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What an Innatist Argument Should Look Like

1. The Issue of Innateness

The so-called "innateness" issue has been a focus of controversy in linguistics for over a generation, although the precise issues at stake are not clearly delineated in much of the argument. The basic innatist claim is that expressed by Chomsky:

> ... that certain aspects of our knowledge and understanding are innate, part of our biological endowment, genetically determined, on a par with the elements of our common nature that cause us to grow arms and legs rather than wings. This version of the classical doctrine is, I think, essentially correct. (Chomsky 1988:4)

In specifically linguistic terms, the claim is advanced in connection with the rather ill-defined notion of a "human linguistic endowment"; the assumption underlying much argumentation and rhetoric in generative linguistics is that a great deal of linguistic structure is to be accounted for in terms of an innate "Universal Grammar".

Given the simple facts that language is unique to the human species, and universal across it, the inference of a species-specific linguistic endowment is inescapable. However, as it is generally used, the concept of "innateness" in linguistics is quite closely parallel to the concept of "vital essence" in biology. Both are in effect simply face-saving admissions of defeat. The Vitalist argues (or argued; this doctrine has few adherents nowadays) thus: organisms are made up of the same elements as the rest of the world, but they clearly share something that makes them different. We can

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replicate the chemical compounds involved, but we cannot make them live; again, living things clearly share something besides their chemistry, something which we cannot replicate. We cannot isolate that something in the chemical laboratory, so it is not chemical. Thus it is some sort of thing that we know nothing about, but the irrefutable phenomenon of life assures us that it is real. Therefore we must posit a mysterious new sort of entity, "vital essence", to explain what is otherwise inexplicable.

In an exactly parallel way, the innatist argues: language seems to be in some sense the same stuff as the rest of cognition, but our understanding of cognition does not give us what we need to explain its acquisition and systematicity. Thus there must be some mysterious force underlying language, something which we cannot model in terms of what we know about cognition. Thus it is some sort of thing that we know nothing about, but the irrefutable phenomenon of language assures us that it is real. Therefore we must posit some mysterious "black box" structure in the brain, the "language faculty", to explain what is otherwise inexplicable:

> innateness lends itself quite naturally to being some sort of *deus ex machina*: when you do not know what to say about something, say that it is innate. (Itkonen 1996:494)

Our understanding of language has suffered greatly from the structuralist pretense, born with Saussure and nurtured into virulent growth in the age of Logical Positivism, that language has nothing in particular to do with human beings. This pretense is far from dead; we see it manifested, for example, in the bizarre concept of objectivist semantics, and in the related conception prevalent in much of "cognitive science" of human cognition as an information-processing module mathematically equivalent to a Turing machine. Many of our errors in thinking about language stem from the fundamental error of conceiving it as essentially a mathematical problem — of imagining language as a disembodied system, something that could in principle be implemented in any computing machine.

As with the rest of the overall structuralist program of which this view is the foundation, generative linguistics claims — and probably truly believes itself — to have abandoned this pretense, but in fact has simply internalized it, building it into the foundations of the discipline, out of sight where it can escape direct challenge. The contradiction is most clearly seen in the status of the "innateness" argument in contemporary linguistics, where the leading advocates of an innatist conception of syntax are arguing for innate structures which have no apparent connection to the biological organisms in which they are supposed to be lodged.

Our conventional thinking about language entirely neglects the human dimension. The fundamental fact is that language is a behavior, clearly with some biological basis, characteristic of the human species. Any explanatory framework for language must come to terms with this fact. It is stunningly ironic that the contemporary linguistic ideology which proclaims the biological roots of language the loudest is the most oblivious to this dimension. For, although the various constructs of generative grammar are taken to be somehow innate, or perhaps mathematically inherent in structures which are innate, they are also "autonomous", i.e. independent of anything else in the human organism, and no effort is ever made to connect them with any other knowledge about human beings. Indeed, many generativists are as adamantly opposed to any human-based line of explanation as the most obsessively positivist neo-Bloomfieldian could ever be.

Now, it is abundantly clear that there are some aspects of language which reflect some innate structure. As the most obvious example, it has always been clear (and lately, with the advent of Optimality Theory, is at last again widely acknowledged) that much that is fundamental to phonology reflects facts of phonetics, which is ultimately a science of the physical endowment of the human species. The resistance to this obvious truth which was characteristic of much mainstream phonology during the 1970's is a reflection of the fundamental emptiness of the notion of innateness used in the Chomskyan tradition.

To take a simple example of what I mean by human-based

explanation, consider the recent work in phonology on "coronal exceptionality". It turns out that for a number of otherwise impressively robust generalizations about syllable structure, etc., to hold at a theoretical level, we need to attach a proviso along the lines of "except for coronals, at least sometimes" (see Paradis and Prunet 1991). Now, it hardly seems that it can be coincidental, mysterious though it may seem, that [+cor] seems to be the maximally unmarked POA feature. And the briefest of reflection on this phenomenon as an aspect of *human* language makes it about as mysterious as the fact that languages have more words for colors and other aspects of visual experience than for smells. Quite obviously to anyone who has ever spoken — or played various childish or adult games, or even chewed and swallowed food — the front end of the tongue is far more agile than anything else in the oral tract, definitely including the lips. This is, in fact, an evolutionary feature of the primates, probably dating back to some pre-lemurian ancestor that used its tongue to dig insects out of tree bark or some such. This being the case, it is virtually inconceivable that human vocal language would *not* show a tendency to take special advantage of this agility.

2. Modes of Explanation

I have no intention of making the argument (a parody of functionalist argumentation which is not common even among avowed functionalists) that we should abandon the research program of structural analysis which leads us to notions like coronal exceptionality. (See Givón 1995 for a recent discussion of this issue). I do, however, want to suggest that it is a dangerously bad idea to assume a priori that any universal or widely-attested set of facts about linguistic structure must automatically be attributed to some innate, specifically linguistic neural structure. (For specific criticisms of particular arguments for innateness in generative grammar, see e.g. Givón 1979, Itkonen 1994, 1996). There are obviously motivations for universal patterns for which we do not need to seek innatist explanations, autonomously linguistic or

otherwise. That every language has some way of expressing concepts like 'water' or 'sleep' clearly does not need to be written into linguistic, or to more general cognitive, theory. The salience of these notions is a matter of human biology, the universality of their linguistic expression a matter of simple pragmatics — all humans will devise ways to talk about things that all humans need to talk about. It's worth thinking about notions like Agent and Recipient here. Bickerton (1990) suggests on the basis of its universality that the Agent case role is innately defined (though he is wisely equivocal as to whether it should be ascribed to the human linguistic capacity or to pre-linguistic cognitive structure). But it is hardly necessary to appeal to innateness here — agency, on the part of both the self and others, is a phenomenon of human behavior that a growing child can hardly miss noticing and wanting to talk about. Likewise, as anyone who has had dealings with a child in its first two years will understand viscerally, the concept of "Recipient" is built into the pattern of human parenting. And a child with siblings will very quickly find a need for rather complex disquisitions on the subject.

Certainly few universal or widespread patterns of morphosyntactic structure are going to be amenable to the sort of simple-minded explanation that applies to a phenomenon like the universality of words for water. But it does not automatically follow that they must necessarily be explained in terms of an innate linguistic endowment. Some, such as well-known universals of constituent order, turn out to have their explanation in general principles of linguistic diachrony which do not need to be located within the human nervous system (Givón 1979, Aristar 1991, DeLancey 1994). Others may be explicable in terms of more general, not specifically linguistic, principles of cognition (Deane 1991, 1992). The assumption of the autonomy of syntax corrupts the innateness argument by making the chimerical "Universal Grammar" the default explanation for linguistic phenomena, rather than an alternative which must be weighed against others and assessed in terms of its intrinsic plausibility. If we are prohibited at the outset from seeking general cognitive explanations, we won't

find them; we are then left with no choice but to claim that because a phenomenon like "subjacency", "agentivity", or "complementation" is universal, it must in some way be "innate". Then, of course, there is no need to argue for the innatist hypothesis; it is simply asserted:

> Turning to still more general principles, it is reasonable to speculate that the possibility of forming complex constructions with an embedded clausal complement involves no learning at all. Rather, this possibility is simply available as a principle of the language faculty. (Chomsky 1988:17)

I have already suggested problems with this in the case of agentivity, and here is part of the reason why generative grammar over its history has been more interested in purely structural phenomena ("formal", as opposed to "substantive", universals) — because for these the path to a non-autonomous explanation is much less obvious, making it easier to assume without argument that there is and can be none.

But, whether or not there is a competing explanation immediately available, any innateness claim must be subject to scrutiny with regard to its biological plausibility. To claim that a structure is innate is to claim that it evolved, which is in turn to claim that it developed by adaptation from some previously existing structure. This entails that there must be a plausible evolutionary/biological interpretation of any innateness claim in terms of other plausible or demonstrated cognitive structures. In the present state of our knowledge of human cognition and the evolution of behavior, we certainly cannot say that no innatist claim can be entertained unless it comes fully-equipped with an evolutionary scenario. We can, however, evaluate such claims with regard to the plausibility of such a scenario being reconstructible.

We have already mentioned a good example, that of coronal exceptionality. The cross-linguistic evidence for this is adequately robust to justify positing some innate basis for it, *and* we have a straightforward, biologically and evolutionarily impeccable

explanation for what that basis is and why it is innate. However, it seems improbable, to say the least, that a similarly limpid case could be made for many of the constructs which mainstream syntactic theory currently holds to be part of the "innate linguistic endowment" of the species — leaving the question of cross-linguistic attestation as moot, what plausible biological story is anyone going to be able to tell about the evolution of subjacency, or "bar level", or [±N]? (There appears to be a dim awareness of this point — though not necessarily recognized as a problem — within the generative camp; Itkonen (1996:494) cites Matthews (1989:69) as acknowledging that the kinds of universals often adduced in the generative literature, such as the subjacency condition, "are certainly unexpected and nonintuitive").

Perhaps the best way to pursue this argument is to discuss an example of an innatist claim which *does* have this kind of biological plausibility. As an example of how an innatist argument properly must proceed, I will in the remainder of this paper outline an argument for a localist hypothesis of case roles and clause structure as part of the genetic endowment of the human species.

3. Localist Case Theory

It has long been noted (see e.g. Marty 1910, Hjelmslev 1935) that there is much in the formal and semantic behavior of case systems to suggest that they are organized in terms of the conceptual and grammatical categories used to express spatial relations. I will not take the space here to present the full evidence and argument for localist case (see e.g. Anderson 1971, 1976, Gruber 1976, Diehl 1975, Jackendoff 1990), or for the particular, highly restricted version of it which I will assert here (see Diehl 1975, DeLancey 1991), but the sorts of evidence which can be adduced should be evident from the examples which I will discuss.

The most direct argument is based on the use of forms which primarily encode local cases for certain more "grammatical" functions. Roughly speaking, we can say that languages will mark the arguments of a particular construction either in terms of their

underlying case roles or in terms of syntactic grammatical relations. When marking is in terms of underlying case roles, it is extremely common that the marking used will be that associated with a local case. We can consider here several cross-linguistically robust patterns.

Probably the clearest, and most widely attested, pattern is the marking of the "Patient" and "Recipient" of a trivalent predicate as THEME and LOCATION (these notions will be defined below). Note that this is literally true for many ditransitive clauses:

(1) She handed me the book.

For this sentence to be true the book must literally change its location, coming to rest at a location defined by the recipient. When recipients have surface marking which reflects case role, they are typically marked locative, as in modern Romance and Indic languages, or Tibetan:

Tibetan

(2)	blo=bzang-la	deb	de	sprad
	Lobsang-LOC	book	that	give
	'give that book to Lobsang'			

(If the language distinguishes locative from allative, this is likely to be allative, as in English; note however that this distinction is very far from being universal). Otherwise, if they are marked in terms of grammatical relations, they are treated as objects.

"Dative subjects", i.e. the subjects of verbs or emotion, cognition, or perception (the case role sometimes referred to as "Experiencer"), when they receive semantic case marking, are typically marked the same as datives, that is, as locative:

Tibetan

(3)	khyed=rang-la	sbrul	rmi=lam	btang-yong
	you-LOC	snake	dream	EMIT-PRED.FUT
	'You will dream about snakes.'			

In many languages, the lexical encoding of situations of this type may be even more explicitly localist, as in Newari (a Tibeto-Burman language of Nepal):

Newari

(4) jĩĩ swā-ya-gu bas khaya
I.ERG flower-GEN-CLS smell(N) took
'I smelled the flower.' (Agentive)

(5) ji-ta swā-ya-gu bas wala
I-DAT flower-GEN-CLS smell(N) came
'I smelled the flower.' (non-agentive)
(*lit.* 'The smell of the flower came to me.')

And parallel evidence can sometimes be found even in languages with no distinct "dative subject" construction; cf. English sentences like:

(6) A while ago a crazy dream came to me.

When they are marked for their semantic role, possessors in the possessive clause construction are also treated as locatives:

Russian

(7) u menja kniga
at me(DAT) book
'I have a book.'

Tibetan

(8) khyed=rang-la ngul-tsam yod-pas
you-LOC money-some COP-INTERROGATIVE
'Do you have any money?'
(*lit.* 'Is there money at you?')

Again, peripheral evidence for this equation can be found even in languages which treat the possessor in a possessive construction as an ordinary subject; cf. English:

(9) You got any money *on you*?

Otherwise, if they are marked in terms of grammatical relations, they are treated as subjects.

4. The Correct Theory

Several lines of argument point to a maximally constrained localist theory of case, in which core clausal arguments, at least ("Instrument" and such like are something different; see DeLancey 1991), are accounted for with an inventory of only three underlying cases: Agent, Theme, and Loc(ation). I have dealt with problems of Agentivity elsewhere (DeLancey 1984, 1985a, b, 1990a, b); my concern here is with the Theme/Loc system (see also DeLancey 1991). These categories are mutually defining — essentially, a clause represents a proposition, and a proposition must express a Theme-Loc relation, i.e. a Theme located at or coming to be located at a Location. (Located vs. coming to be located is, of course, the basis of the stative/eventive distinction). Clearly this works only if "location" can be taken in several rather abstract senses. For example, possessors and "experiencers" must be considered abstract Locations, with possessed and thoughts, sensations, etc., Themes. This makes a certain intuitive sense, but the primary arguments in its favor are empirical, in particular the patterns of case "syncretism" that I have discussed above. The analysis of ordinary transitive clauses in terms of this scheme will require the interpretation of states as abstract locations (see below). Arguments for this have been made for years (e.g. Anderson 1971, Diehl 1975, Jackendoff 1990); for the present I will point out only that, as we will see directly, it makes for a neat as well as intuitively plausible system.

This approach requires a rather more drastic innovation from standard approaches to case theory, though one which is anticipated in the work of Gruber (1976). The definition of Theme and Loc in terms of one another entails the claim that every proposition, and thus every clause, contains both a Theme and a Loc argument. But, of course, there are clause types in every language which have only one NP argument. The theory can be reconciled with the data only

if we can allow one of the two to be lexicalized in the verb, rather than represented as a NP. E.g:

(10) a) The door is open.
THEME LOC

b) The door opened.
THEME LOC

c) She opened the door
AG LOC THEME

But there is abundant evidence for this move. Consider Fillmore's (1970) analysis of *hit* and *break* verbs. Fillmore shows that the object of a change-of-state verb like *break* has some sort of patient or undergoer type role (Fillmore provisionally uses "object"; I'll call this role Theme, following Gruber), but the object of what he calls "surface contact" verbs — generally, verbs of affectionate or hostile physical contact like *hit*, *hug*, *kick*, *kiss* — is some sort of locative. Fillmore notes, for example, a peculiar use in English of a locative prepositional phrase which is unique to this class of verbs. With any other kind of clause an oblique locative can only denote the place where the overall event occurred:

(11) I broke the glass in the sink.

(The reading in which the PP belongs to the object NP is irrelevant here). With *hit*-class verbs, however, an oblique locative can be added which specifies more precisely the part of the object toward which the action is directed:

(12) I kissed her on the lips.

Another piece of evidence which Fillmore does not mention is that this class of verbs in English is uniquely eligible for a productive light verb construction with the verb stem used as a noun and *give* used as the verb:

(13) I gave her a kiss.

As we have already seen, the recipient argument of a trivalent verb is underlyingly a Locative. Thus *her* in (13) is transparently a Locative argument, lending further credence to Fillmore's suggestion that it is likewise in (12).

Again, of course, we have the problem of the missing argument — if *the glass* in (11) is a Theme argument, where is the Loc? And if *her* in (12) is Loc, where is the Theme? *Break*, of course, is the same kind of verb as *open*, and like *open* it names the change of state which the Theme undergoes, and can thus be interpreted as providing the Loc argument. For "surface-contact" verbs like *kiss*, the *give* construction furnishes direct evidence that the verb incorporates a Theme argument, with the object as its Loc.

Additional evidence for this interpretation is found in Tibetan. Tibetan overtly reflects the change-of-state vs. surface contact distinction which is covert in English: both classes of verbs take an Agent argument marked with ergative case; the other argument of a change-of-state verb is zero-marked, like other Themes, while the second argument of a surface-contact verb is marked as locative:

Tibetan

(14) shing-la sta=re gzhus-pa
tree-LOC axe hit
hit the tree with an axe

(15) sta=re-s shing 'chad-pa
axe-INSTR tree cut
cut down the tree with an axe

In modern Tibetan, the vast majority of surface-contact verbs are light verb constructions:

Tibetan

(16) thub=bstan-gyis blo=bzang-la *kha* *bskyal*-song
Thubten-ERG Lobsang-LOC mouth delivered-PERF
'Thubten kissed Lobsang.'

17) thub=bstan-gyis blo=bzang-la *mur=rdzog* *gzhus*-song
Thubten-ERG Lobsang-LOC fist hit-PERF
'Thubten punched Lobsang.'

These thus transparently treat the Theme which is part of the meaning of the English verb stem as a distinct argument (zero-marked, as befits a Theme).

5. How to Argue for Innateness

I have not, of course, provided sufficient syntactic and typological evidence here to establish the superiority of this account of case marking in core argument positions over other possibilities. But, assuming for the sake of argument that this superiority can be established (note, among other things, that many of the most useful insights and analyses of Relational Grammar fall out fairly directly from the scheme presented here), how should we explain the universality of this model of clause structure? If it is true that every clause, in every language, can be analyzed as representing a Theme-Loc configuration, why should this be? If it is truly universal, there is good warrant to consider the possibility that it reflects innate structure, but, given the warnings expressed at the beginning of this paper, how should such a hypothesis be pursued?

It turns out that this theory looks very much like the fundamental structural construct of perception — Figure and Ground:

> One of the simplest and most basic of the perceptual processes involves what the Gestalt psychologists call *figure-ground segregation*. Every meaningful perceptual experience seems to require in its description the property of "figuredness." That is, phenomenally, perception is more than a collection of unrelated, unintegrated, sensory elements. The units of perception are, rather, figures, or things, segregated from their backgrounds. (Dember 1963:145-6)

In their concrete spatial use, Theme and Loc correspond directly to Figure and Ground. Nothing is intrinsically Theme or Loc; these are relational notions. A speaker presents one referent in relation to another; the first we call Theme, and the second Loc. Thus, despite some argument to the contrary in early literature on Case Grammar (see Huddleston 1970), (18) and (19) are by no means synonymous:

(18) The bank is next to the Post Office.

(19) The Post Office is next to the bank.

(18) describes the location of the bank, using the Post Office as a reference point; (19) describes the location of the Post Office, using the bank as a reference point. Thus the subject of each sentence denotes the referent to which the speaker wishes to draw the addressee's attention, and the oblique NP denotes a referent used as a background against which the subject can be identified.

Now, figure-ground organization is, self-evidently, not a feature of the physical universe; rather, it is a pattern imposed on a stimulus by the process of perception. Much work in perception has been concerned with what we might think of as prewired determinants of figure-ground identification. All other things being equal (e.g. in a properly designed experimental context), humans will make a moving stimulus a figure, and the stable environment against which it moves the ground. Other factors which increase the eligibility of some part of the visual percept for figure status include defined boundaries, brightness, color, centrality in the visual field, and, of course, lack of competition from other areas of the perceptual field sharing these characteristics.

But in ordinary life other things are not often equal; any perceiver in any real-life circumstance is predisposed by her existing cognitive structures, and long-term and transient "interests", to focus on certain types of structure as opposed to others. A universal pattern, which is probably innate, is that a percept interpretable as a human figure has a higher eligibility for figurehood than anything

else, and a human face the highest of all. There is abundant evidence for what is sometimes called a motivation effect in perception, i.e. the fact that a perceiver, being more interested in some types of information than others, will tend to organize the perceptual field so that relevant information counts as figure.

As any introduction to perceptual psychology will point out, beyond the simple neurophysiology of edge detection, color perception, etc., perception is a cognitive process. In fact, it is common in perceptual psychology to distinguish between SENSATION and PERCEPTION — the former applying to the simple physiological response of the perceptual organs, and the latter to the cognitively-constructed interpretation of those data.

Thus perception cannot be considered in isolation from cognition. But the reverse is also true; cognition at the most basic level involves mental manipulation of representations of objects (or, at the next higher level, categories of objects), and the discrimination of objects is the basic task of perception. Indeed, the figure-ground opposition is fundamental to — we could even say, IS — object discrimination. The process of discerning an object is the process of perceiving it as figure.

It thus makes eminent sense that the evolution of cognition should work from preadapted perceptual structure, and that the opposition of figure and ground should be carried over from its origins in the perceptual system to higher-order cognitive structures which evolved to process, store, and manipulate information obtained from the perceptual system. If these higher-order structures then were the preadaptative ground on which grew the language faculty, there would be no surprise in seeing the same basic structural principle retained.

Indeed, if we think of language functionally, in the most basic sense, it is almost inevitable that fundamental aspects of its structure should mirror the structure of perception. The same philosophical tradition which gives us the peculiar conception of intelligence as information-processing, inclines us to imagine that what is passed from one mind to another in the course of communication is some sort of pure information. It is, of course, no such thing. In its

communicative function, language is a set of tools with which we attempt to guide another mind to create within itself a mental representation which approximates one which we have. In the simplest case, where we are attempting to communicate some perceived reality, the goal is to help the addressee to construct a representation of the same sort that s/he would have if s/he had directly perceived what we are trying to describe (cf. DeLancey 1987). Clearly all of the necessary circuits and connections will be much simpler if that input, which is thus in a very real sense an artificial percept, is organized in the same way as an actual percept. This involves many other aspects which are also conspicuous in linguistic structure — deixis, to take one striking example — but must, fundamentally, involve figure-ground organization, since that is fundamental to perception.

Thus the hypothesis that Figure-Ground structure might inform the basic structure of syntax has exactly the sort of *biological* plausibility that any innatist hypothesis must have. We can identify the preexisting structure from which it might have evolved, and construct a scenario by which it might have evolved from that preexisting structure. The availability of such a story does not, of course, by itself establish the correctness of either the evolutionary scenario or the linguistic hypothesis itself. This or any other account of case roles and clause structure must established on the basis of valid induction from linguistic facts. But the fact that there is a readily-available, biologically plausible account of how such an innate linguistic structure might come to be gives this hypothesis a kind of legitimacy lacking in many contemporary proposals about the nature of "Universal Grammar".

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