ABSTRACT

THE SYNONYMY ANTINOMY

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Intensional context substitutions needn't preserve truth, because *intercepting* doesn't preserve sentence meaning. Intercepting is nonuniformly substituting a pivotal term in syntactically secured truth. Logical sentences (GG: *Greeks are Greeks*; gg: *Greece is Greece*) and their synonym interceptions (GH: *Greeks are Hellenes*; gh: *Greece is Hellas*) share *factual content* (extrasentential reality asserted). *Semantic (cognitive) content* is (identifiable with) factual content in synthetic predications, but not logical sentences and interceptions. Putnam's Postulate (Logical form has semantic import) entails interception nonsynonymy. Syntax and vocabulary explain only the factual content of synthetic predications; extrasentential reality explains their truth. Construction of logical factual content explains logical necessity. Terms retain objectual reference, but logical syntax preempts their function (and thereby function of extrasentential reality) in explaining truth. Grasping the facts GG/gg assert entails understanding this. Understanding what GH states requires some recognition that GH must be true just because GmH (*"Greeks" means Hellenes*), and GmH (*"Greeks" means what "Hellenes" means*) state an empirical fact. GH (but not GG) is standardly used to express that fact.

Church's Test exposes puzzles. QMi sentences ("E_x" means E_x), and QTi sentences (p≡it is true that p≡"p" is true) are metalogical necessities, true by syntax. Intercepting QMi creates empirical QM contingencies ("E_x" means E_y). Synonymy turns semantic contingencies (GmH/GmH) into metalogical (GmG/GmG) and *lexical* (GH) necessities. That transformation is syntactic, via the syntactic duality of definite descriptions. GmH is a contingent copredication, and a lexically necessary referential identity with rigidly codesignating indexicals.

Metalogical sentences may be about expressional matter or what it expresses (meaning, proposition). GG (*Griechen sind Griechen*) has GG's semantic content, but the referent expression

switches. Metalogical syntax secures truth by self-referential quotational indexing. Metalogically, referents are identified with intrasentential replica. Extrasentential identifications are metalogically irrelevant.

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1. **Interception Nonsynonymy.** The *Synonym Substitution Principle* says that synonymous words replace each other in a sentence without affecting its meaning. The Principle must be right about most instances, but what of the unique case of *intercepting*: nonuniform substituting of a term pivotal in the truth securing syntax of a logical truth?[i] Is GG synonymous with its *synomic interception*, GH?

GG: Greeks are Greeks

GH: Greeks are Hellenes

And, if the meaning of a name is its reference, are gg and gh synonymous:

gg: Greece is Greece

gh: Greece is Hellas?[ii]

Hilary Putnam's [1981] assertion of the synonymy of interceptions is clear and succinct:

> ...the interchangeability of 'bachelor' and 'male adult human being who has never been married' ... explains why 'all bachelors are unmarried' may be regarded as synonymous with 'all male adult humans who have never been married are unmarried'. ... the truth of the *latter* statement ...is... presupposed.[iii]

This assumption of *interception synonymy* has shaped Analytical thought since Locke trashed as trifling the essential truths ancient genius was after. For the central, startling thesis of his *Essay*, that definitional truths are trivial self-identities, Locke is the Kepler of Kant's Copernican revolution.[iv] Puzzles of interception synonymy trigger Frege's 'Sinn und Bedeutung', and plague Linguistic Philosophy in paradoxes of analysis and mystifying, multipurpose arguments like Moore's open question, Gödel's slingshot, and Church's Translation Test.

Interception synonymy is well nigh never doubted,[v] and *obviously* mythical. Putnam [1954] himself, a quarter century prior, pronounced the plain fact of our sense of our own speech: "'All Greeks are

Greeks" and "All Greeks are Hellenes" do not *feel* quite like synonyms."[vi]

The explanation of this linguistic intuition is near plain as the datum. Pairs like GG-GH don't *sound* alike because they aren't *used* alike. They aren't freely interchangeable because they don't *say* or *mean* the same. Synomic interceptions are most naturally used to explain the meaning of their own terms, in place of *QM sentences*, like:

GmH[vii]: 'Greeks' means Hellenes

and *QMQ sentences*, like:

GmH: 'Greeks' means what 'Hellenes' means.

We do not use GH to say what we say with GmG or GmG.

GmG: 'Greeks' means Greeks

GmG: What 'Greeks' means is what 'Greeks' means.

And we cannot use GG to say what we use GmH or GmH to say. Nor do we standardly use GG where we use GmG and GmG.

Yet, without a drop of empirical data to fuel it, despite all our experience of language, Empiricism plausibly proceeds on the premise of interception synonymy. Synomic interceptions flat out fail every test of sameness of meaning that motivates translators, lexicographers and linguists, all but the one criterion logicians have cared about: their *factual content* is identical. The same objects are denoted, the same properties predicated, the same extrasentential, multiexpressible reality asserted. Whatever be GG's factual content, whatever it says *objectually*, about the multiexpressible world of fact outside itself, is just what all its translations, like:

GG: Griechen sind Griechen,[viii]

say, and what all of all their synomic interceptions objectually say. Their truth conditions are identical. Elsewhere, (cognitive, informational) synonymy, sameness of *semantic content* is sameness of factual content. Why should it — how could it — be otherwise with truths due to syntax and truths due to semantics? GH's (cognitive) meaning cannot differ from GG/GG's unless GH somehow implies some fact not implied by the fact it states. What could that be?

2. **History**. Putnam [1954] provided the first lines of an argument for interception nonsynonymy from elemental principles of linguistic theory relating syntax to semantics. Simply stated: syntax determines sentence meaning apart from word meanings, and interceptions lack the truth securing syntax of logical sentences, so interceptions cannot say what their logical correlates say.

Putnam was prompted by Mates' noticing nonequivalence in synomic interceptions of belief reports.[ix] Putnam's Postulate, that *logical form has semantic content*, has been cited repeatedly, often obliquely, rarely approvingly, and more rarely with any of all that cries out for clarification. From Church's[x] and Sellars'[xi] replies onward, analysis gets skewed by staring at intensional context subbings.[xii] Putnam's Postulate is about logical syntax *per se*. Its implications for intensionality conundra are confirmational corollaries of its claim about elemental, referentially transparent, extensional logical truth. Church, Sellars, all critics sail by the syntactic iceberg while ridiculing its tips on intensionality with assumptions of intuitive semantics.[xiii]

This sorry tale's saddest chapter is the abandonment of Putnam's brainchild by its begetter. Instead of criticizing its critics, we see him renouncing it in assorted, often celebrated assertions.[xiv] Putnam is as acute as they come, and blessedly unabashed about changing his mind now and again, but he has seemed obliviously silent about his ambivalence over interception synonymy.

Putnam has shown us the unsettled condition we're all in when we leave unresolved this antinomy at the center of synonymy. Interception nonsynonymy is an empirical certainty. It's also a necessity entailed by Putnam's Postulate, an *a priori* certainty for those who much understand what it says. But it bangs into all that beckons us to think of semantic content as factual content, and to feel certain that interception nonsynonymy is *a priori* impossible. This collision of hardpan principles lies at the nexus of our conceptions of meaning and logic. We're bound to flounder till we find some understanding of the why, what and how of interception nonsynonymy.

3. **Synonymy vs Analysis.** Defenses of interception synonymy derive mainly from Church's Translation Test of semantic equivalence.[xv] The Test presumes that translation preserves meaning, so sentences are inequivalent if their translations are. Churchian translations are essentially synonym substitutions. A

translating sentence is to retain the original syntax, and alter only morphemically by synonym subbing.

The Test rests on the Principle so it cannot supply support. Worse, the Principle evidently entails the Test's futility. Any disparity apparent only under translation, not in the original, should be a discrepancy in and of the translation. Where the Principle applies, translating should test only our patience.[xvi]

Translations are not analyses. Churchian translating brings bilinguals no enlightenment. Analyses can be revelations, a fact smacking little of paradox absent any mistaking of synonymy for analysis.

Locke recognized that analyses aren't synonymies.[xvii] He wouldn't waste pages to prove GH and its ilk 'trifling'. Alas, Locke led legions to say: Essentialist analyses are trifles because our name for a property, the analyzandum, is just an *abbreviation* of the analyzans. Actually, abbreviation paradigms, like:

ET: An ETA is an estimated time of arrival,

are trifling because they're synomic truths, not essentialist analyses.

Analyses, like Locke's 'Lead is a metal', are transnotational truths, fully translatable, (apparently) necessary truths, knowable *a priori*. Synomic truths (GH, gh, ET) express internotational relations, consequences of contingent notational equivalences, knowable only *a posteriori*. They are materially, morphemically specific, inexpressible without reusing some pivotal term (or etymological cognate.)[xviii]

'Bachelor' and its abbreviation 'B' predicate a property *without describing it*. Putnam's [1981] analysans, 'male adult human being who has never been married', describes the property; it states the property's essential features. There can be no question whether 'bachelor' correctly describes the property 'B' predicates. Whether Putnam's analysans correctly describes the property 'bachelor' predicates can, logically, grammatically, be a question, be put in question.[xix]

4. **Composition vs Proof**. Interception nonsynonymy can seem incredible by seeming incompatible with the 'compositionality' of sentence meaning.[xx] That appearance may evidence only an obtuseness about the semantic import of a distinctive syntactic component of logical sentences.[xxi]

Putnam's [1981] compositional picture says a synomic interception is the *resultant* of intercepting, that it *presupposes* a logical truth. Yet, elsewhere no natural sense attaches to a claim that a sentence ('Socrates is a Greek') is a resultant of or presupposes some synonymous sentence ('Socrates is an Hellene').

GH's syntax is that of:

GM: Greeks are mortal

GP: Greeks are philosophers.

Linguistic theories don't suggest that the meaning of such empirical claims is a resultant of intercepting a presupposed GG, so why suppose it of GH? Formally, we could as well regard GG a substitution resultant presupposing GH or GM or GP.

Referential and predicational self-identities ($b=b$, $(x)(Fx \rightarrow Fx)$) are axiomatic in formal systems of proof. That does not entail their being cognitive or conceptual primitives. Cognitive processing of meaning probably proceeds by reverse interception, from interceptions to logical sentences. Toddlers aren't taught self-identities before pronouncings of alter-identities ($b=c$, $(x)(Fx \rightarrow Gx)$). How *could* they be? That would be like imparting understanding of multiplication and division by first explaining multiplying and dividing by 1.

Synomic sentences may look like resultants of intercepting logical sentences because synomic interceptions of *complex* logical sentences are provable only by proving the logical truth and then intercepting it. Our reasoning must run on the rails of logical syntax, and then jump the rail, by synonym subbing, to another syntactic track. This order of proof is epistemic, not ontic, semantic, alethic or compositional. Only *our knowledge* of the conclusion is explained by the reasoning. Its meaning and truth need something more.

The atomic, two-termed GH is no more proven by intercepting GG than reverse intercepting GH proves atomic GG. Such syntactically basic synomic and logical truths are logically independent. If synonymy doesn't explain GH's necessity directly, without intercepting GG, the interception would be an unwarrantable inference.[xxii]

5. **Term Recurrence.** A logical sentence and its interceptions are syntactically divergent completions of a shared syntactic frame.[xxiii] Completing the frame:

Greeks are _____

with 'Greeks' yields GG, a structure syntactically unlike any other closure of that open sentence. GM, GP

and GH differ in meaning just because 'mortals', 'philosophers' and 'Hellenes' do. The GH-GG nonsynonymy isn't explainable by the meanings of 'Hellenes' and 'Greeks are ___' versus the meanings of 'Greeks' and 'Greeks are ___', for there is no difference there.

The terms of logical and synomic sentences objectually designate and predicate as elsewhere. Otherwise, they couldn't be premises connecting synthetic predications: GH and HM ('Hellenes are mortal') couldn't be major and minor premises for GM. GG's factual content is constructed from the same open sentence and term meanings as GH. The nonsynonymy of GG-GH is in the syntax of term recurrence and its absence.

Logic texts teach that no conclusion is validly deduced unless its pivotal terms appear in its premise(s). That's because term (and sentence) recurrence is the sole strictly syntactic device securing sameness of sense and denotation in a sentence or sentence sequence. Any other device is an extrasyntactic, semantic convention peculiar to the notation.[xxiv] This requirement for logical validity, the syntactic truth of a conditional, is a requirement for syntactic truths formed from any connective, and for syntactic truth as such.

Logical form is unique even among other truths often called formal. Putnam [1954] 'put aside as irrelevant' the Synonym Substitution Principle's 'formal similarity to the "equals may be substituted for equals"' of mathematics. Actually, the formal dissimilarity is key to interception nonsynonymy. Mathematical truth is not syntactic. Uniform subbing of nonsynonyms endangers mathematical truth. Meanwhile, synonym subbings like '14-6=2+6' and '14-6=2+IV' are synonymous. Term recurrence is essential for syntactic truth, and irrelevant to mathematical truth.[xxv]

6. **Meaning as Explanation**. Logical truths survive all uniform term substitutions. Their term references and predications, though objectual, are idle. The role of term sense and denotation — and thus the role of the world — in the explanation of truth is preempted by term recurrence in logical sentences. In synomic truths, the explanatory role of extrasentential reality is preempted by the coincident meaning of disparate terms.

GM's meaning is identifiable with its factual content because its syntax and word meanings fix only

the factual condition GM states, without fixing whether GM states a fact. GM's truth is explained by the multiexpressible, extrasentential reality that Greeks are mortal.

The necessity in GG and GH is explained by the construction of their factual content, not by an extrasentential reality. A necessity is a truth in all worlds. More than that, a truth's necessity is an explanation of its being a truth in all worlds. GG's logical necessity is in its multirealizable, translanguage structure. GH's necessity is *lexical*, an artifact of GmH/GmH's truth, the QM/QMQ contingency explaining GH.

GH doesn't state GmH. GmH doesn't state or describe GH's factual content. GmH states the fact of synonymy that explains GH's factual content, what it is and why GH has it, and why it is necessary. So too, gh is necessitated solely by the coreference of its names, not a bit by the referent's extrasentential features. GH is misunderstood without some understanding of the vacuity of its factual content. You don't get what GH says, you cannot construct or explain its content, without some sensing that its truth is all a matter of word meanings, of alternative terms for the same property. So GH's meaning is expressible and identifiable as GmH.

GG's meaning isn't expressed by GmG or anything like a lexical definition. Its term's meaning only specifies the objectual referent of GG's factual content, which distinguishes GG from nonsynonymous self-identities, like gg. The semantic import of GG's term recurrence is in the irrelevance of its term's meaning to its necessity.

Objectually, GG is no more about its syntax than GH is about its terms. Sentences *having* logical form, like GG and:

H: If she's a fretter and fretters are foolish, she's foolish

are not sentences *about* logical form, like:

A: The conjunction of her being a fretter and fretters' being foolish implies that she's foolish.

A is true, not by its own syntax, but because, through its terms' meanings, it says that sentences having H's form are *ipso facto* true.[xxvi]

H expresses the form it exhibits, but not by meaning *A* as GH means GmH. Logical form is not *semantic* or

representational in the sense of referring to or meaning something outside the enformed sentence. Unlike GH's semantic relations, GG's and *H*'s truth securing structures are displayed, embodied in duplications within the sentential matter. Logical form shows itself. It doesn't say itself or something else. Term recurrence is an intrasentential relation with intrasentential import.

We don't understand a complex logical sentence, or any logical sentence, until we realize it is one, and not a synthetic predication. You categorially misconstrue what it says, you cannot construct its content, without some recognition (however dim) that its truth is fixed by syntax. That explanation is 'in' a logical sentence's meaning. When we listen to GG and *H* as sentences of logic, when we hear their vacuity, we hear their symbols capturing certainty by their sameness instead of their content.[xxvii]

Sentence meaning fixes factual content, and thereby method of verification. Synthetic predications are justified, not by features of the expressional matter, but by extrasentential facts, cognized by perception, ratiocination, divine revelation or whatever. Truth explained by abstract, translanguage syntax is cognizable *a priori*. Synomic truth is uncognizable and incomprehensible without *a posteriori* cognition of semantic contingencies. Interception realigns inferential relations with all other sentences.

7. **Metalogical Translation.** Church's Test has been a bulwark of interception synonymy by assuming it. The Test turns on translating metalogical *QMi sentences* with synomic interceptions, extralogical (non-QMi) QM sentences:

QM : $\underline{E_x}mE_y$: 'E_x' means (says, designates, etc.) E_y[xxviii]

QMi: $\underline{E_x}mE_x$: 'E_x' means E_x.

The Test says $\underline{B}mB$ intertranslates $\underline{B}mB$, whereas $\underline{B}mB$ intertranslates $\underline{B}mB$.

B: Blood is red

B: Blut ist rot

$\underline{B}mB$: 'Blood is red' says that blood is red

$\underline{B}mB$: 'Blood is red' heißt daß Blut ist rot

$\underline{B}mB$: 'Blut ist rot' heißt daß Blut ist rot

$\underline{B}mB$: 'Blut ist rot' says that blood is red.

The core argument is compelling. All four QM sentences predicate the same property, saying that blood is red. BmB and BmB predicate it of sentence B; BmB and BmB predicate it of B. BmB-BmB and BmB-BmB are the only pairs sharing factual content, so they are the only synonyms. And since the mixed language sentences express empirical contingencies, their QMi synonyms must too. Q.E.D.

8. **Explaining Test Results**. That reasoning commands respect, but not assent. What's at work is no quirk of subbing intraquotationally (which Church deems the Principle's sole exception). That misplaces the muddle. Notwithstanding any factual content switch, all four QM sentences are mutual semantic entailments, interderivable by synonym subbing, either intra- or extraquotational.[xxix] All four substitutional possibilities transmit truth. More generally, all synomic interceptions of a QMi sentence or its QMi translations are extralogical QM sentences entailing each other by contingent semantic facts.[xxx]

Meanwhile, whether substitution is intraquotation (BmB-BmB; BmB-BmB), affecting factual content, or extraquotation (BmB-BmB; BmB-BmB), maintaining factual content, synomic intercepting transforms a QMi tautology into a QM report of a notational accident. In object level intercepting (GG-GH), term synonymy is a surrogate for syntax, securing necessary coextension. Through metalogical intercepting (GmG-GmH), synonym subbing leads from a logical necessity to a semantic contingency that explains a lexical necessity (GH).

If GH's semantic content were the translanguage factual content of GG and GH, GH could not mean (say, imply) GmH. Actually, while the first two of the following are blatantly false, if the third be false it ain't blatant.

GHm(GmG): *'Greeks are Hellenes' says/means 'Greeks' means Greeks

GGm(GmH): *'Greeks are Greeks' says/means 'Greeks' means Hellenes.

GHm(GmH): 'Greeks are Hellenes' says/means 'Greeks' means Hellenes.

None but pedants protests the last. More to the point and less tendentious, intercepting QMi sentences about logical sentences transforms a logical necessity (GGmGG) into a logical impossibility (GGmGH, HGmGG):

GGmGG: 'Greeks are Greeks' means Greeks are Greeks

GGmGH: *'Greeks are Greeks' means Greeks are Hellenes

HGmGG: *'Hellenes are Greeks' means Greeks are Greeks.

As a matter of logic, interceptions can't match the meaning of logical truths.

Consequently, synomic intercepting in intensional contexts may turn a certainty like:

Church would qualmlessly tell children that the necessity of Greeks being Greeks is a matter of pure logic alone

into a dubiety:

Church would qualmlessly tell children that the necessity of Greeks being Hellenes is a matter of pure logic alone.

Synonymies are contingencies, and so is knowledge of them, so their denial is not illogical or irrational. Thus the inequivalence of:

EGM: Ed affirms (says or thinks) that Greeks are mortal

EHM: Ed affirms that Hellenes are mortal.

While interchangeable as statements of the factual content Ed affirms, EGM and EHM ascribe to Ed logically independent understandings of the fact he affirms, with differing explanatory and predictive import for Ed's behavior. Inferences between EGM and EHM assume Ed's affirming GH.

9. **Test Challenges**. Churchian arguments for interception synonymy presuppose and cannot prove the insignificance of term recurrence in logic. They avoid question begging by arguing *ad absurdum*, exposing paradoxical implications of interception nonsynonymy and defying us to make sense of apparent impossibilities.

For example, it seems impossible for GmG to be logically necessary, since, certainly, GmG and GmH have identical factual content, and GmH states an empirical contingency. Also, certainly, the logically necessary self-identity GmG and contingent GmH predicate logically independent properties of logically independent objects. How could they be mutually entailing?

These challenges are formidable, but paradoxical platitudes populating this region needn't be parented by interception nonsynonymy. Surely, the contingency, GmH, *explains* the necessity of GH. But

how, when, surely, Greeks would be Hellenes (GH would be true) even if our words 'Greeks' and 'Hellenes' had never existed (GmH had been false)?

10. **Metalogic of Truth.** Let's start with the Church Test's attack on the metalogical principle, QTi, and instances, like Bti:

QTi: p≡it is true that p≡'p' is true

QTi: p≡pt≡pt

Bti: B≡Bt≡Bt

Bt: It is true that blood is red

Bt: 'Blood is red' is true.

B and Bt are mutually entailing. They intertranslate B and Bt:

Bt: Dass Blut ist rot ist wahr.

Bt-Bt state one fact; Bt-Bt state another:

Bt: 'Blood is red' ist wahr

Bt: 'Blut ist rot' ist wahr

Bt: 'Blut ist rot' is true.

The two facts are logically independent. Bt's synonym, Bt, has no logical entailment with B or Bt. So Bt has none. Q.E.D.

This assumes interception synonymy: viz., since Bt translates Bt in extralogical contexts, it does so when Bt is a pivotal component of a logical truth like Bti, where such translation is synomic intercepting.[xxxi]

11. **Logical Truth of QMi**. QTi gets rejected as a metalogical principle partially defining truth, because QTi is a corollary of QMi (and *p≡pt*), and the Test rejects QMi as a metalogical principle partially defining meaning. Churchians say that, to license enquotation and disquotation between Bt and Bt, a contingent BmB must be premised, like:

B^{e}mB: (The English sentence) 'Blood is red' says blood is red.[xxxii]

However, the reasoning requiring that premise then calls for another:

(B^{e}mB)^{e}m(B^{e}mB): 'Blood is red' (in English) says blood is red (in English) says

'Blood is red' (in English) says blood is red

which calls for:

[($\underline{B}^{e}\underline{mB}$)^{e}m($\underline{B}^{e}$mB)]^{e}m[($\underline{B}^{e}\underline{mB}$)^{e}m($\underline{B}^{e}$mB)],

and so on. Denying QMi's logical character misconceives its inferential role in the way Lewis Carroll explained with the object level *modus ponens*. MP and QMT

MP: p(p→q)→q

QMT: $\underline{p}$mp≡(pt≡$\underline{p}$t)

are inference schemata whose instantiations state valid inferences, since these conditionals are true whatever their component sentences mean.

12. **Intrasentential Indexing.** Church rejected QMi as a schema of *logic* comparable to 'p→p', 'x=x', '(x)(Fx≡Fx)'. He assumed the referent for the $\underline{B}$mB quotation is indexed by some explicit or implicit qualifier like: 'the English sentence'.[xxxiii] So construed, $\underline{B}$mB and Bti are extralogical, for truth isn't secured syntactically. Syntax secures metalogical truth only if some self-referential indexer ties the quotation to its intrasentential replica. An indexer something like:

[itlotu]: *in the language of this utterance*.

Translation must transmit the structure that makes a sentence (meta)logical. Other sentences can contain self-referenced quotations; metalogical truths must.

Intrasentential indexing enforces intraquotation translation ($\underline{B}$mB-$\underline{B}$mB). Metalogical translation replicates, not the original enquoted matter, but the self-referenced intrasentential twin, because metalogical truth is necessitated by intrasentential relations, not by an extrasentential referent.

13. **Metalogical Subjects.** Metalogical sentences may be about either an expression or the multiexpressible content expressed, a meaning or proposition. In:

$\underline{B}^{p}$t: The proposition, 'Blood is red', is true

the indexer, 'proposition', demands intraquotation translation ($\underline{B}$t-$\underline{B}$t) to secure both objectual reference to content and metalogical syntax. Quotation replication ($\underline{B}$t-$\underline{B}$t) forces reference to the matter and eliminates metalogical syntax in translations of Bti.[xxxiv] Similarly, the referent subject of:

GmG: The meaning of 'Greeks' is Greeks

is also the meaning of 'Griechen', so GmG shares metalogical syntax and factual content with:

GmG: Der Sinn von 'Griechen' ist Griechen.

Metalogical truths about meanings and propositions are fully multiexpressible because their subjects are.

Metalogic about matter is another matter. When reading Bt as:

B^st: The sentence, 'Blood is red', is true,

translating the tripartite equivalence B^sti as B^sti sacrifices objectual reference to save metalogical syntax. Metalogical content construction identifies quotational referents intrasententially. B^sti and B^sti intertranslate since both assert that:

Blood is red ≡ it is true that blood is red ≡ *'the sentence in this utterance that says blood is red'* is true.

Non-self-referential identifications of the referent sentence by its properties outside Bti are irrelevant to Bti's metalogical necessity.

Similarly, objectual factual content shifts between:

GmG: (Our word) 'Greeks' means Greeks

GmG: (Unser Wort) 'Griechen' bedeutet Griechen,

when each sentence describes an expression (attributes to a word a semantic property: meaning Greeks), instead of identifying what is expressed. Matter-referring QMi sentences are tautologous, since quotational referent identification is controlled intrasententially. GmG and GmG state a single metalogical truth:

'The word in this utterance that means Greeks' means Greeks.

14. **Identifying Metalogical Fact.** Church takes BmB to be B^emB, a contingency about matter translated by B^emB. His non-self-referential empirical contingencies are synomic interceptions of BmB indexed [itlotu]. All three sentences predicate the same semantic property of the same matter. Logical necessity lies not in the fact, but in the form the fact is cast in.

Necessarily, I speak the language I speak. As it happens, I'm speaking English, but whether I am or believe I am is immaterial. In any case, if I say 'Blood is red' to say blood is red, my utterance, 'Blood is red',

says blood is red. I may thereby express a belief that blood is red. Whether I hold that belief is immaterial. In any case, I express my incorrigible QMi belief that my utterance, 'Blood is red' [itlotu], says blood is red. Whoever says 'p' to say p *rightly* says 'p' says p, because whoever says 'p' to say p says 'p' says p. If the meaning of my 'Blood is red' [itlotu] is the meaning of that expression in your idiolect, or in standard English, or the meaning of 'Blut ist rot' in German, then my BmB mutually entails B^{e}mB and B^{e}mB, in the sense that my seeing Greece mutually entails my visually perceiving Hellas.

15. **Modal Relativism.** Concepts of a *proposition* fluctuate between factual and semantic content. If propositional content is just factual content, then GG, GG, GH, and GG state (and thereby are) one proposition. If propositional content is semantic, if the test for propositional identity is translation, not truth conditions, then intertranslating GG-GG state one truth, GH states another, and GG a third. While true in all worlds together with GG-GG, GH's matter is integral to its meaning, and GG's to its, whereas GG-GG's truth is asserted with any semantically equivalent term.

Like our lexical necessities, our matter-referring metalogical sentences say something objectual that monolingual foreigners cannot say or think or mean. Outsiders can see and assert the empirical fact that we express necessities with our synomic and matter-referring metalogical sentences. Aliens cannot voice, feel or be confined by the shackles in our speech.

Matter-referring metalogical meaning is like that of other logical and metalogical sentences. They all translate through synonymous terms since their truth is necessitated by multiembodiable structure, whatever their term matter means. That synonymy is compromised when the meaning of the quotational matter is its metalogical reference to itself. In matter-referring metalogical truth, the meaning of the sentence gets reexpressed with matter predicating the same semantic property of its self-referencing matter. Only the self-referent subject matter shifts as the objectually self-referencing subject matter shifts.

Objectual reference in synomic truth is equally impotent to explain necessity, but here the matter isn't self-referential so factual content is detachable and reexpressible. But the sense of the lexical necessity is expressible only with its term matter, for it is explainable solely by that matter's synonymy, not its multirealizable structure nor any other synonymy.

While inhabiting the same objectual, logical world, we communicate from within and about private metalogical worlds. The necessities of matter's semantic properties (meaning,truth) are explained by and are relative to that matter's syntactic relations within *its* QMi and QTi sentences.

Otherwise Church's Test will make a mess of modality. It says that □p (*Necessarily, p*) and □pt (*Necessarily, it is true that p*) mutually entail each other but not □pt (*Necessarily, 'p' is true*). Whatever the 'p', □pt tests false when its quotation indexer imports an empirical touch that transforms a princely necessity into a contingent frog. When QMi, and thus QTi, sentences are extralogical, then all necessities (logical, lexical, metalogical, mathematical, etc.) suffer the same degradation. Without some reading wherein □pt mutually entails □p and □pt, little sense is left in *any* modal sentence. Like truth, necessity and possibility attach to a proposition only by attaching to an expression of it, by (and with) which it is identifiable.

16. **Modal Muddles.** The syntactic duality of definite descriptions dissolves much of the murk surrounding intermodal explanation: how semantic contingencies explain necessities.

QMQ sentences can be cast in the familiar form for identities, *Term is Term*:

GmH: The meaning of 'Greeks' is the meaning of 'Hellenes'

gmh: What 'Greece' means is what 'Hellas' means.

QMQ's terms are definite descriptions. Each identifies and designates an individual (a meaning) by describing and identifying a property (being the meaning of 'E_x') whose unique possession identifies the individual. Whether another quotational descriptive designates that referent is an empirical contingency. So QMQ sentences are contingent empirical copredications. A QMQ empirical fact is multiexpressible, for its referents are variously identifiable. A QMQ copredication is fit to explain by syntax only its intralanguage relations, with all quotations indexed [itlotu]. The predicational identity GmH explains GmH, HmG, and two untranslatable lexical necessities, objectual GH and referential GmH.

By its structure a definite description is also an indexical rigidly designating the object actually identified predicatively.[xxxv] So, GmH is also a referential identity, lexically necessary:

The meaning of our word, 'Greeks'=the meaning of our word, 'Hellenes'.

With all quotations [itlotu], these indexicals corefer to what, as copredicates, they codescribe. As with GH, the fact copredicational GmH states appears in coindexical GmH's semantic content, not in its factual content. GmH's copredicational contingency is what those lexically necessary truths, each in its own way, mean. It is their empirical import, what their necessity tells us about our world.

Our semantic predicate, 'the meaning of our word "Greeks"', is undefined if its subordinate expression predicate, 'our word, "Greeks"', is referenceless. Copredicational GmH wouldn't be true if our world were 'Greeks'-less or 'Hellenes'-less. As things are, in fact, our GmH states an empirical fact. So the terms of our GmH *do* rigidly codesignate an individual, a meaning present in 'Greeks'-less and 'Hellenes'-less, but 'Griechen'-ful worlds. As things are, [itlotu], we say, objectually and truly:

HYP: Greeks would be Hellenes even if our words, 'Greeks', 'Hellenes', did not mean what they now do.

Only the counterfactual HYP is assertible. Its realization is a metalogical impossibility inconsistent with QMi:

CAT: Greeks would be Hellenes even though 'Greeks' [itlotu] does not mean Greeks and 'Hellenes' [itlotu] does not mean Hellenes.

CAT is not self-contradictory, but each categorical conjunct entails the senselessness of the subjunctive. Our lexical and metalogical necessities are as real as the way we are using our words.

Unlike GmH, both copredicational and coreferential GmG are self-identities. Like GmH, GmG is contingent as a singular predication, the expression predicate, 'our word "Greeks"', as subject term and the semantic predicate, 'means what our word "Hellenes"', means. Like GmH, empirical GmG states the empirical import of the objectual logical necessity, GG, and of the metalogical necessities, copredicational and coreferential GmG.[xxxvi]

ENDNOTES

[i].Sentence 'p' and its terms are *pivotal* in the logical truth of 'p→(pvq)' and '(p&q)→p'. These truths are necessitated by the tautological conditional; adding 'q' to the consequent and subtracting it from the antecedent do not alter the explanation of the necessity.

[ii].The syntactic contrast between synonymous predicates and coreferring names (gh) is not essentially epistemic or cognitive: compare the verifications and informational values of GH and gh. See my 'Identity Syntax', *Proceedings of the Twentieth World Congress of Philosophy, Vol II, Metaphysics*, ed. Tom Rockmore (Bowling Green, OH: Philosophy Documentation Center, 1999); and 'Identity: Logic Ontology, Epistemology', in *Philosophy*, 73 (1998): 179-93.

[iii].'Convention: A Theme in Philosophy', *New Literary History*, 13 (1981), reprinted in Hilary Putnam, *Realism and Reason*, Cambridge: Cambridge UP, 1983, 3:171.

[iv].Analyticity is too protean a notion to permit any proof that interception synonymy is an essential assumption. Suffice the assumption is documentable for diverse conceptions. Semanticists like Jerrold Katz, intent on distancing themselves from Fregean conceptions of analyticity like Putnam's [1981], retain the core Fregean commitment to interception synonymy: '"Feline animals are feline animals" is a straightforward logical truth ... what goes for [it] goes for the synonymous ["Cats are feline animals"]' (*The Metaphysics of Meaning*, Cambridge: MIT Press, 1990: 218.)

[v].Consider Quine's opening salvo against analyticity in 'Two Dogmas of Empiricism' (*Philosophical Review*, 60 (1951): 20). His complaint against defining analyticity by self-contradictoriness of denial is only that the definition 'has small explanatory value'. This concedes that the denial is self-contradictory, which assumes a synomic sentence is formally a logical sentence. Similarly, Quine repeatedly dismisses Church's Translation Test, never for its assuming interception synonymy, but for assuming criteria for correct translation. This resort to radical semantic skepticism is, if not question begging, drastic and drenched in ironies since, aside from assuming interception synonymy, the Test turns on only the use-mention distinction, which Quine proclaims a *sine qua nonsense* for logic and semantic theory.

Quine's critique of analyticity is directed at the explanatory role of synonymy, not at interception synonymy. (See, 'Mind and Verbal Dispositions', *Mind and Language*, Samuel Guttenplan, ed., Oxford: Clarendon, 1975: 83-94.) Once explanatory delusions are in check, Quine indulges in vulgar talk of synonymies and definitional truths, and assumes interception synonymy with his tradition. The point here is only that his semantic skepticism is beside the point here. In these matters, the Quinean Wittgenstein may be like Quine (See *Word and Object*, Cambridge: MIT Press, 1960, n 26: 79), as may the Kripkean Wittgenstein (Saul Kripke, *Wittgenstein on Rules and Private Language*, Oxford: Blackwell, 1982.)

[vi].'Synonymity and the Analysis of Belief Sentences', *Analysis* 14 (1954), 118. Max Black's, 'The Paradox of Analysis' (*Mind* 53 (1944): 263-267) is our first direct denial of interception synonymy, but confined to identity interceptions, not logical truths in general.

[vii].Underlining an expression's abbreviation (BmB) signals that the expression is enquoted. The 'm' is for 'means', taken generically to encompass saying, designating, expressing, etc.

[viii].Shadow script signals that a German translation of the expression is represented.

[ix].'Synonymity', *University of California Publications in Philosophy* 25 (1950): 201-206.

[x].'Intensional Isomorphism and Identity of Belief', Philosophical *Studies* 5 (1954): 65-73.

[xi].'Putnam on Synonymity and Belief', *Analysis* 15 (1955): 117-20.

[xii].This tendency hardened after Saul Kripke's 'A Puzzle About Belief' (*Meaning and Use*, A. Margalit, ed., Dordrecht: D. Reidel, 1979: 239-83) turned Putnam's insight towards subbing codesignators in attitude contexts.

[xiii].See Scott Soames', 'Substitutivity'(On *Being and Saying*, Judith J. Thomson, ed., Cambridge: MIT Press, 1987: 99-132), a sustained critique of Putnam [1954] that proceeds as though the interest and defense of Putnam's point about interception syntax lay in its possible resolution of substitutivity puzzles in intensional contexts.

[xiv].Putnam's 'The Analytic and the Synthetic' (*Minnesota Studies in the Philosophy of Science*, H. Feigl and G. Maxwell, eds., Minneapolis: U of Minnesota Press, 1962, 3: 358-397) assumes interception synonymy, and some of his neoessentialism may also.

[xv].See in addition to Church [1954], 'Carnap's Analysis of Statements of Assertion and Belief,' *Analysis* 10 (1951): 97-99; 'The Need for Abstract Entities in Semantic Analysis', 1951 in Jerry A. Fodor and Jerrold J. Katz, eds., *The Structure of Language*, Englewood Cliffs, NJ: Prentice-Hall, 1964; and *Introduction to Mathematical Logic*, Princeton: Princeton UP, 1956: 61-62. The literature on the Test is scouted in Nathan Salmon's 'The Very

Possibility of Language', forthcoming in a festschrift for Church (C.A. Anderson and M. Zeleny, eds.)

[xvi].This is implicit in the inspiration for Church's Test, C. H. Langford's idea of using translation as 'a simple test which helps us to determine whether a word is being used or talked about' (Journal *of Symbolic Logic* 2 (1937): 53.) Langford's 'test' looks backwards since determining whether the word is being used or talked about may be a precondition of proper translation.

[xvii].'A *definition* is nothing else but *the showing of the meaning of one* word by several other not synonymous terms' (John Locke, *Essay on Human Understanding*, II, 4, 6 [italics in original].)

[xviii].Church [1954] would say that if German has only the one word where English has two, then GG properly translates GH as well as GG. Churchians know that only a logician would deem this a natural or sensible translation. This empirical fact gets deemed irrelevant to their semantic theory.

Any two interceptions of a logical sentence or its translatios that share a term can be contextually pragmatic equivalents. GG ('Griechen are Greeks') and GH ('Griechen are Hellenes') state the state fact as GH, and — unlike GH — when GH's truth is understood, both can be used to say that 'Griechen' means Greeks, so they may seem freely interchangeable. But not synonymous: they differ in their semantic relations with $\underline{G}m\underline{G}$, $\underline{G}m\underline{H}$, etc. Their informational equivalence is relative to audience knowledge.

Abstractly, a sentence token has the meaning(s) of its sentence type by its grammar (syntax and vocabulary). Speech context and speaker's intention work with that semantic material to specify constituents of the factual and semantic content. The contrast itself is constant. With their common factual content, any two interceptions of a logical sentence or its translations that share a term can be contextually pragmatic equivalents. Both GG ('Griechen are Greeks') and GH ('Griechen are Hellenes') can be used to say that 'Griechen' means Greeks, so they may seem freely interchangeable when GH's truth is known. However, no such interception pair are synonyms. They differ in their semantic relations with $\underline{G}m\underline{G}$, $\underline{G}m\underline{H}$, etc. See my *The Significance of Sense*, Ithaca: Cornell Press, 1972, Ch. II.

[xix].Essentialists fairly presume the propriety of reading essentialist claims objectually. The Lockean thesis says this reading is only *prima facie*, for what is analyzed is not a property, but only our concept of it or the meaning of our term for it. Quine's assault on analyticity blurs *that* contrast. It tells against analytical and referential definitions being purely conventional. It doesn't warrant worries whether, as a matter of flat linguistic fact, 'VP' *really* abbreviates — and thus has exactly the meaning of — 'vice-president' (as distinct from 'undetached vice-presidential parts', etc.)

[xx].Even friends of interception nonsynonymy accept its alleged incompatibility with compositionality. William W. Taschek ('On Ascribing Beliefs: Content in Context', *The Journal of Philosophy* 95 (1998) 323-353) spoils his sensible criticisms of interception synonymy by casting compositionality as foil.

[xxi].Absent some consensus on a conception of compositionality, its relation to interception nonsynonymy is moot. See, for example, Paul Horwich, 'The Composition of Meanings', The *Philosophical Review*, 106 (1997): 503-532.

[xxii].Perhaps *It's square* entails *It's rectangular* only because *It's equilateral and rectangular* entails *It's rectangular*. However, to suppose the move from *Its sides are equilateral* to *Its sides are equally long* rides on a rule of logic is like supposing that *It's equilateral and rectangular* entails *It's rectangular* only by premising *If it's equilateral and rectangular, it's rectangular*. (See the Section 11 *infra* argument for the logical truth of QMi.) The necessity of alter-identities like gh is standardly *proven* from an axiom of a self-identity necessity. What *explains* gh's necessity is the coreference of 'Greece' and 'Hellas', not that Greece (or everything) is identical with itself. The basic metalogical modal principle for terms, call it *metailment*, is (with 'E' as placeholder for any term):

$\underline{E}_x m E_y \equiv \Box(z)(E_x z \equiv E_y z) \vee \Box(E_x = E_y)$.

Synonymy entails coextension, whatever the extension happens to be.

[xxiii].Every interception (e.g., 'b=c') closes two open sentences ('b=x', 'x=c'), closed by distinct logical truths ('b=b', 'c=c'.) Grammar doesn't specify the constructional story. Perhaps speech context or speaker's intent sometimes does.

[xxiv].See my 'How Mathematics Isn't Logic', *Ratio*, 12 (1999): 279-95.

[xxv].The arithmetic '=' is a relational predicate. Arithmetic equalities are, grammatically, synthetic predications of an objectual relation between mathematical objects (numbers, quantities.) The '=' of logic is not a relational predicate. It is a syntactic marker of a nonpredicative codesignation. Sentence meaning is not an arithmetic or algebraic function of word meanings. See my 'How Mathematics Isn't Logic' op. cit.; and "Distinguishing Mathematics From Logic", *The Paideia Archive*, Twentieth World Congress of Philosophy Website, http://www.bu.edu./wcp/, 1999.

[xxvii].Try thinking of logical principles as tracking and individuating replicas or tokens of an extensional symbol (name, predicate, sentence) throughout inferential space.
[xxviii].Here 'E' is a placeholder for any linguistic expression.
[xxix].Intraquotation synonym subbing is illicit when, as in QM and QMQ, the quotational referent is the matter — except when, as in QM and QMQ, semantic properties are predicated of it, for then synonym subbing is truth transmitting.
[xxx].Semantic entailments may be legitimated by facts of language other than rules of a language. Unlike QMQ abbreviations such as ET, QMQ sentences like BmB, GmH, and gmh may state facts of coincidental synonymy, not a consequence of any rule linking two independent (sets of) rules. Each expression is understandable without knowledge of the other. For a bilingual, GmH and GmG are nonsynonymous but essentially alike epistemically. They are mutual semantic entailments, equivalent synomic interceptions of GmG.
[xxxi].Churchfolk reasoning runs wondrously asymmetrical. They say that: (1) B, Bt, Bt are translated by B, Bt, Bt; (2a) any equivalence of Bt to B and Bt depends on B's meaning, and (2b) B and Bt can be understood and known to be true without knowing the truth of Bt, so (2c) Bt is logically independent of B and Bt, so (3) Bt is logically independent of B and Bt. Against this, (4a) Bti holds, whatever B's meaning, and (4b) B and Bt can't be understood and known without knowing Bt is true. So too, (5a) Bti ('Bt≡B≡Bt') holds independent of B's meaning, and (5b) B and Bt can't be understood and known without knowing Bt's truth. So, contra (3), QTi equivalences like Bti and Bti must be logical necessities.

The Test goes wrong with its first step, (1). (2) is also problematic. Consider: you may understand GH (*to the degree a monolingual German may understand Bt*) without knowing its truth. If understanding a sentence presupposed understanding its constituent terms, then GH could not have its standard use to inform someone of one of its terms' meaning. Further, GH may be understood objectually without knowing whether it is synomic or a synthetic predication, or true. In contrast, understanding self-identity syntax suffices for knowing that Greeks are Greeks; knowing what 'Greeks' means is inessential. So too, understanding the quotation convention suffices for knowing BmB is true, without knowing what 'Blood is red' means. So too, that understanding of quotations, coupled with understanding and knowing the truth of Bt, suffices for knowing the truth of Bt.

We can insist that you don't understand a sentence unless you know how to verify it, so if you don't know what 'alopecia' means you don't understand 'Alopecia is glabrousness'. That principle is innocuous if we recognize that knowing how to verify includes knowing that, if you don't know what 'alopecia' means, you'd best ask someone who does know. If you need more know how than that, if you must already know the identity of a term's referent or the properties of its denotation before you can understand a predication or identification with the term, the Paradox(es) of Analysis would dissolve, for then analyses just couldn't be informative.
[xxxii].Church lamented that the 'systematic use of quotation marks is open to some unfortunate ... misunderstandings', such as the 'not uncommon ... false impression that trivial or self-evident propositions are expressed' in statements like BmB and Bti (Church [1956]: 62 n.) He thought that, like BmB, BmB is 'a purely semantical statement about the English language' (Church [1951]: 443) that provides 'an item of factual information' (Church [1950]; 92 n.)
[xxxiii].Strictly, a quotation is not a referring expression, but rather, like a sentence embedded color patch, an adjunctive element appositional to a definite description or other referring expression. See my 'Quotation Apposition', *The Philosophical Quarterly* 49 (1999): 514-19.
[xxxiv].Church's aim of compelling recognition of the reality of propositions is subverted by the Test when Bt is read as referring to a sentence rather than a proposition.
[xxxv].For a defense of this, see Marga Reimer, 'Donnellen's distinction/Kripke's test', *Analysis* 58 (1998): 89-100.
[xxxvi].This is a part of a continuing project that owes much to the unflagging encouragement and bafflement of Bredo Johnsen and David Massie. Various suspect assumptions scattered through this essay are discussed in works cited above or in my 'Meaning as Explanation', *The Journal of Value Inquiry*, forthcoming, and the transitional 'Synonymy Without Analyticity', *International Philosophical Preprint Exchange*, Nov. 1994.