PUTNAM'S COMPLAINT

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One of the most acrimoniously disputed issues in
contemporary philosophy of language is whether or not,
or in what sense, humans may be said to possess an
innate language-specific mobilization and acquisition
capacity. At the heart of this dispute lies a slogan
proponents of linguistic innatism have proclaimed as
their credo of war, the so-called "innatist hypothesis"
(I.H., for short): the human brain is "programmed" at
birth with some quite specific and structured aspects
of human natural language; in particular, every
linguistically competent human innately possesses a
class S of transformational grammars G_1, G_2,..., and
a function $\underline{f}$ which assigns weights to elements of this
class in a manner modulated by experience. All members
of S are held to share certain very general features
known as "linguistic universals" such as an <u>active-
passive distinction</u>, a <u>transformational component</u>,
linguistic categories such as <u>concrete noun</u>, <u>verb
taking an abstract subject</u>, and so on. This hypothesis,
the proponents of linguistic innatism claim, is
virtually unavoidable on any account of linguistic
behavior which adequately accounts for both the
existence of linguistic universals and the empirical
facts of language acquisition.

Several philosophers have balked at accepting the
I.H.; indeed, some have found the proposal strong
evidence of its proponents' senility.[1] Prominent among
the movements of this antagonistic requiem is the
ubiquitous recitative of Professor Hilary Putnam.[2] Yet
Putnam's lamentation is, if I am not mistaken, a
prelude to a premature burial. For if I understand him
correctly, Professor Putnam's arguments do not, for a
variety of reasons, succeed in impugning the innatist
view. To elaborate this criticism, I will first
briefly review several linguistic phenomena which I
hold an adequate theory of linguistic behavior must
explain; Putnam's remarks will then be assessed
against these data.

The first datum which an adequate theory of
language must be able to explain is what I will call
the "creative" aspect of language. Much of what we
say or recognize as well-formed parts of language is
new to us, in the sense that it is not merely a
repetition of anything we have heard before, nor is it,
in any important sense, a repetition of patterns we

have experienced before.

Secondly, it can be shown that the number of sentences which a normal adult user of language can potentially recognize as grammatical is infinite; certain subclasses of English, for example, have been shown to have infinite cardinality. Accordingly, an adequate linguistic theory must account for such a capacity, given the temporally limited resources of the organism. There is only one way that such a capacity could exist, namely, if the structure of language acquisition or recognition could in effect be characterized by a set of recursive rules capable of generating the set of well-formed expressions of the natural language.[3]

Thirdly, it is a reasonably well-accepted observation that children acquire a grammar based on very degenerate evidence or reinforcement. For example, many of the expressions they encounter during the language acquisition period are not well-formed: adult speech often contains slurs, false stops, spurious phonemes, and so on. Yet these errors are rejected as such very early in the child's linguistic development. More generally, the linguistic "input" which children receive by the time they may be said to possess linguistic competence does not determine the grammar they actually acquire. This fact can be shown without appealing to elaborate evidence, in the following way. At any given time t_0 in a child's life, he will have experienced a finite set K_0 of distinct well-formed expressions $E_1, \ldots, E_n$ of his language. Consider, then, the following very crude grammars:

(R1)   Only elements of K_0 are well-formed expressions.

(R2)   Let K be the class consisting of the following
(i) $E_1, \ldots, E_n \in K$;
(ii) any conjunction of members of K is a member of K
Any member of K is well-formed.

Note first of all that any expression satisfying R1 satisfies R2, but not conversely. This implies that the elements of K_0 satisfy both R1 and R2. Hence K_0 is not sufficient to determine uniquely a grammar; moreover, the list of rules above can be extended indefinitely.[4] Accordingly, any given finite set of expressions satisfies an infinite number of grammatical rules, and thus K_0 is not sufficient to determine even a finite class of grammars. Hence an adequate theory

of linguistic behavior must posit that the determina-
tion of grammar in language acquisition involves some
feature not implied by the data which the language
learner meets.

Fourthly, all children in a given language
community develop the same grammar, often enough in
spite of radically different "inputs." It is quite
likely, in fact, that in a given language community,
there are children whose "inputs" are disjoint;
accordingly, an adequate linguistic theory would have
to show how the same grammars can be developed from
disjoint data sets. Now any such theory will have to
attribute to the language acquisition capacity some
feature which is not implied by the elements of the
data sets.

Finally, all human languages possess the same
general form of grammar; in particular all known
languages have a transformational rather than a
phrase-structure grammar, all have the subject-verb
relation, all have quantifiers, and all have proper
nouns.

I now wish to evaluate Putnam's arguments against
the I.H. in light of these data, showing that (1)
several of his arguments simply are not cogent; and
(2) even if all Putnam's attacks on the I.H. were
cogent, they are not all parts of a unified theory
of linguistic behavior, and hence, at the very least,
constitute a view less coherent than the I.H.

According to Putnam, many innatists cite the
existence of linguistic universals as evidence in
support of the I.H. But surely, he insists, there
are accounts explaining the existence of linguistic
universals which do not appeal to the existence of
some language-specific acquisition capacity. In
particular, we might imagine a community of Martians
whose innate intellectual equipment is as different
from ours as is compatible with their being able to
have a language at all. Suppose further that Martian
brains are not vastly richer than ours. Accordingly,
they will find it possible to employ an infinite set
of expressions only if these expressions possess a
grammar consisting of a finite set of recursive rules.
If the I.H. amounts to nothing more than the assertion
Martians must employ a grammar, Putnam argues, then
the I.H. could not possibly be false; but of course
if that were so, it would not be interesting either.
But in any case, we would not have to invoke the
existence of a specific set of grammars, S, built
in the brain of both Martian and humans to account for

the existence of linguistic universals.[5]

Putnam's objection, then argues that we do not have to invoke the I.H. to show that Martian and natural human languages all have some grammar or other; indeed, the existence of a grammar can be explained strictly by appealing to the need of both kinds of languages to embody a finite set of recursive rules. It must surely be conceded, whatever faults the argument may possess, that the mere existence of grammars for a set of languages does not constitute sufficient grounds for invoking the I.H. But beyond this the claim that the explanation of the existence of some grammar for each language community does not require the I.H. fails to address an important datum. In particular, an adequate theory of linguistic behavior must explain why all human languages possess the same kind of grammar. It is just this very peculiar property of all human grammars that strongly suggests the existence of a universal human grammar, deriving from a source independent of variation in human experience, namely the innate linguistic capacities of men. Hence, that Martian has some grammar and that all human languages have some grammar, and that these two grammars differ, does not in the least impugn the claim advanced by the linguistic innatists.

Putnam offers yet another explanation for the existence of linguistic universals. Let us suppose, he says, that language-using human beings evolved independently in two or more places. Then according to the innatist hypothesis, there should be two or more types of human being descended from the two or more original populations, such that normal children of each type would fail to learn the language of the other. Since we do not ever observe such failures, and since there is only one class S built into all human brains, we have to conclude, if the I.H. is true, that language-using involves a sort of evolutionary discontinuity that occurred only once. In that case, however, it is overwhelmingly likely that all human languages are descended from a single original language. But indeed, Putnam counters, the latter is likely even if the I.H. is false, since the human race is generally held to have resulted from a single evolu-tionary development and since then the human population, initially quite small, spread but slowly. Thus, even if language use were completely learned or invented rather than built in, it is likely that some group of humans first developed language as we know it, and then this language spread to the rest of the world. If all human languages are descended thus from a common parent, then just such highly useful features of the

common parent such as quantifiers, proper nouns, and
in general, the linguistic universals we in fact observe
would be expected to survive. Thus one can explain the
existence of linguistic universals merely by appealing
to the "common origin" hypothesis, and hence the
invocation of the I.H. is merely gratuitous.[6]

Whatever else may be said about this objection in
particular, one must surely agree that the existence
of linguistic universals does not constitute conclusive
evidence for the I.H. Nevertheless, the objection
overlooks a very important feature of linguistic
behavior, namely, the transmission of language to
children. Since children master the grammar of their
language on evidence which fails to determine even
a finite class of grammars, it is clear that they must
supply, independently of the data, the appropriate
grammar or class of grammars for their language. Thus
Putnam's "common origin" hypothesis cannot supply an
account of language transmission and hence is inadequate.

Many innatists claim to derive support for the
I.H., Putnam asserts, from the fact that children
learn languages with startling rapidity and ease. But
surely, he objects, we can account for this phenomenon
without appealing to the I.H. More particularly, he
argues, it is not surprising that children learn a
language as rapidly as they do, because they are
constantly exposed to it. In comparison, language
teachers claim that students can achieve mastery
of a foreign language in 600 hours of direct-method
instruction and achieve an incomparably greater
vocabulary than that of a young child; by the age of
four a child has been exposed to vastly more than 600
hours of direct-method instruction, and so has had
plenty of time to acquire even a difficult language.[7]

But this objection, although illuminating the
fact that certain students do acquire mastery of a
language in a very brief time, overlooks several
important aspects of linguistic behavior. First of
all, it is not so clear that learning a second language
is analogous in all relevant respects to learning a
first language. One might plausibly argue that the
acquisition of a second language takes the first as
a model of some sort. Since the acquisition of a
first language cannot bear this relation to a former
language, except on pain of generating an infinite
regress, it may be that the acquisition of a second
language is considerably easier because of its special
relation to the former. However such a suggestion
might be evaluated, it is clear that the "second
language" argument overlooks, like the previous

objections, a very important aspect of linguistic
behavior. It was argued above that no amount of data
can explicitly determine the acquisition of even the
second language. More particularly, none of the
grammatical rules found in grammars and none of the
rules articulated by teachers of the language are
strictly correct. Yet students who master the language
do learn the exceptions to the rules. Hence the
"second-language" objection just ignores that crucial
feature of language learning which allows the acquisi-
tion of a grammar on the basis of degenerate evidence,
and thus is inadequate to dismiss the I.H.

Putnam's final objection to the I.H. is directed
against the claim that the capacity for mobilization
and acquisition of language is language-specific. If
we commit ourselves to the existence of a language-
specific capacity, we must analogously commit ourselves
to a mathematics-specific capacity, a puzzle-solving
capacity specific to certain puzzles, and so on,
because these capacities, too, are not determined
completely by the data we receive. But this would be
to multiply the "innate" capacities beyond the point
of interest or illumination. Rather, the objection
goes, it seems much more plausible to attribute the
acquisition of language to general, multipurpose
learning strategies which are employed in language,
mathematics, puzzle-solving, and so on.[8]

On close inspection, however, this objection
appears to involve several difficulties. First of
all, it baldly ignores the fact that nearly all
children grasp the same grammar, whereas their
puzzle-solving and mathematical competencies differ
conspicuously. Thus the evidence for the I.H. is of
an importantly different sort than that which one
might raise in support of mathematics- and puzzle-
solving-specific capacities. Secondly, the objection
renders extremely surprising the fact that there are
linguistic universals of any sort; and in particular,
it renders too surprising the fact that all children
in a given language community acquire the same grammar,
in spite of diverse and degenerate linguistic data.

The above criticisms shield, if correct, the
I.H. from Putnam's objections. Nevertheless, I think
that even if one assumes that none of these criticisms
are cogent, Putnam's view still is less coherent, to
say the very least, than the I.H. The I.H., that is,
offers a unified, though perhaps daring explanation
of the existence of linguistic universals, the amazing
rapidity and thoroughness with which children achieve
linguistic competence, the "creative" aspect of

linguistic behavior, and accounts for the way in which
a finite being can possess the power to recognize or
potentially produce an infinite number of expressions.
In contrast, these features have no comparable unity
on Putnam's account. For first of all, the very reason
there are linguistic universals of the sort we observe,
the I.H. maintains, is just the reason why children are
able to learn a grammar on the basis of degenerate
evidence. On Putnam's account, in contrast, linguistic
universals arose merely because language originated from
a single community sharing a common language which
contained certain linguistic features bound to be
useful in any human social situation; on his view this
fact has no connection with the fact that children
learn the language based on degenerate evidence.
Secondly, on the I.H., the conditions which permit
the existence of linguistic universals insure the
rapid acquisition of linguistic competence by children.
Putnam, in contrast, insists that while the existence
of linguistic universals is determined by social
utility or the need for a recursive grammar, the
rapidity of language acquisition simply comes from
great exposure, and nothing more; on this view, then,
the ease of language acquisition might be just as great
even if there were no linguistic universals. Thirdly,
on the I.H. the finite recursive nature of the grammati-
cal rules which the language user acquires is a
consequence of the nature of innate linguistic
universals; on Putnam's view there is not even an
accidental tie between the two.

If the choice were mine, then, I would, if Putnam's
arguments are the strongest which can be brought against
the I.H., cast my lot with the innatist thesis. Putnam's
objections show at best, if the above criticism is
just, that there will always be non-innatist interpreta-
tions of any given linguistic datum. This does not
surprise me too greatly: in general, evidence rarely
uniquely determines theory. But I believe that no
science proceeds by inventing a distinct theory for
each distinct datum which seems to fall within its
province, as Putnam, by example, suggests we do; rather
we seek unified accounts of what we imagine, barring
strong objections, to be merely diverse pieces of the
same mosaic.

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NOTES

[1]See in particular Nelson Goodman, "The Epistemological Argument", <u>Synthese</u> 17(1967).

[2]Hilary Putnam, "The 'Innateness Hypothesis' and Explanatory Models in Linguistics." In <u>Innate Ideas</u>, ed. by Stephen Stich, California, 1975, pp. 133-144.

[3]In particular, if the language acquisition and production faculties of the organism are such that the class of things acquired or produced can have only finite cardinality, while the class of things acquirable or producible has infinite cardinality, then the structure of language acquisition or production must in effect be characterizable by a set of recursive rules capable of generating the set of well-formed expressions of the natural language.

[4]More generally, it is a well-known result of elementary model theory that in any metalanguage of a language containing the first-order predicate calculus, the set-theoretic relation "E", sets, and variables ranging over sets, the cardinality of the class of extensionally distinct formation rules satisfiable by a given finite class of expressions in the object language is infinite.

[5]<u>Ibid</u>., p. 137.

[6]<u>Ibid</u>., p. 140.

[7]<u>Ibid</u>., p. 141.

[8]<u>Ibid</u>., p. 143.