August 8, 1997, Limits of formal systems BIG

Other examples of the limits of formal systems from the point of view of their usefulness for inquiries demanding ontological analysis: The way the problem of universals is defined (see Poinsot article). Routely p. xi, the irrelevance of extensional logic to a priori reasoning. Quine on regimentation (the sacrilization of logic).

August 8, 1997, Church's thesis, formal definitions of informal notions, limits of formal systems, Turing machine, recursive functions - BIG

There is more to the limitation of the kind of analysis, and the kind of arguments one gives for the analysis, of intuitive notions by formal means. Not only is there always a gap because you cannot make an absolute connection between the intuitive and the constructed. But also awareness of validity, including awareness of the validity of a step in a recursive proof, can never be explained by the methods of constructing formal proofs, because it can never be caused by the methods of constructing formal proofs. Awareness of necessity and validity always involve "intuitive" notions because they always must involve implicit, not explicit, awareness of the truth of the rules governing the inference.

August 26, 1997, limits of formal systems, Godel's proof, BIG, BIG

Formal methods show that from certain rules and certain assumptions, contradiction *necessarily* follows. The assumption in question is the assumption that the rules are complete. Completenss is a characteristic of a tool of logic. Godel shows that assuming that tool to have completeness produces a contradiction. So he shows that this tool will never be such that (1) it can define a set of wffs including numbers and (2) it can define a set of rules such that all wffs can be known to be true or false. So basically what he is showing is the limitation of this tool as a tool of logic.

In terms of awareness, we can be aware that a self-referential sentence is false the way colors are neither odd nor even, i.e., both statements are false. But we do not make that distinction as a result yielded from using the tool of formal method. That tool is just not suited to produce that result or its opposite. So Godel shows, that if we do not make that distinction concerning self-referential statements, formal methods yield contradictions in certain cases. Likewise, formal methods show that everything follows from contradiction, but we can be aware that such a conclusion has no necessity. Likewise, we can be aware that completeness does not really impose contradiction with necessity, but contradiction only follows if applies rules to self-referential statements *as if* they were just like other statements. Similarly, contradiction implies everything if we apply the rule of disjunctive syllogism *as if* it still retained its force when we permit contradiction.

Ontology/logic article, epistemological fallacy, Kelly, July 9, 1997

Examples to use in article showing that, even when claiming to, analysts do not escape the fallacy of basing ontology on logic.

Rescher's claim that his paraconsistent world is ontological, not logical.

The proof that what “A is not what A is” in the Everything-Follows article shows that it is not circular, as Rescher claims that it is, to argue against inconsistent worlds on the basis of consistent logic.

The irrelevance of Tarski’s account of truth to any philosophical problems about truth, and hence the irrelevance of disquotational philosophers. The metalanguage/object language distinction is at most relevant to a tool of logic, not to logic, and logic itself is not philosophy. The problem shows up in the fact that Tarski’s account of truth is plausible only because we implicitly declare “‘S’ is true if and only if S” a TRUE sentence, in the same sense of truth.

Also re Tarski, bring in (a) “this sentence is”. Is (a) prime? No, so is it divisible by something other than one and itself? No, neither. Nor is it either scalene, equilateral, or icosoles. In the same way, it is false that (a) is either true or false.

The book, A Philosophical Introduction to Set Tbeory, and its argument that sets cannot be mental entities, since there are sets we have never thought of, and those we have thought of we have never exhaustively counted. (Pollard, p. 43, quoting Max Black) No, until we think of them, they are not SETS. And we think of them not by counting them but, as always before we can begin to count something, we think of the principle of unity that will make them members of one set. That is, we count apples or oranges, etc.

The reviewer of Causal Realism who said I owed an account of the logic of causal relations.

The BU athiest who spoke at the Merrimack SCP meeting and only used post-Fregean definitions because they are clearer than previous definitions. His name is Michael Martin and he has a book. Warren Kay gave me his name.

Chuck Kelly’s theology articles and the references he cites there saying that, e.g., predicating “is identical to X” or “knows this contingency” of God puts a relation to creatures in God, especially in light of his comments about Aquinas. Why not point out that Aquinas denies that fundamental assumption without which Chuck’s efforts are without point? Between “A knows B” and “B is known by A” the logic may be completely different, but the state of affairs that makes each of those sentences true is the same state of affairs. The identity cannot be in the logical aspects of those statements, only in the non-logical aspects; logically they differ, but the ontological cause of their truth does not differ.

Check Kelly’s references to critiques of Aquinas’s use of “qua” to explain statements about the Trinity and the Incarnation. These should be given a causal, not a logical, meaning. For example, see the causal explanation of “objects qua objects in the preceding note.

Quine’s examples of being a rabbit, having rabbithood, etc.

Hanson’s examples and my examples against him.

See Putnam’s appendix to Representation and Reality.

See Lowenheim-Skolem theorem in Ontological Relativity and other essays.

Also, Rescher's definitions, e.g., top of p. 32 and elsewhere, mislead him into believing that he is speaking ontologically as opposed to epistemologically. Those definitions are perfectly clear in themselves. But the mistake committed by Rescher and friend shows that the philosophical interpretation of the value of these definitions, the philosophical analysis of what is accomplished by definitions of this type, is far far from clear. Moreover, their clarity (of one kind) kind cause obfuscation (of another kind). Their clarity in their own domain dazzles us into putting more weight on them than they deserve (that is, putting weight on them that is beyond their own domain. Descartes committed exactly the same fallacy. We think of ourselves as having the tools to avoid all of the conundrums Descartes gave us, when we are only repeating his exact error but in different clothing, spectacularly different clothing.

Logic versus ontology

Is "something" a logical variable, or is it an ontological variable? Yes and no to both questions. Since it belongs in language it is logical and grammatical. But since logical relations terminate in non-logical values, the word-function of something is equivalent to "any non-logical value; any value that can terminate a logical relation, including especially non-logical values".

Trinity, formal systems, quantification, existence, 4-20-93

Could a notation whose marks had the same meaning as "God is good and God is goodness" really be a formal system? No, the formulas of a formal system are not designed to mean this, not meant to mean this. Rather, given sentences that mean things such as what "God is good . . ." means, formal syntax is supposed to represent X about such sentences. So what is X? Is it self-evidently clear what X is?

Why am I a priori skeptical about the construction of a formal system that would, say, allow saving noncontradiction, while permitting violation of transitivity of identity for relations that can be genuine formal relations and still be predicated directly of the essence to which they belong? Is it just that I see no successes attempting to solve philosophical problems by the methods of formal systems? Is it just a reaction against the imperialism of method that is practiced in the name of such systems? Or is it an intuition of the essential inappropriateness and even incompatibility between the nature of the problem to be solved and what is accomplished in such systems?

"First order, "second order," "empirical," "logical," etc. are not the only alternatives for explaining the usefulness and power of quantification and the function/argument syntax. Ontological analysis and the fact that being is first known and known by judgment is another possibility, and this posibility is a necessity. (Existence is logically included in knowledge by judgment, not concept.) As Putnam said, Frege is not to blame for making "exists" logical; subsequent interpreters did that.

If a formal L cannot describe its own relation to its objects, that is a limitation of formal Ls. When someone says a language cannot state its own relation to its objects, I reply that English does it all the time. If the opponent answers with talk about the "metalanguage," I respond by asking

whether he means middle English, old English, or Latin. Why can't one sentence of English say something about the weather, and another sentence say something about how English expresses facts about the weather? Why must we sleep on the Procrustean bed of the metalanguage/object language distinction? Answer: because someone is in love with that distinction and wants to force it on us. Why? Because of the a priori idea that it will produce clarity, when in fact it constantly produces obfuscation over and over again. But the opponent is in love with the dream of the clarity he imagines it creating.

Formal systems, 3-17-93

Geach, in the article of Frege's concept of existence in God and the Soul" ("Form and Existence"), refers to the clarity that logic can bring. But a perfect example of the obfuscation that logic can bring is the application of Tarskian concepts to natural language. We are told that language cannot "refer to" itself, or at least that there is a tremendous philosophical difficulty involved in understanding how language can refer to itself. But in English, statements and words refer to other statements and words all the time. We are told, by implication, that "English" is not what they mean by language when they say that language cannot refer to itself. They mean the underlying linguistic structure, the metaphysical essence of language. Why, because they mean "language" in a sense that requires statements about other statements, statements about reference and truth, to be statements in a metalanguage as opposed to an object language. But that is a wholly artificial structure to be imposed on English, unless you think that structure must be imposed as a metaphysical necessity. Why is it a wholly artificial structure. Because it is pure confusion, otherwise, to say that English cannot refer to English, which is what "language" ordinarily means. So as ordinarily understood, what is called "language" can certainly refer to itself. So the opponent is using "language" in a special, metaphysical, way. Why is he doing so? Because of alleged clarity that results. Clarity about what? About philosophical problems about ordinary language. But there was no problem about how language can refer to language until he introduced his nonstandard use of "language." So he has added obfuscation, not clarity.

By fiat you are trying to force me into looking at things through this structure, by force of will. Or, if I choose not to look at things through this structure, you will ignore me.

Logic, formal systems, existence, Putnam, 3-24-93 BIG

Anscombe, in her commentary on the tractatus, says that Frege's analysis of judgment is the "right" analysis. I am not sure there is any such thing as the right analysis of judgment, where "analysis" means the right way to represent the logical relations in judgment by means of syntactical relations. But if Frege's is the right one, or if all "right" ones need to be logically equivalent to Frege's or consistent with it or . . . (whatever these concepts may mean), the reason is what is expressed by the two quotes from Maritain in section 3 of "Wittgenstein and Maritain." At least, those quotes explain why the function/argument element of Frege's notation is correct. In other words, Thomistic principles explain why Frege's anaylsis is a good one; and any other explanation would have to be consistent with the Thomistic one.

As for the other aspect, the quantifier as a predicate depending on prior predicates, the Thomistic principle that existence is known by judgment

can have two meanings: First, if and when existence is known, it is known by judgment. Second, all judgments about particulars whose nature is other than beings of reason logically include knowdge of the existence of those particulars. Certainly the second, if true, is the explanation why quantification is a good notation; and all other explanations would have to be consistent with it. But does the first imply the second? The second is true whether or not the first implies it.

P of NC, Logic, Formal Systems, Entailment Truth, Tarski, Prior, Putnam, 6/2/94 BIG BIG

Title: Ill Logic

The logical PNC says that a sentence and its denial cannot both be true. Nothing in that statement refers to the "language" the sentence is in. When we say "Snow is white" is true if and only if snow is white, it is essential that the same notion of truth is understood by us to apply both to the sentence "Snow is white" and to the whole sentence. Call "Snow is white" sentence A and the longer sentence sentence B. (This last sentence, referring to both A and B is alleged to be in the meta-metalanguage. But in this last sentence we can use the word "truth" of both A and B. And that word does not change its meaning when we apply it to A or B alone, nor does the word "sentence.") We can say "A is true if and only if snow is white." Or "Sentence A is true, if and only if snow is white." On the assertive-redundancy theory of truth, the meaning of truth must be the same, because asserting B is the same as saying "B is true." But B contains the word "truth," and B is not guilty of equivocation.

But even on the thing-object (or quod-object) theory of truth, the meanings of "truth" and "sentence" have to be the same. The person asserting B implicitly knows that B is a sentence, is implicitly aware that B is a sentence deserving to be judged either true or false, just as A is.

Read all of what Putnam has to say on disquotation, both the chapter in R and R and that article you saw in the Philosopher's Index.

But what is a "sentence?" It is anything capable of being true or capable of being false. The PNC says that such a thing cannot be both true and false. The use of the language/metalanguage distinction allegedly gives us a "clear" meaning of "sentence" for the language (not for the metalanguage). But the problem is more than the fact that this "clarity" is bought at the price of irrelevancy to the ordinary notion of "sentence." The opponent is implying that we do away with the ordinary notion in favor of the "clear" one. But notice the difference between this replacement and Church's thesis. CT, if true, does not apply only to mathematical theorems as opposed to something called "metatheorems." CT is meant to cover all decision procedures. But Tarskian replacements explicitly exclude sentences in the metalanguage.

But the metalanguage is what philosophy is concerned about, in the sense of wanting to know what goals we achieve in our various modes of awareness. To substitute an artificial and deliberately restricted notion of sentence and truth is precisely to give up answering our philosophical questions. We want assertions like CT, that cover all cases of our ordinary notions, even if, as

is contrary to fact, they cannot be proven. (That JofP guy seems to be saying CT, etc., can be proven.)

The language/metalanguage restriction is one important difference between the ways formal methods relate to logic and mathematics relates to science. Just as science constructs mathematical models, logic uses formal methods to construct models of languages. But logic's models are restricted in an essential way in which science's models are not restricted. Science can construct models covering the whole of its subject matter, e.g., the universe. Logic's model languages are always restricted to being subordinate to their metalanguates. E.e., the meaning of "truth" and "sentence" are defined only for fragments. Math uses ordinary language as a starting point for constructing its "formal" definitions. That starting point in ordinary language does not seem to hinder it from coming up with precise definitions. And ordinary language does not relate to its definitions as a metalanguage to a language.

Math models in physics cover the entire universe, but do not say everything or every kind of thing that can be said about the universe. So if we define truth and meaning extensionally, mathematical physical models are in no way restricted. But formal systems as models of logical relations are restricted. They do not apply to all sentences, only to the sentences of the "language," not to the sentences of the metalanguage or to sentences like this one, since this one must be neither in the language, nor the metalanguage, because it refers to the metalanguage. Now, the preceding sentence is precisely the kind of sentence that the formal language guy needs, if he wants to make is would-be Tarskian points. But that sentence makes no sense whatsoever, unless "sentence," "applies to," "true of," etc. have the same meaning throughout and at every level, including the self-referential level; otherwise, we would have to say, not that the sentence is in the meta-meta-metalanguage, but in an infinite series of meta-metalanguages. Since the Tarskian wannabe has to use sentences like that, it does no good for him to claim that "sentence," "truth," etc. are too vaguely defined to be useful at that level, and so that he wants to replace them with better defined terms, using the meta-language/language structure. That does not let him off the hook. He still has to tell us what and why he is doing, using sentences in which "sentence" etc. are not restricted in meaning to this level or the next level down. The alternative to using that kind of sentence, is to make a blind act of will, the way the logical positivists chose a to restrict the use of "meaning". But even they needed to assuage their minds by making the claim that their blind act of will was done on the basis of a rational justification.

How does Prior know that the PNC is supposed to "entail" all things? Because he knows the meaning of "entail," i.e., because he is aware of what the relation of entailment is.

Logic, formal systems, Frege, existence, 4-23-93

Supposedly supplying a value for x in Fx, or quantifying over x, gives Fx the value: true or false. Actually, it only gives "Fx" the value true or false. It gives Fx (or Fa), without the quotation marks, the value of existing or not existing, or some other value than true. Maybe existence is not the appropriate way to describe the value. But if it is not, that only provides

further evidence for the inappropriateness of the metaphor of considering a proposition a function of an argument. We cannot even name the value that the function Fx takes. And it should be Fx, not "Fx" that takes a value, since whatever value "Fx" has will depend on, as deriving from, the value Fx has, ie., what is expressed by "Fx."

Formal systems, Jan. 4, 94

A sentence, e.g., the principle of noncontradiction, conveys some extralinguistic value, some meaningT. Are the formulas of a formal system to be interpreted as conveying an extralinguistic value or not? If not, they are philosophically irrelevant, except as objects of study, just as any object can be relevant for philosophy to study. If so, it is irrelevant whether the formula is in the metalanguage, the language, or in some other language. It is what the language conveys that counts. And the logical p of NC conveys that contradictory sentences <u>of any language</u> cannot both be true, ie., that what contradictory sentences convey cannot both be true, where true is a value that is not confined to this language, its metalanguage, or any other language. True is logically fundamental, as Putnam says somewhere in "The Meaning of Meaning" or in one of the other essays in that volume that I glanced at this Christmas.

Remember true "in language L" is <u>not</u> part of Tarski's definition of truth for language L.

PNC, formal systems, Aug. 11, 95 BIG

Formal systems are models that cannot capture the fundamentality and centrality of the PNC. In the propositional calculus, the PNC is just one proposition among others

PNC, Formal Systems, Mar. 25, 95

The most fundamental form of the PNC for logic is that it is impossible for some object (quod) to be or not be (to have or not have) of some character (some characteristic). The impossibility of a sentence's being both true and false is just a case of this. A sentence is one kind of object and truth or falsity is one kind of characteristic. This thought comes out of reflection on the fact that a multi-valued logic or "paraconsistent" logic only works if a sentence cannot both have and not have the additional value, M, i.e., the value allegedly in addition to truth.

The opponent will say that the sentential form is more fundamental. Why? Because logic is supposedly the most fundamental. And logic is about the truth of sentences, since the truth of sentences is the goal of intellectual endeavor. But the preceding statement only holds if it is talking about sentences, period, not about sentences in language L or L1. The opponent's idea would be that the PNC holds for any language for which the formulas of system L hold. But what must be the case for <u>any</u> system L is that the PNC hold for the so-called "metalanguage," whether or not the PNC appears as a formula in L.

The PNC must hold for any metalanguage because it must hold for any sentence in any language that can have a truth-value. And it must hold in any system, not in the sense that the system contains it, but that the assignment of any value within the sysem cannot be accompanied within the system by the

simultaneous non-assignment of that value. The formulas of any formal system constitute, together, just a model of the logical relationships that hold where the values of truth or falsity are possible, ie., hold for the sentences of any language.

It is correct that knowledge of the truth of sentences is the final cause. But it is the final cause because, in sentences, we objectify objects other than sentences and objectify those objects as having or not having characteristics. The reason contradictory sentences cannot achieve the goal of truth is that the objects they objectify cannot both have and not have the same characteristic. It is not that those objects cannot both have and not have the same characteristic because, if they could, the sentences objectifying them would be both true or false. That is putting Descartes before the horse.

It is correct that the necessity of the principle arises from the use of the cognition-constituted relation of negation. But there is no reason why that relation cannot be used in the objectification of objects other than sentences and so used before it is used for sentences. In fact, that relation arises (causality other than final causality is the analysis here) as soon as we are aware of two objects that are in fact not the same: two fingers, two trees, a finger and a tree, etc.

Check out the truth table for negation signs in multi-valued logics. If the negation sign has the same meaning, i.e., still means the relation of negation, than the PNC holds, and the signs for the affirmed and negated values do not mean what "true" and "false" mean.

May. 30, 95

Why is what can correctly be objectified as other than X necessarily non-identical with what can be objectified as X (or by "X")? If by "necessarily" we mean why does it not have to stay objectifiable as other than X, maybe it does not have to stay objectifiable by "other than X." But it is necessarily the case that if and when something is indeed objectifiable by "non-X" that it is not also what can be objectified as X. Why?

Because if not, the what is objectifiable as non-X would at the same time not be objectifiable as non-X. It would not be <u>identical</u> with itself (so identity is primary). But that <u>seems</u> to just reduplicate the principle. And perhaps it does reduplicate the principle. The point is that that is just what negations do, that is their function, e.g., to negate what is objectified as X or what is objectifiable by X. As long as that negation holds, the opposite does not, by hypothesis; for negation amounts to the hypothesis that the opposite does not hold.

To really deny the PNC, a principle would have to allow a proposition to have value M and not have value M.

BIG:

My argument against contradiction implying everything has many implications. Think of how Chuck Kelly laid out the arguments as steps in a formal proof. Impeccable. That shows that awareness that the a formula resulting from such a proof is a logically valid formula is not <u>caused</u> by our awareness that each step in the proof satisfied the rules. For Kelly showed that that argument satisfied the rules, and we were both aware that it satisfied the rules. Yet we could still be aware that the conclusion was not logically valid. Why?

because we were aware that one combination of premise (contradiction) and rule (disjunctive syllogism) was not logically valid. Rather, awareness of logical validity is caused by awareness of the fact that the primary rules are logically valid and are consistent with the premises.

PNC, Logic, Formal Systems, Putnam, 6-16-94 BIG

If the PNC means what it says, then to contemplate denying it (e.g., in the future because of science, or in a fomal system) is to contemplate affirming it
and denying it. Because that's what it says, i.e., that you cannot affirm and deny the same sentence. If you try to get around this by invoking the meta-language/language distinction, you show the limitations of that distinction. We are, in effect, making a rule in our ordinary language that any proposition but this one can be affirmed and denied simultaneously. This one can only be denied. And that in itself shows that the PNC is unique; it is, after all, something special.

Math/Logic/Formal Systems

10-21-91

Why philosophical abstraction differs from mathematical. Ask, why is it so hard to do arithmetic in your head? To do that requires operating on symobls. You can do metaphysics in your head, but you cannot do metaphysics by operating
on symbols. Metaphysics requires *understanding* that which words are used for,
not just understanding rules for manipulating strings of words. Doing arithmetic in the head requires no understanding beyond the memory of mechanical
rules for combining, replacing, and detaching strings of marks.
Symbolic logic is like a model, map, relative to logical essences, where "logical
essences" means relations to objects of knowledge "as" objects of knowledge or terms of knowledge relations, where "as" means relations resulting from and for
the sake of objects of knowledge being objects of knowledge. Or symbolic logic *deals with* objects that are models or maps relative to logical objects.
As such symoblic logic can reveal many important aspects of logical objects, just as maps can. But to think that that is what the understanding of logical objects consists in is to think that geology consists of cartography. Cartography can be very useful, even essential, in geology, but geological understanding does not consist in cartographic understanding.
Maybe I should say formal systems are like models or maps and by studying formal systems, symbolic logic studies something that relates to logical objects
the way maps relate to the objects of geology.

Ontological abstraction versus symbolic abstraction. Why do we use ssymbols in math and logic but not in metaphysics. Ans: formulas of symbolic disciplines are indifferent to that which the

symbols might stand for other than their being terms and bearers of the relations studies.

Formal Systems - philosophical limits of
3-27-89

The formal approach to philosophical problems has no successes. Not one. Hempel's disproof of the verification principle? First, I do not accept it as proof. Second, If it is is proof, it is a proof that another attempt to apply formal methods in philosophy is unsuccessful.
Rorty admits in The Linguistic Turn that there have been no sucessess. His later work can be interpreted as the claim that we shouldn't look for any successes, i.e., there reason there have been no successes is that there shouldn't be any, and we shouldn't look for them.

The point in his earlier work was that all the linguistic turn had done was to put all previous philosophy on the defensive. But the burden of proof had always been there, so what's new? Perhaps what's new is that "putting on the defensive" means all philosophy must henceforth be done this way even though this way has not yet achieved anything, ie., the belief that if there is anything to be achieved, it will be by these methods. But when and how has that belief been demonstrated. It's not a demonstation, its a program; its an act of faith in a program, an expression of a preference for a program; that's all.

Rorty's later work, "The Mirror of Nature," says, in effect, if there were anything to be achieved, it would be this way, but this very method shows there is nothing to be achieved.

It's time once again for philosophy to bury its skeptical undertakers.

Formal Systems

The problem of universals is not the problem of whether we should quantify over sets. In fact, the realist treatment of universals, diacritical realist, implies that we should NOT quantify over sets. Sets are logical entities; they have no extramental existence. Neither do universals; or neither does universality.

Natures exist only as natures of individuals. But our concepts relate to those natures in such a way that the characteristics those natures owe to matter, to component causality, are irrelevant to the relationship, do not enter into the relationship. Thus the kind of component causality that individuates natures must not enter into the subject who forms the concepts (psychological entities) by which we relate to natures such that what the natures owe to component causality does not specify (as a specifying cause) the relationship, or does not characterize the nature precisely as what terminates this relationship. Concepts are individual also, but not material. The only thing that "is" universal, is something that has existence as a cognized object only, because it has existence as a relation holding between cognized objects as a result of different ways in which they are cognized and as a result of differences between what the nature owes to matter and what characteristics of the nature enter into or terminate the relation by which concepts cognize those natures.

Truth and Tarski and Limits of Formal Systems, 1-22-93

Tarski' definition of truth cannot possibly be useful in understanding truth for ordinary sentences. Tarski's account depends on his "Criterion of Adequacy" (see Representation and Reality, p. 67). That criterion makes the claim that certain sentences are provable in the metalanguage. Therefore, the metalanguage has to be defined rigorously; otherwise, there would be no useful notion of proof in the metalanguage. So three languages are involved. We start with ordinary language and define the metalanguage sufficiently to support the notion of proof and sufficiently for the metalanguage to define the language. But the concept of truth for ordinary sentences does not come into existence at a level removed from those sentences. And it could not come into existence at a level removed from those sentences. Any higher level we might construct, we would construct on the basis of the first level. Whether or not sentences on the first level are actually true, we would need to already have the idea of truth, and beliefs about truth, at that first level.

What Putnam shows in Representation and Reality is that Tarskian defintions cannot capture the notion of truth in natural languages, i.e., that p is true according to what p means in L. (And what does Tarski say about sentences with double meanings in L?

Formal systems, frege, logic, judgment, existence, 3-24-93

In some ways concepts are like functions; in some ways they are not. A mathematical function gives a value of the same kind as the value in the argument place, namely, a quantity, a number. A propositional function gives a value of a different kind, namely, true or false. A mathematical function corresponds to an operation on the argument (Wittgenstein says it isn't an operation); a propositional function does not. We can say 2x = 4, to express the identity of the diversely objectified. In order to objectify a propositional function as true, we need to put it in quotes. "Fa" is true. (but we can say "that Fa is true"? No, that does not work in a full sentence. Or does it? "He believes it is true that Fa.")

Formal systems, C and D, 3-24-93

Is the clarity of formal systems applicable to curing aids, to ending the cold war, to controlling inflation? No, so commitment to formal systems in philosophy is not justified by their internal clarity, but by a "religious" commitment, like that of ideological liberals and conservatives.

Formal systems, logic, Putnam, P of NC, Trinity, September 15, 1993

It is not whether the p of NC is in the language or in the metalanguage. It is not whether a language contains the corresponding formula. It is whether what the formula expresses, what the P of NC expresses, is obeyed by the sentences, any sentence, in any language.

The same with a formula for transitivity of identity and the Trinity.

Logic, formal systems, Pena, Putnam, July 25, 1993, BIG

I say Pena's constructs must conform the the principle of noncontradiction and that Putnam really implies that science will and will not reject the principle. The opponent says all I'm doing is putting the P of NC in the metalanguage, but not in the language itself. This is the sacrilzation, not of logic, but of a

tool of logic, i.e., languages set up in metalanguages. Formal method is a tool but only a tool of logic. The validity and constraint imposed by the P of NC has nothing to do with whether a formula corresponding to it appears in a particular linguistic construct. An indication of this is Putnam's proof that Tarski's account of truth does not apply to "natural" languages.

PNC, January 14, 1997

But how could we formulate a PNC that would tell us that we must be aware that a proposition is not simultaneously assigned not-M, when we assign it M? Wouldn't we need a super metalanguage, a metalanguage beyond which there is no greater? No. The language/meta-language distinction functions in explaining how we are aware of validity in formal systems. So that distinction is NOT of use in explaining logical awareness. We need some language, of course, but that is all.