50,000 INNATE CONCEPTS?

PINKER'S ATTACK ON EXTREME CONCEPT NATIVISM

M.J.CAIN

Introduction

In a series of high-profile books with titles such as *The* Language *Instinct* (Pinker 1994), *How the Mind Works* (Pinker 1997) and *The Blank Slate* (Pinker 2002) Steven Pinker has developed a view of the mind that has substantial nativist commitments. According to Pinker, as a result of evolution the mind consists of a rich battery of domain specific computational modules each of which is hard wired with particular concepts and knowledge to enable it to perform its central task. However, in his latest work *The Stuff of Thought* (Pinker 2007) Pinker makes it clear that there are limits to his nativism. In particular, he argues against Jerry Fodor's extreme concept nativism, the view that most, if not all, of our lexical concepts[1] are innate. According to Pinker, as Fodor estimates that a typical speaker's vocabulary contains some 50,000 distinct items this commits Fodor to there being some 50,000 innate concepts. Actually, Fodor's position would appear to be more extreme than this as he states that the Oxford English Dictionary has approximately 500,000 entries implying that there is the same number of innate concepts. With respect to the typical speaker of English, either most of her innate concepts will be un-triggered or she will not have learned the English words that express most the concepts she has. For Pinker, Fodor's extreme concept nativism, even on its more modest reading, is a nativist step to far; we certainly do have a stock of innate concepts but nowhere near 50,000.

Elsewhere (Cain 2004) I have expressed considerable sympathy for Fodor's extreme concept nativism and in this article I will seek to defend its conclusion from Pinker's attack. I will argue that Pinker's assault on its core premise that lexical concepts typically cannot be analysed fails. Moreover, even if Pinker is correct on this point, he runs the risk of awakening poverty of the stimulus considerations that would serve to motivate Fodor's conclusion that we do not learn most of our concepts.

§ 1. Fodor's argument for Extreme Concept Nativism

For Fodor, with respect to concept acquisition the central distinction is that between a concept's being innate and its being learned. An innate concept need not be present at birth, at least in a form available for deployment in thought. For, some concepts need to be triggered by specific experiences. Triggering differs from learning in that it is a brute-causal rather than a rational-causal process (Fodor 1981). Learning, at least with respect to learning a concept or the meaning of a word, is a process of hypothesis formation and confirmation. Thus learning the concept C involves forming and confirming a correct hypothesis about the content of C. Correlatively, learning the meaning of word W involves forming and confirming a correct hypothesis about the meaning of W.

We are now in a position to understand Fodor's argument for extreme concept nativism. In order to form a hypothesis one needs the relevant concepts. Consider the case of learning the meaning of a word, "dog" for example. The relevant hypothesis would represent "dog" as meaning *dog.* But in order to frame this hypothesis one would need a concept with a content corresponding to that of the meaning of the word 'dog'. In other words, one would need the concept DOG. Generalised, the point is that in order to learn the meaning of a word one must have a prior grasp of the very concept that corresponds to the meaning of the target word. So whatever one learns when one learns the meaning of a word it is not a new concept. Fodor presented this argument in *The Language of Thought* (Fodor 1975). In the later article "The Present State of the Innateness Controversy" (Fodor 1981) he produces what is essentially the same argument in a discussion of concept learning. Learning a concept involves forming and confirming a hypothesis as to the content of the target concept but in order to do this one must have prior grasp of a concept that has the same content as the target concept. For example, in order to learn the concept DOG one must already have a concept with the content *dog*. But a concept with the content *dog* just is the concept DOG so one cannot learn that concept. Generalised, the result is that it is impossible to learn a concept as to learn a given concept one must already have that very concept. Therefore, our concepts must be innate.

There is an obvious line of response to the above argument that can be expressed as follows. We have an innate stock of basic concepts that we can use to define non-basic concepts outside of that stock. Learning a concept involves constructing a definition in terms of basic concepts and in so doing acquiring a new concept. For example, learning the concept BACHELOR involves constructing a

definition utilising the more basic concepts MAN and UNMARRIED. As the concept BACHELOR cannot be identified with either of these more basic concepts, there is an important respect in which one does learn a new concept when one confirms the hypothesis that bachelors are unmarried men. Therefore, the concept BACHELOR is not innate.

Fodor flirted with this attempt to escape the clutches of extreme concept nativism in *The Language of Thought.* However, by the time of "The Present Status of the Innateness Controversy" he had come to see it as a hopeless move for the simple reason that very few lexical concepts of English can be defined. BACHELOR is therefore atypical. This line of thought is also prominent in *Concepts* (Fodor 1998: chs 3 and 4). He argues that despite the exertion of considerable energy by philosophers and linguists, there are few lexical concepts that have been given plausible definitions. Typically, whenever a philosopher or linguist produces a definition of a target concept, one of her colleagues presents a compelling counter-example.[2] From the repeated failure of attempts to produce such definitions, Fodor induces the conclusion that most lexical concepts are indefinable. In other words, rather than being analysable in terms of more basic concepts, most lexical concepts are conceptual atoms. The upshot of this is that most lexical concepts – for example, HOUSE, ELEPHANT, PROTON, CARBURETOR etc. – are innate.

§ 2. Pinker on the representation of meaning

One of Pinker's central goals in *The Stuff of Thought* is to vindicate a theory that he labels conceptual semantics. This is the theory "that word meanings are represented in the mind as assemblies of basic concepts in the language of thought" (Pinker: 91). In this section I will give an account of conceptual semantics and Pinker's argument for it.

Pinker begins by considering what at first sight appears to be "a mundane problem in psycholinguistics" (2007: 25). The problem in question relates to constructions built around a locative verb. Consider the sentence "Bill loaded paper into the recycling bin". This is a content-locative as its focuses on the contents (in this case the paper) that are loaded into the container (the recycling bin). The situation described by this sentence can also be described by the sentence "Bill loaded the recycling bin with paper". This sentence is a container-locative as it focuses attention on the container rather than the contents. Many other verbs allow this alternation between the content-locative and the

container-locative construction, for example, “spray”, “splash” and “rub”. This might suggest that there is a rule of English of the following form and that a child learning English must learn this rule:

> “If a verb can appear in a content-locative construction, then it can also appear in a container-locative construction, and vice versa.” (Pinker 2007: 35-36)

However, this cannot be a rule of English as it is violated in both directions. There are verbs that can appear in a content-locative construction but not in a container locative construction. Examples include “pour”, “nail” and “coil”. One can say “Maya poured milk into her glass” but not “Maya poured her glass with milk”. And there are verbs that can appear in the container-locative but not the content-locative such as to fill, drench and cover. One can say “Theo drenched his shirt with water” but not “Theo drenched water onto his shirt”.

Pinker raises the question as to why some locative verbs permit locative alternation whilst others do not. His answer is inspired by the work of the linguists Levin and Rappaport Hovav (1995, 2005) and can be described in the following terms. There are different microclasses of locative verbs and the members of a given microclass have an element of their meaning in common despite the fact that they refer to events that appear very different from one another. This element of commonality relates to the physics, the geometry and the human purpose of the events that the verbs refer to. Consider the microclass that includes the following verbs: “dribble, drip, drop, dump, funnel, ladle, pour, shake, siphon, slop, slosh, spill, spoon" (53). These refer to events where the agent “allows gravity to do the work” (53). Such verbs contrast with “brush, daub, plaster, rub, slather, smear, smudge, spread, streak, swab” (53) which refer to events where the agent “applies force to a substance and surface simultaneously by pushing one against the other” (53). Pinker sums up the difference between the physics and geometry of these two microclasses of verbs thus: “It’s the difference between causing and letting, between acting on something directly and acting on it via an intermediary force, between expecting something to change as one is doing something in real time and expecting it to change shortly after one has done something” (53).

Verbs in the “brush” microclass permit locative alternation whilst those in the “pour” microclass do not; they can only appear in content-locative constructions. That this is the case is down to the physics and geometry that is reflected in their meaning. As “brush” verbs refer to events where force is

simultaneously applied to both a stuff and a surface the event can be described either by focussing on the stuff (as in a content-locative construction) or on the surface (as in a container-locative construction). However, with the "pour" verbs matters are different. With these verbs 'gravity stands between what the agent does and how the surface gets wet, so the agent is less easily construed as acting directly on the container and these verbs appear only in the content-locative construction' (55-56). With a verb like drench, it belongs to a microclass containing verbs which refer to how a surface changed whilst being neutral on the question of how the surface changing stuff got on the surface. Consequently, such verbs can appear in constructions that focus on the surface (the container-locative) but not on the manner in which the stuff arrived on the surface (the content-locative). Pinker goes on to identify thirteen distinct microclasses of locative verbs and does not give the impression that he regards this list as exhaustive.

Pinker regards his treatment of locative alternation has having substantial implications with respect to the understanding of the mind and the core concepts that it employs. For Pinker there is a distinction between language and thought, between words and concepts. Thinking takes place in the medium of the Language of Thought rather than such languages as English. Natural languages like English are public systems that serve to allow individuals to communicate their thoughts. Knowing a language involves, amongst other things, knowing what its constituent words mean, what concepts they serve to express. And knowing the meaning of a particular word involves representing that meaning in one's mind-brain by means of concepts belonging to the Language of Thought. All of this, of course, echoes Fodor's views on the relationship between language and thought.[3] However, unlike Fodor, Pinker thinks that the representations of the meanings of many words of English must be complex, consisting of many distinct symbols of the Language of Thought. With respect to locative verbs those will be grouped into the microclasses that we have encountered. The members of a given microclass will all to refer events that have salient physical, geometrical and purposive features in common. This physical, geometrical and purposive commonality will be represented in the mind-brain of the speaker by means of the relevant physical, geometrical and purposive concepts. Thus, in my mind-brain the representation of the meaning of "pour" will overlap with that of the representation of "funnel", as will "brush" with that of "smear". But as each of these verbs has a distinctive meaning, the representation of that meaning will contain distinctive elements that are not common to all other members of the microclass. Learning the meaning of a locative verb will therefore involve constructing a complex

representation that draws upon physical, geometrical and purposive concepts that are employed in the representation of the meaning of many other locative verbs. A speaker's views as to the grammatically of a particular locative construction will be sensitive to her representation of the physical and geometrical features of the type of event it refers to. In other words, it will be sensitive to the particular microclass that she assigns it to. Thus, if in learning a new verb I assign it to the "pour" microclass that will thereby tell me that container-locative constructions featuring that verb will be ungrammatical. I will not need to be explicitly informed that such constructions are ungrammatical. For Pinker, the physical, geometrical and purposive concepts that are employed in the representation of the meaning of locative verbs constitute the scaffolding of human thought and are part of our innate endowment. So, although concepts such as POUR, PAINT, SMEAR and the like are not innate there is a battery of more basic physical, geometrical and purposive concepts that are innate and serve to play a role in the complex structures that represent such concepts or the meanings of the words that express them.

In sum then, Pinker's examination of locative alternation serves to motivate a substantial view about concepts and the representation of meaning that clashes with Fodor's key central claim that most lexical concepts are unanalysable atoms. In addition to locative alternation, Pinker also considers six other linguistic phenomena.[4] All of these, he argues, serve to motivate similar conclusions about yet more verbs. As with locative verbs, such verbs have complex meanings and belong to microclasses of verbs that overlap in the representation of their meaning. In addition to the physical and geometrical concepts involved in the case of locative verbs, further concepts of having, knowing, helping, acting and intending are involved in the representation of the meaning of such verbs. Thus, the core concepts that constitute the scaffolding of thought and which we use to construct complex concepts and represent complex meanings include psychological concepts.

§ 3. Pinker's theoretical objections to Fodor's extreme nativism

We can now see why, despite his general nativist sympathies, Pinker would want to take issue with Fodor's extreme concept nativism. For, in arguing that most lexical concepts are un-analysable atoms, Fodor is in direct conflict with Pinker's core idea that the meaning of many words are represented by means of a network of core concepts that play a key role in the representation of the meaning of many distinct words. In short, Fodor and Pinker are in dispute over the issue of the analysability of

lexical of lexical concepts or the meanings of the words that express those concepts. Not surprisingly then, Pinker's central objection to Fodor relates to the issue of analysis where he attempts to bring to bear the considerations described in the previous section. I will examine this central objection in the next section. Pinker also offers three objections that he variously calls "conceptual problems" (97) and "theoretical problems" (98) for extreme nativism. These are interesting objections but, so I will argue in this section, they are far from devastating.

The first theoretical or conceptual problem is that extreme nativism does not sit happily with evolutionary biology. Evolutionary biology tells us that when we evolve innate items that are expensive, elaborate and useful we do so because those items bestowed a reproductive advantage on our ancestors. But, objects Pinker, it is hard to see what reproductive advantage many of the concepts that Fodor postulates as innate could have given our ancestors as such concepts are of things that have only recently been invented (for example, TROMBONE and CABURETOR). This is essentially an objection that Putnam (1988) has directed at Fodor. My response is as follows. When evolution bestows a battery of traits on an organism in virtue of their providing a reproductive advantage it will tend to bestow a further collection of traits that, while providing no reproductive advantage themselves, ride piggyback on the beneficial traits. Thus, there is no need for all our innate concepts to have provided our ancestors with a reproductive advantage so long as some of them did.[5]

The second theoretical or conceptual problem relates to learning the meaning of words. Even Fodor accepts that we learn the meaning of the words of the language that we speak. For example, a child learning English will not know innately that the word 'rabbit' means *rabbit* or expresses the concept RABBIT. Now, argues Pinker, children typically learn the meaning of a word on the basis of only a small number of examples of its use. But extreme nativism makes it difficult to see how the child could so learn on the basis of such limited evidence as that evidence will be equally consistent with the target word's expressing any of many distinct concepts that are part of the child's innate endowment. The example that Pinker provides to illustrate the problem comes from Quine (1960). A child hears an adult say "Gavagai" in the presence of a rabbit. This evidence is equally consistent with that word's expressing any of the following concepts: RABBIT, UNDETTACHED RABBIT PART, HOPPING RABBIT, TIME SLICE OF A RABBIT and so on. If all of these concepts belong to the child's innate endowment then how is she to work out which particular one is "gavagai" expresses? This is effectively a version of the poverty of the stimulus argument and so it is rather ironic that Pinker

invokes it in an attack on nativism given that poverty of the stimulus considerations have been central to the nativist's armoury since at least Chomsky's *Aspects of the Theory of Syntax* (Chomsky 1965).[6]

The main problem with Pinker's argument here is that it is difficult to see how the opponent of nativism fares any better. A child with a limited innate endowment who is trying to learn what 'gavagai' means will still have the resources to attribute a diverse range of meanings if, as Pinker has to accept, concepts such as RABBIT, UNDETTACHED RABBIT PART, HOPPING RABBIT, TIME SLICE OF A RABBIT and so on, are built out of a range of basic innate concepts. So how does the child decide which complex to build when attempting to learn the meaning of 'gavagai'? A second problem is that it is far from clear that the extreme nativist cannot appeal to other aspects of the child's innate endowment to explain how the child deals with the problem of a limited evidence base when attempting to learn the meaning of a word. Nativists who are happy to attribute to us a large stock of innate concepts are prone to be equally happy to attribute to us innate assumptions, knowledge or constraints. Such an innate assumption, knowledge item or constraint could help direct the child toward a particular conclusion in a manner reminiscent of Universal Grammar in the case of syntax acquisition.[7] For example, consider a child that has the innate assumption that words typically refer to whole things that persist through space and time. Operating with this assumption the child would be pushed away from concluding that 'gavagai' expressed either UNDETTACHED RABBIT PART or TIME SLICE OF A RABBIT.

Pinker's final theoretical or conceptual problem relates to explaining the use of concepts. We use concepts to categorise phenomena and to reason. If many lexical concepts are analysable then understanding how we use basic concepts can help us to understand how we use the complex concepts of which they are components. For example, if CAUSE is a component of a whole raft of concepts including KILL, MELT, BOUNCE, BUTTER, and so on, then understanding how we use the former concept will shed light on how we understand the latter concepts. However, an implication of extreme nativism is that is that we do not make any such explanatory progress when we shed light on how we use putative basic concepts like CAUSE. For, as KILL, MELT, and the like, do not contain the concept CAUSE, we are forced to start afresh.

There are several points that might be made in response to Pinker's reasoning here. First, it is far from clear what Pinker has to offer by way of an explanation of our use of basic concepts such of CAUSE and the precise role on any such explanation in a further explanation how we use non-basic

concepts. Second, Fodor's nativism does leave a lot to be explained but this in it is not devastating problem. Fodor could argue that his nativism is part of an ongoing research project that has yet to carry through to its completion. Scientific theories typically raise as many questions are they answer but that is not normally taken to tell against such theories as the theory of evolution by natural selection or quantum mechanics so why should it be taken to tell against extreme nativism? A failure to explain is only a problem if the theory implies that the phenomenon in question is inherently mysterious or without explanation. Third, it is far from clear that the extreme nativist could not use general resources in an explanation of our use of many concepts. In effect, Pinker is assuming our use of distinct concepts could have a common explanation only if they had common components. But there is the possibility that our use of distinct concepts that didn't share components relied upon common computational mechanisms so that a common explanation of their use could appeal to such mechanisms.

§ 4. Pinker's central objection

Pinker's central objection to Fodor's argument for extreme concept nativism involves drawing upon his explanation of alternation in order to undermine Fodor's key premise that lexical concepts or the meanings that they express typically cannot be analysed in terms of more basic concepts. As Pinker puts it: "My main brief against Extreme Nativism is that its key premise – that word meanings cannot be decomposed into more basic concepts – is mistaken" (95). According to Pinker Fodor provides little argument for this premise relying (in Fodor, 1981) on a limited exploration of the transitive verb "paint". By examining Fodor's treatment of that verb in the light of his own exploration of alternation, Pinker seeks to show that there is little motivation for Fodor's central premise. Fodor examines a series of increasingly complex attempts to define the transitive verb "paint" beginning with "cover a surface with paint". Each of these definitions is subject to counterexamples and in order to deal with these counterexamples the definition needs to be made increasingly complex by invoking a rapidly expanding circle of concepts including the concepts of ANIMATE AGENT, INTENDED EFFECT and MEANS TO AN END. In the light of this Fodor quickly comes to the conclusion that the attempted definitions of such a prima facie simple verb are becoming so baroque as to suggest that the task of constructing a satisfactory definition is utterly hopeless. Pinker accepts the legitimacy of each of

Fodor's counterexamples but does not regard them as motivating legitimate despair. This is because the counterexamples Fodor presents illustrate the need to appeal to the very concepts that Pinker has highlighted as core concepts that belong to our innate endowment and forming the basis of the representation of the microclasses into which we assign verbs. In other words, Fodor's examination of "paint" does not suggest that there is anything idiosyncratic about the analysis of that verb. Rather, it does the opposite by suggesting that that analysis will appeal to concepts that recur throughout the analysis of many of the other verbs belonging to English. Had Fodor examined a wider palette of verbs, as did Pinker in his investigation of alternation, he would have seen this and so might have come to a view of the situation that echoes Pinker's conceptual semantics.

What are we to make of this central objection to Fodor? Does it fare any better than his theoretical/conceptual objections? I think that there are a number of problems. The first problem is that Pinker underestimates what he has to do in order to defeat Fodor. He needs to show not merely that verbs like "paint" have a partial analysis in terms of the core concepts that he has identified. Rather, he needs to show that they have a full analysis. But the latter is something that he doesn't do for, as we have seen, the point of his treatment of alternation is to group together multiples of distinct verbs into microclasses the members of which overlap in their meaning. In other words, Pinker's analysis serves to bring out what verbs belonging to any given microclass have in common and what distinguishes them from the members of all other microclasses. In doing this, it serves to obscure what distinguishes the meanings of members of any particular microclass from one another, for example, what distinguishes "pour" from "dribble", "daub" from "smear", "deluge" from "flood" and so on. Pinker is fully aware of this. For example he writes:

> The verb *to butter* has to contain a representation of a butterlike substance, and if someone were to say that Bush has *out-Nixoned Nixon*, he must have in mind some noteworthy trait of the thirty-seventh president. But these and countless other sensory, cognitive and emotional distinctions are invisible to that part of the mind that sees some verbs as alike and others as different when deciding how to use them in a grammatical construction.(82)

The upshot of this is that Pinker's explanation of alternation could be correct without implying that any of the lexical verbs he considers has a meaning that is fully analysable in terms of more basic concepts.

But if such verbs have an element of their meaning that cannot be analysed, precisely that that serves to distinguish them from all other verbs – particularly from those in their home microclass – then Fodor's central premise would turn out to be correct. So what Pinker needs to do is motivate the claim that these putatively idiosyncratic elements of meaning have a full analysis in terms of more basic concepts that can play a role in the analysis of many distinct meanings. But this is something that he singularly fails to do. Now of course that does not in itself imply that such an analysis is impossible but I for one sympathise with the Fodorian thought that the poor track record of philosophical and linguistic attempts to fully analyse concepts and meanings does not license optimism.

A second problem relates to Pinker's attempt to generalise from the verbs he examines to all lexical concepts. Despite the examination of "paint" in "The Present Status of the Innateness Debate" much of Fodor's consideration of conceptual atomism[8] centres on nominal concepts such as HORSE, WATER, DOORKNOB, and CARBURETOR. With respect to such concepts Pinker writes: "if *hit* and *cut* and *break* aren't innate then it's all the less likely that *trombone* and *carburetor* are" (107). This strikes me as way too quick as Pinker provides no reasons at all for thinking that such nouns fall into microclasses bound together in terms of an inventory of more basic innate concepts. For example, he presents no analogue of the locative alternation phenomena discussed above in connection with such nouns.

A third problem relates to drawing an anti-nativist conclusion from the failure of Fodor's key premise. Suppose that many of our lexical concepts are fully analysable in terms of a stock of more basic concepts. It would not follow from this fact alone that the non-basic concepts were learned and not innate. For it is perfectly coherent to postulate that our innate endowment includes complex structures of organised concepts. As Fodor puts it: "it is open for the Nativist to hold either that (a) all or most lexical concepts have *no* internal structure, or (b), if they are internally structured, nevertheless the fact that they are plays no role in the explanation of their acquisition" (Fodor 1981: 279). Thus, Pinker should conclude that Fodor's argument for nativism breaks down and not that extreme nativism is false. It might be objected that the anti-nativist position is to be preferred, all else equal, on grounds of plausibility so that the extreme nativist needs a compelling argument in favour of their position. But this leads to a fourth problem.

The fourth problem with Pinker's argument is that the complexity of his analysis of the verbs he examines runs the risk of generating of poverty of the stimulus argument for the conclusion that the

concepts that they express are innate. In general, a poverty of the stimulus argument is an argument of the following form. A particular item (for example a concept, belief or piece of knowledge) is widespread across a population even though the experiences that the members of the population have prior to the item's manifesting itself are not rich enough to facilitate its learning on their basis. Therefore, the item cannot be learned and the best explanation for its being widespread is that it is innate. As is often pointed out, children acquire vocabulary items at a rapid rate often picking up a new word and grasping its meaning on the basis on only a handful of encounters of its being used and with little in the way of explicit instruction as to the meaning of the target word. This point holds of the verbs that Pinker considers. What Pinker implies is that the analysis of any given such verb will be complex, intricate and subtle. Even if a child possesses all that she needs in terms of more basic concepts for analysing the verb in question, how could she possibly gain the evidence she needs to learn the correct analysis? How, for example, can witnessing a handful of instances where an act of painting is referred to using the transitive verb 'paint' inform her that meaning of that word is built out of such concepts as ANIMATE AGENT, INTENDED EFFECT, MEANS TO AN END and so on, and thus means much more than something's merely becoming covered in paint? The problem is that the evidence that the child gets as to the meaning of 'paint' is consistent with quite different hypotheses as to that meaning making it a mystery as to why children usually come to the same conclusions as to the meaning of that word.

To drive home this point about the impoverished nature of the experiences on which children typically acquire a grasp of the meaning of the words of their first language, consider two verbs which Pinker assigns to the same microclass, namely "pour" and "dribble".

What is the difference between pouring and dribbling? Some key differences relate to the nature of the stuff involved, the strength of the flow of that stuff and whether or not the flow is unbroken. One can pour a liquid but one can also pour something that isn't liquid such as flour or lentils. However, to dribble something it has to be a liquid; "he dribbled flour into the bowl" sounds wrong to my ears whereas "he poured flour into the bowl" is perfectly grammatical. In the case of pouring the flow of the stuff poured can range from heavy to light. But not so in the case of dribbling; a heavy dribble is more of a case of sloshing than dribbling. And in cases of pouring the stream of stuff has to be unbroken whereas in dribbling the liquid involved has to break up into droplets.

Now consider a child who is attempting to learn the verb "pour". She witnesses an event of pouring and hears it described thus: "he poured milk into his tea". The child represents a range of properties of this event utilising basic concepts she already possesses. Her problem is to work out which of these properties are essential to its being an event of pouring and which are not. Unless she solves this problem she will not know which properties should figure in the representation of the meaning of "pour". More specifically, she has to answer questions such as the following: need the stuff involved be a liquid?; is the rate of flow significant?; is the volume of stuff involved or the duration of the event significant?; can one pour absent-mindedly or must deliberation or concentration be involved?; must the container become full?; and so on. Short of guessing, a child cannot determine the answer to these questions on the basis of only a small number of exposures to the use of the verb "pour". For, a small number of exposures will equally license radically different answers and, therefore, different conclusions as to the meaning of "pour". There is no general principle that the child can rely upon for with respect to related verbs the questions that I have highlighted have quite different answers. For example, pouring, unlike dribbling, needn't involve a liquid; pouring, unlike dribbling and drizzling, involves an unbroken flow; pouring, unlike dribbling and drizzling, can involve a heavy or light flow; pouring, unlike drizzling, can be done absent-mindedly; and so on. What this suggests is that a child will need to be exposed to numerous uses of the verb "pour" in order to effectively work out its meaning. If, as Pinker concedes, her exposure is limited then we should expect different children to come to different conclusions as to the meaning of "pour". But as such variation is not the norm the implication would appear to be that what enables a child to learn the meaning of "pour" is that she has a prior grasp of the concept POUR and that she represents the events she hears described by means of "pour" using this concept.

Conclusion

In sum then, Pinker's critique of Fodor's extreme concept nativism breaks down and for all its prima facie implausibility that doctrine still stands. Reaching this conclusion does not involve rejecting Pinker's treatment of alternation or his claim that the meaning of many verbs are represented in the mind-brain by means of complex representational structures. For, all that is consistent with those verbs not having a meaning that is fully analysable and that is all Fodor needs for his argument to go through.

Even was Pinker to establish that the verbs he considers have meanings that are fully analysable in terms of a battery of more basic concepts, his anti-nativist conclusion would not follow. For, nativism does not require atomism and in arguing against atomism Pinker inadvertently awakens poverty of the stimulus considerations that tell against his own position.

Bibliography:

Cain, M.J. 2002. *Fodor: Language, Mind and Philosophy.* Cambridge: Polity.

Cain, M.J. 2004. "The Return of the Nativist" in *Philosophical Explorations,* 7:1, 1-20.

Chomsky, N. 1965. *Aspects of the Theory of Syntax.* Cambridge, Mass: MIT Press.

Chomsky, N. 1986. *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.

Chomsky, N. 2000. *New Horizons in the Study of Language and Mind.* Cambridge: Cambridge University Press.

Fodor, J.A. 1975. *The Language of Thought.* Cambridge, Mass: Harvard University Press.

Fodor, J. A. 1981. "The Present State of the Innateness Controversy". In his *RePresentations.* Cambridge, Mass: Harvard University Press.

Fodor, J.A. 1990. *A Theory of Content and Other Essays.* Cambridge, Mass: MIT Press.

Fodor, J.A.1987. *Psychosemantics*. Cambridge, Mass: MIT Press.

Fodor, J.A. 1998. *Concepts: Where Cognitive Science Went Wrong*. Oxford: Oxford University Press.

Levin, B. and Rappaport Hovav, M. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface.* Cambridge, Mass: MIT Press.

Levin, B. and Rappaport Hovav, M. 2005. *Argument Realization.* New York: Cambridge University Press.

Pinker, S. 1994. *The Language Instinct.* New York: Harper Collins.

Pinker, S. 1997. *How the Mind Works.* New York: Norton.

Pinker, S. 2002. *The Blank Slate: The Modern Denial of Human Nature.* New York: Viking.

Pinker, 2007. *The Stuff of Though: Language as a Window into Human Nature.* London: Allen Lane.

Putnam, H. 1998. *Representation and Reality*. Cambridge, Mass: MIT Press.

Quine, W.V. (1960) *Word and Object*. Cambridge, Mass: MIT Press.

[1] A lexical concept is a concept expressed by a single-morpheme word.

[2] In 'The Present Status of the Innateness Controversy' Fodor illustrates this point through a discussion of the transitive verbal concept PAINT.

[3] See Cain (2002) for discussion.

[4] Namely dative alternation, causative alternation, conative alternation, possessor-raising, middle voice alternation and anticausative alternation.

[5] See Cain (2004) for an elaboration and defence of this line of thought.

[6] Chomsky explicitly appeals to poverty of the stimulus considerations in arguing for concept nativism in Chomksy (2000).

[7] The case for UG's playing such a role as has been ably argued for by Pinker (1994) following Chomsky (1986).

[8] For example, in Fodor 1987, 1990 and 1998.