for the explanation of the observed phenomena, as we shall see below from the interconnection of the four themes which I shall develop within the framework of an avowedly multilingual approach. It must nevertheless be said explicitly that this approach is *tentative* and does not aspire to be strictly theoretical. *A priori* strictness is precisely one of the defects I wish to reject, along with the absence of any theoretical framework whatsoever.

The multilingual approach

1) *Multilingualism and/or multidialectalism*¹⁴ are both fundamental to, and commonplace in language in general: this is the canonical situation for the description of linguistic communication and the analysis of the processes it involves. The need to deal with more than one linguistic and/or other code is evident even in such extreme situations as monolingual groups which reject everything extraneous

¹⁴ Note that multidialectalism should not be treated as a first stage to multilingualism, even though there are models which consider it to be historically prior. Rather, multilingualism and multidialectalism appear concomitantly.

and condemn all departures from the norm (e.g., the Bororo Fulani, adolescent groups, etc.). This ineluctable diversity of codes is one of the necessary conditions of symbolic behavior in general and language behavior (the interaction of language use and language structure) in particular. **Rhyming slangs, pig Latin, and other language games can be interpreted as proof of this necessity. The social functions of these practices as identity-building and exclusivist are founded on the functional dynamics of multiplicity.** This is why it must be brought to the fore in all analytical discussions.

The apparently simpler option of taking monolingualism as the *normal* state of affairs is the result of a rationalization which cannot account for the commonest situations of communication and hence fails to provide the means for describing them properly. Indeed, the analytical process is thereby blinded insofar as the dynamics of multilingualism cannot be (re)constructed by the mere induction of complexity from a set of juxtaposed monolingual situations. This, of course, has nothing to do with any holistic philosophical assumption; in this connection, we might recall Bachelard's notion of "*generalization by negation*": "*Generalization by negation must appropriate the negated term. All the last century's advances in scientific thought can be set down to such dialectical generalizations which appropriate what they negate, as non-Euclidean geometry appropriates Euclidean*" (Bachelard 1940:137). The inversion of the canonical situation as suggested here allows the monolingual situation to be appropriated *as simply a particular case* of the multilingual one.

Hence, the first component of any explanatory approach must obviously be this requirement that more than one code be available to speakers. Whether such codes are actually different languages is less important than the recognition of their availability and possibilities of development. The consequence, though trivial, should be made explicit: this fact that codes can be altered within a specific anthropological setting which guarantees their meaningfulness provides the basis for the processes of emergence and material transformation of languages.

2) *The communities within which language processes take place are likewise not homogeneous.* They must therefore be considered to be areas of contact by definition (this again is not simply a *factual observation* but also a *theoretical postulate*), whose features predetermine the processes of communication. It is perhaps preferable to speak of *social fabrics* (with emphasis on texture or structure) rather than *communities* (with emphasis on partition and borders), since the participants have a concrete apprehension (whether conscious or not) of the nature and rules of the communicational structure within which they interact and the reasons why they are engaged in it (what good it is to them). On the other hand, they do not generally find it helpful to

have a *precise* idea of the limits of their community or a symbolic representation of it. Hence, the first practical object of study is not linguistic structure, which is a *construct*, but exchange and the contact of languages and speech varieties within social fabrics through the interplay of the available ranges of codes.

A *language community* can be variably defined according to the boundaries or set of boundaries recognized by the participants in a given act of exchange or how they categorize it. *Language community* is thus a derived notion. Consequently, a general *condition of heterogeneity* must be regarded as an elementary principle of language behavior. The norm for the linguist should thus be that any linguistic exchange in a given functional setting must be stably defined as a potentially multilingual or multidialectal situation.

There are two corollaries to this: first, contact situations are inherent in the constitution of any language community whatsoever. This means that, even in an ideal case where there is null internal (lectal and/or social) differentiation, some such differentiation would ultimately emerge and become established *de facto*. Secondly, linguistic exchanges necessarily transcend the limits of any ostensibly homogeneous community (cf. in particular Nicolăi 2001). An offshoot of this is that the boundaries of any language, dialect, or other lect, so often viewed as essential, are a social construct which can be manipulated and reshaped according to the strategic needs of the moment. See Canut (1998:163-4) and Juillard (2001) for an approach to heterogeneity and the construction of boundaries.

Let us nevertheless not forget that, for obvious reasons, this does not entail that any empirical process in a multidialectal context will have the same outcome and be directly comparable to one in a multilingual context (we need only recall here the case of koines). It simply implies that the two contexts will be subject to the same *heterogeneity condition* which governs any exchange.

3) The '*finely layered range*' of codes (rather than the '*languages*') potentially available to the individual and/or the community constitutes a continuum for linguistic rearrangement. This continuum is not a *finite space*: it can always be structurally replicated merely through the use made of it. I relate fine layering to all speech activity in the course of which norms and expressive traditions are created, new ways of speaking come into existence, and customary uses of language (often reified by linguists as *registers* or *genres*) are utilized. Such activity, definable rather in terms of communicational situations than with reference to any specific language, may give rise equally well to stable and lasting speech forms as to ephemeral phenomena. For example, today, in France, the highly symbolic speech forms which have arisen among the young, particularly in the housing estates of the poorer suburbs of large cities, can thus be apprehended as an illustration of

fine layering. Any differential speech activity whatsoever could, however, be interpreted in this way, provided it carries with it the production of a new norm or expressive tradition.

As a process, fine layering operates by putting out and picking up those phonetic, prosodic, morphological, lexical, syntactic, discursive and conversational features, selected from an available repertory, which have as one of their functions the ability to serve as contextual cues in discourse (cf. J. Gumperz 1982). The use and reuse of such features is closely monitored by *legitimate* participants in the given type of speech activity and treated as indicators, in conjunction with other symbolic and behavioral markers, of the continual formation and dissolution of transient human groupings. The reuse of any linguistic feature more for its contextual significance than for its referential value is *technically* one of the procedures involved in fine layering. I shall speak in this case of the *anaphorization* of past uses. This is ordinary behavior and no language can fail to show evidence of it.

Let us look at two correlative aspects of fine layering: layering as *activity* and layering as *outcome*.

As *activity*, fine layering can be seen as the *generating force* for paradigm building¹⁷, given that creation, retention, or rejection of this or that expression brings about change, whether simplification or complication, in the entities contained in the non-finite space of the repertory¹⁸ within which the outcome is being built up. Correlatively, it should be obvious that such alteration / retention / suppression of linguistic features by virtue of this eminently sociolinguistic process has the effect of constraining the linguistic results which can be attributed to the “structural mechanics” alone of a given language; for this is the true locus of transformation and reorganization of linguistic structures through the processes manifested in the contingent and continuously interpreted historical unfolding of verbal activity.

As *outcome*, fine layering can be apprehended in the *concrete stratification* of the repertory available to the speaker: it involves on the one hand the specific forms and units which speakers *choose* (consciously or unconsciously) because they value them highly, and use strategically in communication, and on the other hand, the use of specific discursive or conversational sequences, which are no less identifiable for being procedures rather than components. Differently stated, this aspect involves both the functionally essential components of a *linguistic structure* (e.g., the alteration, retention, or suppression of

¹⁷ By this expression I designate the operation, usually enriching the repertory, which consists of assimilating alternative, discursively developed forms and manners of speaking for subsequent use. These constitute a paradigm insofar as, despite having identical reference, they have different meaning (cf. Frege 1892). Note however that this operation does not invariably involve enrichment; in a suitable anthropological setting, the result can be the impoverishment of the range of paradigmatic choices.

¹⁸ In another area of paradigm building, we might also see a fine layering effect in the stratification of the utterances which are potentially entailed by the paraphrasability of utterances produced in any verbal exchange; indeed, there is rarely only one way of saying what one wants to say, with regard either to intended reference or to implicit correlates and any symbolic intentions.

morphosyntactic constructions) and the functionalized *positive signs* (e.g., the choice of lexical items or phonetic or prosodic features) used in a signalling system lending itself either to further development or to rejection. It is further determined by that cognitive operation which organizes linguistic processes according to its own inherent structural principles and whose apprehension is the ultimate object of typological description.

In sum, we may say that there is a *fine internal layering* of the repertory which is essential both to the language faculty itself (as activity: it provides the generating force) and to that of the functionalization of individual languages (as outcome: new layers can always be added), and that this factor cannot be ignored in the description of language change. I therefore use the expression *fine layering* to refer to the capability of any language repertory to behave as a *source* for the reworking and, on occasion, even the splitting off of lects and verbal practices created by the refunctionalization of features, linguistic forms, and materially available discursive and attitudinal fragments (Nicolai, 2001).

In even more synthetic terms, let us say that the notion of fine layering rests on the following hypotheses:

- within the range of layers delimited by each *de facto* exchange, whatever their number (drawing from the lattice of languages, lects, habits, forms, standards, interpretations, etc.), a restructuring of the given set is always possible without the intervention of external factors, and

- a new layer can always be added or an existing one eliminated by the simple self-referential process of fixing upon a linguistic feature of some previous discourse, whether this be anaphorization, cross-discursiveness, or something else again.

It thus becomes possible to grasp the overlay, the interweaving, and the multiplicity of the variants and practices in the repertory without the *a priori* assumption of their structural homogeneity.

Fine layering is thus both the outcome and the substance of a *continuous stratification* giving no guarantee of any inherent regularity which would allow us to anticipate the development of the layers or the shape they will ultimately take on.

Finally, to the extent that we concern ourselves with speakers' *repertories* rather than with the *languages* they know, we can see that all the speech norms, both conscious and "infraconscious" (whether subject to negotiation or not), the lects, and the manners of speaking which mutually define, contrast with, and condition one another are being constantly impacted upon by a variety of factors including continual splitting and regrouping, which may bring into play the individual's consciousness of his own identity; and this is precisely the process by which language undergoes change and acquires stability.

4) *The anthropological setting*: All of the above suggests that the processes of language change with all their relevant parameters occur within a conventional, contingent, historical setting. Hence, if acquired and transmitted *linguistic forms* (these of course include norms, regular variations, particular lexical and phonetic features, syntactic constructions, and so forth, all of which are potentially vectors of identity and sociocultural classification) other than structural organizations in the structuralist sense and the elementary cognitive schemata which underlie various contemporary theoretical approaches are to play a role in the explanation of language change, we must apprehend these forms as *anthropological constructs* arising from a particular *anthropological setting*, which can be defined as the *substrate* for their appearance.

The intervening space:

Lastly, the theoretical and methodological clarity of language description will be enhanced (even in the absence of any empirical necessity) by the definition of the framework within which these anthropological constructs and the processes they involve are to be situated. I call this framework the *intervening space*.

The intervening space is thus a *theoretical construct* deriving from the requirement that any description be articulated according to the full set of factors which allow us to apprehend the dynamics of language change as set forth above. This space is the locus of neither the 'subject' of the psychologist, nor the 'speaker' of the linguist, nor the 'group', the 'network', or the 'community' of the sociolinguist, but rather of another 'agent' which I shall call the *homo loquens* and which I shall define as an *active entity* whose form of activity remains to be described. For our purposes, we need simply assume that this *homo loquens* is none other than the agent, theoretically constructed, cognitively and historically specified, but not linguistically determined, required by the anthropological constructs which take form, then structure and define one another over and again according to the necessities of the moment within a communicational space where the fine layering of the always non-finite repertory has been identified in its full linguistic specificity.

Specific processes of the kind observable in Songhay, no less than the phenomena of areal convergence, analyzable in terms of metatypical processes (cf. Ross 1997), which depend on other determining factors, provide good examples of change which can be set down to processes directly determined at the level of the collective representations generated in the intervening space. But the reference to this coordinating framework is even more useful when one stands on the limits of language apprehension in situations of need and structural crisis of the kind envisaged by Manessy (1995) in his study of creole languages, which led him to develop the notion of *semantax*. All of these cases involve processes which cannot be accounted for by mere structural and cognitive contrasts, lie beyond the domain of the language as unit of reference, and assume a higher degree of complexity.

My answer to my two original questions is thus strongly affirmative. The multilingual/multidialectal dimension must indeed be made an explicit component of models of linguistic processes, and a relevant anthropological setting extending beyond the individual language must be defined if the processes the latter undergoes are to be properly accounted for. We may conclude with another relevant remark by Bachelard (1934:142), who observed that "*the Cartesian method is reductive rather than inductive, and reductive in a way that distorts analysis and hinders the extensive development of objective thought. [...]the Cartesian method, so successful in explaining the world, is incapable of complicating experience, as all objective research should*".

Tools

At this point, a distinction must be made between the attempt at theorization and the task of creating descriptive tools. I shall refer here to a few tools which various scholars have used in recent years to account for some of the processes involved in language contact. My list will not, of course, be exhaustive; I shall limit myself to mentioning some of the notions and/or images which can be used for internal or external models.

I use the expression '*internal models*' to refer to those which are intended to represent *shapes* (see above) in terms of processes such as *pidginization, creolization, koinization*, and so forth. These are notions which bear the imprint of the historical context in which they appeared, but which have evolved through efforts to conceptualize them in a context-free manner. These efforts have made it possible to shift them from reference to empirical observations towards reference to a notional process¹⁹.

Terminological inflation is an obvious problem in this field: pidgin, creole, vernacular language, trade language, continuum, prepidgin, postcreole, semipidgin, semicreole, creolization, pidginization, recreolization, decreolization, etc. These are all terms which are often hard to correlate with at least identifiable if not stable contents, to relate to their historical substrate, and to take over into a theoretically stabilized explanatory structure. We might thus find ourselves speaking of Western Songhay as partially pidginized, or of Dendi (the

¹⁹ This discussion forcefully recalls Bachelard's comments on the strength of imagery. Discussing the importance of the image of the sponge in the 18th century to explain a number of phenomena of physical extension, he cites Réaumur and remarks (1947:75), "*His entire thought derives from this image, and is incapable of progressing beyond this primary intuition. When he tries to erase the image, its function persists [...] He might ultimately agree to give up the sponge, but he wants to hang on to sponginess. This is proof of an exclusively linguistic development entailing the conviction that, by associating an abstract word with a concrete one, an intellectual advance has been achieved. A coherent doctrine of abstraction would require a greater degree of detachment from primary images*". Bachelard is speaking here of historical configurations, but the fact remains that vigilance is required whenever we come across notions whose definition is overloaded by their reference or their connotation. There are many of these.

Songhay dialect spoken in the Niger/Benin/Nigeria border region) as a revernacularized trade language.

As an example, let us take the notion of 'vernacularization' used by Manessy (1995:96), who defines it as *"the effect produced on a variety of languages by two complementary processes: the simplification of grammatical structures and the compensatory development of other means of expression. In a way, simplification is given at the outset [...] It results [...] from the relaxation of a sociocultural tradition so as to free a language from normative constraints. The common factor in all these situations is that the use of a simplified variant is interpreted not simply as a way to achieve common understanding but as an expression of solidarity which transcends ethnic differences within a given framework such as town, region [...] or nation state [...] This solidarity is manifested through the communality of discourse conventions"*. Clearly, the essential point from the linguistic standpoint is the existence of phenomena of simplification in the form of perceptible changes each time a given community uses one of the languages in its range and restricts its use, whether deliberately or not, to some part of the functions which it might otherwise have. Psychosocially speaking, the development of a situation of *complicity* is the factor which stabilizes a given linguistic form by creating specific conventions of discourse.

Vernacularization is thus linked both with pidginization (insofar as both are marked by the same type of simplification) and with creolization (insofar as the latter implies the normative stabilization of a simplified variety of language). This is the process which gives rise to a representation of the speech practices of a community which do not as yet show the increased complexity characteristic of creolization, though they are its precondition. Vernacularization is thus the first stage in the process of creolization, as Manessy stresses when he says (1995:129), *"We propose to use the term 'vernacularization' to designate the set of linguistic processes which are set in motion within a given language variety as it is appropriated"*. The process of appropriation, which is psychosocial in nature, is thus the essential factor in this development. The field of application of the notion has been defined; it now remains to organize the theoretical field within which it must apply and prove its validity.

The question may be stated as follows: once these notions have been extracted from their historical context and defined, to what extent do they capture the elementary linguistic processes involved and/or to what extent are they the representation of still vaguely defined operative phenomena which remain to be analyzed within an as yet undeveloped theoretical framework? This question cannot necessarily be answered here; it is even unclear whether it has an answer. At the

same time, there is no reason to think that the absence of an answer constitutes a handicap for understanding the observed phenomena. In any case, the processes (such as those which bring vernacularized forms into being) are neither described nor explained simply because they have been given a name. At best, the term 'vernacularization' delimits a category of empirical phenomena which are classified together on the basis of supposedly shared features such as simplification; not because they are less historically marked do they become more precise. *Processes are thus notions which require an explanation and not tools for providing one.*

Of more recent origin, *external models* make use of mathematical representations or schemata of regular processes. In developing *metaphorical extensions* of models applied in other domains to apprehend complex phenomena which are beyond the reach of a deterministic approach, they abandon explanatory aspirations and try only to account for processes which can be characterized geometrically or topologically. This is modest on the one hand, in that ineradicable pretensions of explaining linguistic facts are set aside, and ambitious on the other, in that a new pretention of shifting the domain of relevance comes to the fore. Recourses to catastrophe theory (Thom, 1974), fractal theory (Mandelbrot, 1975), dissipative structure theory (Prigogine & Stengers, 1979), and chaos theory (Ruelle, 1991) fit into this category.

Among those who have taken an interest in the heuristic capabilities of this kind of model for the study of language processes and language change is Lass (1997). His perceptive study explores the explanatory potentialities at the intersection of biological models and metaphorical conceptualizations drawn from chaos theory (cf. *point attractors, sinks, limit cycles; cyclical attractors; arrows and cycles; flow; chreods; drift*, etc.). He postulates contingent topologies (*epigenic landscapes*, etc.), which are not far removed from the substrate spaces of catastrophe theory, correlated with the identification of causal mechanisms and evolutionary configurations (cf. *stasis, punctuation*) which relate explicitly to the biological evolutionary models of Gould and Eldredge (1977).

The question which arises, whenever a model is to be exported, is exactly what is being modelled and what relationship exists between the properties of the model and those of the objects to which it applies. Do the former mask or illuminate the latter? Do they have an effect on perspective? What is added by the newly transferred model to the already available perceptions? Could one perhaps identify a specific anthropological setting such as the one characteristic of the emergence of the Songhay languages in terms of processes occurring in a definable "epigenic landscape" which differs structurally from some other type of anthropological setting, such as the one characteristic of the Oceanic et Melanesian area, which has given rise to the notion of metatypy (Ross 1997)? More importantly, is anything to be gained from such a modification in terms of general linguistic theory and an understanding of the phenomena of language change?

Moreover, there can be more than one level of models corresponding to incommensurate scales in the apprehension of the phenomena. For example, the tree model of language change operates on a level which is totally unrelated to those on which morphological representations of the *Cusp of Whitney* found in catastrophe theory (cf. Thom, 1974:157) or the *strange attractors* of chaos theory (cf. Ruelle, 1980:131) might conceivably apply. The fractal approach, which apparently has applications in demography (cf. Le Bras, 2000), might provide a broad-scale approximation to phenomena of linguistic diffusion. In these cases, are the metaphors involved (for these are indeed still metaphors at this stage²²) of heuristic interest or, on the contrary, do they create opacity?

Bricks and metaphors: What are bricks for? For building houses, obviously. Well, both internal and external models referred to above provide nothing more than "conceptual bricks". There are other equally well organized, factually oriented approaches which have made contributions to the same edifice (cf. Thomason & Kaufmann 1988 and their analysis of interference, Manessy 1995 and his development of semantax, and Lass 1997 and his thoughts on the processes of change). Each of these conceptual bricks bears its factory imprint (i.e., metaphorically speaking, is referenced). This is both enriching and problematic. In the end, however, the important thing is what can be built from the bricks and the architectural idea which brings the whole together²³, since that idea must be anchored in empirical reality and lead beyond self-reference.

The aim is thus not simply to find / invent a local or overall model which captures certain apparent phenomenal regularities. It is also to evaluate the extent to which this translation can account for properties whose relevance has previously been recognized / posited / envisaged on a theoretical level, given a few *a priori* principles and an at least momentary correspondence to a particular class of empirical phenomena. The import of these apparent regularities and the way in which the model helps to make them meaningful must also be evaluated. In short, the thing apprehended must be conceptually grasped in its initial coherence (which is thereby put to the test) and in the characterization of its relevant functions; and the model must be found capable of magnifying precisely the desired defining functions

²² It should not be forgotten that all these theories have mathematics as their domain, and that the relationship between the formal properties of a model and the objects to which it applies must be established or at least explicitly set out in order for the exportation to go beyond the level of the approximate metaphor, however enlightening this may be in itself.

²³ Thus Lass (1997:293) finds his tools helpful but stresses that "*what counts is the image of an evolving system as a kind of 'flow' in some n-dimensional space, and the existence of regions in that space towards which the flow tends to converge*".

and relations by making them explicit and translating them. We thereby return to the subject of metaphor.

When reflecting on the process of conceptual elaboration, Lass (1997:42) remarks that *'[a]mong the important constructivist devices available to the historian is the creation of metaphors; metaphorical images can define and create new natural or conceptual kinds, which then become legitimate objects of exploration, and enrich the discipline's universe'*. Again, *"we may notice (a) that [our own metalanguage] is much more metaphorical than we think, and (b) how important these metaphors are as devices for framing our thinking, and how much of our theory they actually generate"*, and this is in a way evident. To this, Bachelard's reply (1947:38) might have been, *"A science which accepts imagery is the most vulnerable to metaphors. This is why the scientific method must constantly struggle against imagery, analogy, and metaphor"*. Or again (1947:81), *"The danger of immediate metaphors for the development of scientific thought is that they are not always transitory images; they instigate autonomous thought and tend to expand and reach fullness in the domain of imagery"*. The debate remains open.

Perspectives

The issues and the framework for the issues: The discussion hitherto should suggest a framework whose objective would be to retain the explanatory power of existing theories while placing them in context (see the remarks on negative generalization above). An aim of this kind helps to place the problems of language processes and description of change in a new focus. It is in this respect that my concerns merge with others expressed at this symposium trying *"to identify hitherto unstated or understated fundamental issues in linguistic theories taking into account the rich variation of forms and functions observed in the languages of the world"*. Some of these *"unstated or understated issues"* are illustrated by the preceding debate, since there is no assumption of the multicode reference framework I have been suggesting in the stance that makes utterances such as *"What should be the proper object for theories of language structure?"* or *"What should a theory of language structure explain?"* comprehensible.

This is also so of questions such as *"What are the motivations for language change and grammaticalization?"* or *"Does human conscious choice play a part in language change?"* Taking a position from the outset that recognizes multicode as a defining feature of communication will entail changes in the analyses. Allowing for processes within what I have called the intervening space will reorient analyses in directions which it is far too early to spell out²⁴. At the

²⁴ We are no longer faced with a simple process of change which can be analyzed almost deterministically with perhaps some allowance for contextual effects (the ordinary framework for the *a posteriori* explanation of a clearly identified and localized change) but are not yet (far from it) in a situation governed by chance and pre-constrained by a specific substrate. The most accurate prediction in the treatment of complex phenomena of any kind (in meteorology, economics, etc.) remains that of the margin of error.

same time, the focus on the need for models suggests that we should be far more demanding before we agree to use them.

Grammaticalization can thus be set down to a process governed by the dual effects of wear and cognitively oriented reorganization of language structures (dominant and recessive structural types, shift from concrete to abstract, etc.²⁵). But are these two processes what they seem or do they, like the notions mentioned above, rather stem simply from giving a name to an outward appearance or an *a priori*? Are they not modified by the postulate of multiple codes?

Is the suggested link between dominance and improved cognitive adequacy anything other than a hypothesis based on the consideration of a known contingent process of formal structuring? Is the expansion of a given form / structure necessarily linked to its effectiveness within a cognitive and neo-Darwinian conceptual background or are there other perhaps less intuitive alternatives? How can this expansion be justified without circularity? Is this anything other than the kind of shaping which one of the external models which account for the creation of order in accumulations might provide? Or could other models originating from interactional sociology not be used via, say, the interplay of agents involved in a system of interdependence with the development of an emerging phenomenon? Even without lengthier analysis, several possible approaches appear clearly, each relying on a given level of explanation and system of relevance.

Again, is it true that the concrete precedes the abstract and what might this mean? How could we imagine, even at the "beginning", a language without the inherent correlative abstraction which a symbolic system implies by and for its very existence? Perhaps in this case, another process should be conceived which, on a given occasion, might look at first sight like a passage from the concrete to the abstract of the kind which is axiomatic in many works on natural semantics. Finally, it might also be better here to apprehend this fundamental duality as a complex phenomenon rather than trying *a priori* to assign a *direction* from one facet to the other of a process of symbolization and find proof / traces of this in language change.

Finally, what we find here is that no one model will suffice to account for the phenomena under consideration. While it is clear that each subdomain is apprehended through a system of relevance and that each model gives preference to its own representation, the set of subdomains is in constant interaction, and this in turn validates other models and brings out new relevancies. There is thus nothing surprising in the fact that questions originate in different *temporalities* and refer back to different dimensions so as to support heterogeneous modelizations.

In the same way (initially, there is no alternative), their apparent simplicity disguises a formidable semantic plurality: to speak of "*human conscious choice*" is to bring in the potential effect of all

²⁵ All of these are notional tools from the conceptual arsenal whose history could doubtless be followed back via a cross-disciplinary analysis of scientific discourse. Their common use and status as elementary concepts do not make them accurate descriptions nor *a fortiori* valid explanations.

manner of legislative activities; yet there is action without explicit legislation and without reference to institutionalized normative representations (cf. the development of discursive and/or linguistic norms in many communities). But here again, on what scale is the effect of choice being recorded (from the level of the temporary interactive group to that of a splitting of the community; from the interpretation of a process as a function of contemporary use to the recording of change over several thousand years, etc.)?

Finally, if it is accepted that neither the individual nor the speakers have any direct effect on their language, what inferences can be drawn regarding the construction of a collective entity referring back to a potentially active *homo loquens*, which is as much of a construct as the 'speaker': an entity with no consciousness though necessarily possessed of memory and normative references defined at a level independent of the one on which the structural processes of languages are built; an entity which can be defined to the dimensions of an anthropological space whose limits are not necessarily those of a given language since it comes under the effects of linguistic, cognitive, and cultural dimensions all at once?

I am fully conscious of going beyond the limits of what can be expressed within the framework of a symposium. It is likely that such issues could only be dealt with in a fully fledged program of new research.

Towards a conclusion

In this paper, I have discussed the nature of language contact and diverse aspects of language change in the light of a particularly difficult case. I have also set forth a number of theoretical considerations which will help to grasp the importance of certain aspects of language change which I feel have too often been neglected. Finally, I have briefly suggested ways in which notions of model making might be used to describe the results of these processes. No one of these three themes is directly dependent on any other, none can be induced in any way from another. It is nevertheless obvious that they require correlative consideration and development. The implications of a number of simple ideas require closer examination. Fuller appreciation of the complexity of the structures we deal with must be sought, and descriptive models²⁶ need to be developed which identify agents which are intrinsically active in their field of reference (intervening space, linguistic space, etc.) and provide more than unanalyzed representations from this standpoint (such as those which are characterized as processes deriving directly from the consideration of historical phenomena: "tendencies" such as convergence)²⁷.

²⁶ These must be neither opacifying (hiding what they are intended to illuminate) nor residual (oversimplifying what they are supposed to account for). In either of these cases, the problem is avoided, and the sum of the knowledge acquired is either nul or negative.

²⁷ Like many others, I once found notions of processes such as pidginization, creolization, etc. stimulating and perhaps heuristic. I do not now renounce them but, after further reflection, I hope to have assigned them to their proper place. This is proof of their usefulness and opens the way to moving beyond them.

In the *intervening space*, for example, to what extent would models in terms of systems of interdependence with their emerging forms not be better adapted to interpreting linguistic transformations so as to provide feedback for refocussing certain strictly formal processes? The appearance of normative representations and their structuring could probably be interpreted, according to the context in which they are realized, as emerging effects of a complex system in which functional role and interdependence work together. And this is equally true of the description of processes apprehended over their historical development. But this is perhaps oversimplifying.

Finally, in order to stress the fact that my discussions are creating a *local norm*, I shall conclude with a counterpoint in the initial key.

Science on Cartesian principles quite logically complicated the simple, but contemporary scientific thought tries to read real complexity beneath the simple appearances of adjusted phenomena. It tries to find pluralism beneath identity, imagine occasions when identity might be broken down beyond immediate experience, itself too readily compacted into a broad view. These occasions do not come of their own, they are not found on the surface of being, in fashions, in the picturesque aspects of shimmering, orderless nature. They must be picked out of the heart of substance from within the contexture of its attributes. (Bachelard 1934:143)

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