THE LOGICAL STRUCTURE OF CONCEPTUAL COHERENCE 3.0

"Now, Bob, I don't want you to think I'm not incoherent."
Harold Ross (letter) to Robert Benchley

"All reasoning is nothing but the joining and substitution of character whether these characters be words or symbols or pictures.
G. W. Leibniz

"State [of California], tribe debate definition of slot machine"
Headline, *San Francisco Chronicle*, 12/01/04

"Those who can make you believe absurdities, can make you commit atrocities."
Voltaire

"There were little bits of typed sense that began only very slowly to have a larger coherence."
Eli Gottlieb, *The Boy Who Went Away*

"...the medieval makers of mappae mundi...were less interested in seeing the world as measured space than as an itinerary… Their job was to give some idea of the marvels to be encountered along the way."
Simon Schama, "Maps", *The New Yorker*, 2/21-28/2000

"Other dreams came and left while the bank
Of colored verbs and adjectives was shrinking from the light
to nurse in shade their want of a method
But most of all she loved the particles
That transform objects of the same category
Into particular ones, each distinct
Within and apart from its class."
John Ashbery, "Scheherazade"

"A mountain is as indescribable as a man, so men give mountains names: Ovarda. Civriari. Orsiera. Ciamarella. Viso."
John Berger, *To the Wedding*

"An object is never so closely attached to a name that another can't be found that suits it better."
Rene' Magritte

"What I have presented here is a messy and plural ragbag of lives and deaths that cannot simply be ordered into a coherent conceptual schema."
Simon Critchley (*The Book of Dead Philosophers* 2009)

1. Orientation and terminology

This is an informal summary of some coherence logic, a logic of concepts. I have put only enough here to help you get a start on the concept of combinatory and emplacement ^coherence^ for subject/predicate attributive sentences and of some argument forms that may be used in reasoning about concepts in such sentences. It does not cover relation sentences beyond pregnant suggestions. Tom, this essay should help you comprehend our conversations at a deeper level and assess our conclusions about the Liar paradox.[1] There is a precis of this essay with a list of the symbols and their names used in our conversations about paradox, with brief explanations of them, as well as a list of new conceptual distinctions and some valid inference schemas for conceptual logic.

If you give this essay to anyone else, Tom, advise them to read our conversation of "On Emplacing", though they need not, before reading this.

The chiefest result I aim for is a mature concept of ^**coherence**^, which presently is seriously embryonic. In my version, it unifies lexical meaning and reference by incorporating them into a logic of concepts. This project is deeply antithetical to Quine's summary remark, which could serve as an anti-epigraph to this essay:

"When the cleavage between meaning and reference is properly heeded, the problems of what is loosely called semantics become separated into two provinces so fundamentally distinct as not to deserve a joint appellation at all."
W. V. O. Quine, "Notes on the Theory of Reference"

There is a "joint appellation" and it's called "coherence conditions", and Quine could have welcomed them as a confirmation of his strictures against analyticity and the utility of alethic modal logics, and greeted a new vision of the Promised Land, *Coniunctio*.

One of the corollary results is the maturation of ^concept^, which has been arrested in a fetal state for centuries. It should have been consigned long ago to a jar in a dusty case in Sicily's philosophical museum at Agrigento. This maturation includes an account of concepts' identity and individuation. Two other corollary results are a theory of predication and (symbou)**leutic** modalities for agents' semantic activity. Leutic modalities put various limits and allowances on agents' travel between concepts in lexical space and replace agentless alethic modalities and possible world semantics.

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[1] For more extensive applications, see A. K. Bierman and R. N. Assali, *The Critical Thinking Handbook*, Part III.

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Alethic logicians study truth value relations between statements. Coherence logicians study coherence value relations--coherent and incoherent--between concepts in sentential structures. I treat concepts as interpreted categorematic word tokens/types. This part of coherence value holds of combinations of categorematic concepts related by the copula in grammatical sentences, which I call propositions, ignoring all other sentence words, except "not". This logic needs only an [Any] quantifier. Truth value presupposes that we may coherently travel between the interpretations of the categorematic words of a sentence used to make a statement, subject to an interpretation of the copula.[2]

Tom, please do not confuse what is being outlined here with semantic theories having the more comprehensive aim of providing readings for every element of all sentences in a language, such as J. J. Katz's in his *Semantic Theory* [3] nor George Lakoff's in his "Linguistics and Natural Logic"[4] nor with Ray Jackendoff's wider lexical investigations.[5] Jackendoff sidles up to something like coherence logic in that book at 6.2 - 6.4, but does not pursue it there. Coherence logic has closer alliance with the University of Buffalo's "ontology" and "expert systems" project, although, so far as I've read, their inferences are restricted to conceptual relations in single trees/pyramids, whose master is a subsumptive interpretation of the copula, unlike coherence logic whose inference schemas include relations between two conceptual trees, substantive and property (trope) conceptual trees.[6]

A theory of predication that requires two conceptual trees or pyramids, one of substantive the other of property/trope concepts, is central to coherence logic. In his early work, 1740, Johann Andreas Segner, a professor at Jena and Goettingen, attempted a conceptual/"idea" logic for the syllogistic in his *Specimen Logicae Universaliter Demonstratae*, edited and with a brilliant introductory explication by Professor Mirella Capozzi, University of Rome, Sapienza.[7]

Eight coherence relations, one monary and seven binary, between categorematic concepts of subject-predicate attributive sentences, although a restricted range, gives us a surprisingly wide coverage of the kinds of arguments we find in philosophical texts and daily discourse. To the extent that this initial coherence logic may not cover all plausibly valid conceptual arguments, it has to be supplemented. Many lexical studies precede this one, although to my knowledge no one before me attempted to extract coherence logic from them. Plato exploited lexical relations in the *Sophist* when he constructed his 'fisherman' tree to clarify the concept ^sophist^. Aristotle hinted at lexical functors in *Categories*. Bernard Bolzano did good work on the relations between "ideas". Although he

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[2] A de facto exception is explained later, page 34ff. Also, see Bierman & Assali, *Handbook*, p. 369.

[3] New York, Harper & Row, 1972.

[4] *Semantics of Natural Languages*, eds. Donald Davidson and Gilbert Harman, Dordrect/Boston, R. Reidel Publishing Co., 1972.

[5] *Semantics and Cognition*, Cambridge, Mass., MIT Press, 1983.

[6] See http://wings,buffalo.edu/academic/department/philosophy/ontology.

[7] CLUEB, Bologna, 1990. Thanks to Capozzi, I learned of this forgotten work. Her introduction is in English.

defined lexical relations in class terms, he made useful advances on earlier treatments of concepts.[8] See Part I, Ch. 3, and the Appendix to that chapter. John Lyon deployed conceptual relations in his *Structural Semantics* applying them to "Some Lexical Subsystems in the Vocabulary of Plato" made up of Greek epistemological terms.[9] Relevant work has been done under the name of "semantic fields". See, for example, Adrienne Lehrer's *Semantic Fields and Lexical Structure*.[10]

I decided that "a structural theory of concepts" is a way of baptizing my account of them after reading Charles Parsons' remarks about a structuralist view of mathematical objects: "... reference to mathematical objects is always in the context of some background structure, and that the objects involved have no more to them than can be expressed in terms of the basic relations of the structure".[11] That this applies to my account is evident if you substitute /concepts/ for /mathematical objects/ in his remark.

The main difference between others' works and mine on lexical relations is that they have not constructed a logic out of them. Lyon and Lehrer have concentrated on descriptions of them. A useful elaboration of Lyon's work that proceeds from a relational theory of concepts/meanings may be found in D. A. Cruse's *Lexical Semantics.*[12] He stresses the need for uncovering systematic lexical relations, but does not aim at a logic as I do. His book serves a different purpose but is a steady restraint on the presumption that a proposed coherence logic is fine-grained enough to capture all the lexical relations that contribute to distinctions between words' meanings. However, this is no more a shortcoming of coherence logic than it is of truth logic. Both kinds are designed for specific purposes. The novelty here is that coherence logic adds four subject/predicate relations and conceptual negation to the usual conceptual relations cited and explained in lexical field theory. Without these additions, a conceptual, lexical logic would not have enough reach to be interesting or useful, especially for philosophers.

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[8] *Theory of Science (Wissenshaftslehre,* an *Attempt at a Detailed and in the main Novel Exposition of LOGIC With Constant Attention to Earlier Author)s,* (Trans. George Rolf), Univ. of California Press, Berkeley, 1972.

[9] Basil Blackwell, Oxford, 1963. See also his *Semantics,* Volume 1, Chapters 8 and 9. Cambridge University Press, Cambridge, 1977.

[10] North Holland, Amsterdam, 1974.

[11] Parsons, "The Structuralist View of Mathematical Objects," p. 303: *Synthese,* #84, pp. 303-346. Parsons says he tries "to make clearer the version of the structuralist view of mathematical objects" he defended earlier in his "Structuralism and Metaphysics", *The Philosopical Quarterly,* Vol. 54, No. 214, January 2004. See also Stewart Shapiro, "Theories of Structure", *Philosophy of Mathematics: Structure and Ontology,* Part II, Ch. 3, Sect. 4, pp. 84 – 97; on p .135, he writes, "I take 'coherence' to be a primitive, intuitive notion, not reduced to something formal, and so I do not venture a rigorous definition. The notion can be usefully *explicated*.". Also see his "Existence and Uniqueness: Coherence and Categoricity", Part. II, Ch. 4, Sect. 8, pp 132 – 136. (Oxford, Oxford University Press, 1997) I want to emphasize that, unlike Shapiro, I do have a semi-formal, non-axiomatic account of ^coherent^ which differs from his. He relies on alethic logic and set-theoretic notions whereas I rely on coherence logic. In any case, I don't think a 'definition' would be useful any more than most are, mainly because they don't specify the conceptual relations between the concepts used in 'definitions'. Resort to 'implicit' definitions is a soft way of admitting failure; so is saying they're 'parts' of a concept, as if all 'parts' stood in the same relation to the definiendum. What is required is laying out a conceptual structure and identifing its relations, which yield a canon for inferring from coherent premises to the coherence value of combinations of concepts.

[12] Cambridge University Press, Cambridge, 1986.

The basic, minimum truth logic philosophy students need in order to master conceptual/coherence logic is propositional logic. Quantified logic is of minimal use to conceptual logic. It contributes little to philosophical reasonings; it's even pernicious when it's underwritten by possible world semantics, which, although favored by journal-sponsored authorities, is useless as a guide to judgments about the coherence (meaningfulness, sense) of sentence interpretations in our natural languages, which are our primary loci for thinking, reasoning, and intersubjectively sharing our lexical practices. The Owl of Possible Worlds flies at midnight.

Fred Sommers published related work with logical intents in 1959, "The Ordinary Language Tree".[13] His mature master work is *The Logic of Natural Language*.[14] My initial work on conceptual logic was published in *LOGIC: A Dialogue*, "Twelveth Conversation".[15] Amplification and revisions of that version appear in *The Critical Thinking Handbook*, Part III, "Reasoning about Concepts", which I call version 2.0.

Conceptual logic could provide a systematic basis for machine translation instructions, utilizing conceptual inference rules, thereby approaching closer to human interpreters' lexical competence. In a related endeavor, it could provide a non-standard form of a lexicon, resembling John Wilkins' dictionary, which relies heavily on a categorical tree structure.[16] Wilkins was the founder of the British Royal Academy. He attempted to construct an artificial, symbolic language, with which, by avoiding the faults of popular language, he could "repair the ruins of Babel". He is said to have influenced Leibniz who, however, considered his own Lingua Philosophia superior to Wilkins'. Expert systems" use Wilkin's lexical subsumptive relation that I, too, use in my logic.

Coherence logic rests in a cut beyond Husserl's grammatical preconditions of meaning and S. Lesniewski's "meaningful" expressions.[17] Husserl's notions of Sinn (sense) and Widersinn (absurd), and his grammatical notion of nonsense (Ursinn) exclude what I am calling coherence and incoherence. Lesniewski's notion of "meaningful" expressions, which L. Lukasiewicz turned into explicit recursive rules for well-formed expressions, is also grammatical rather than lexical. J.-L. Gardies points out that, although Husserl and Lesniewski were after grammatical criteria, they are important for meaning. "...It is precisely the task of grammar to define, independently of meaning, the

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[13] *Mind*, LXVIII, April 1959, pp. 160-185.

[14] Oxford, Oxford University Press, 1982. The fulcrum of this book is negation. Traditional logic called for negation of terms while modern logic focused negation on statements, a *big* difference, which approximates my contrast of two negations, alethic [-] and condeptual [~]. Sommers sticks closer to alethic and class (quantified) logic than my coherence logic does, because he's defending Aristotelian categorical logic as the more suitable canon for reasoning in natural languages.

[15] A. K. Bierman, Holden-Day, San Francisco, 1964. Amplification and some revisions of that version appear in my and Robin Assali's *The Critical Thinking Handbook*; Prentice Hall, Upper Saddle River, NJ, 1996. These two earlier version of my logic gave rise to the /3.0/ in the title of this essay.

[16] *An Essay towards a Real Character and a Philosophical Language*, Gellibrand, 1668, London.

[17] For Lesniewski's *Logic of Names*, see C. Lejewski, "On Lesniewski's Ontology", *Ratio*, Vol. I, No. 2, 1958.

basic conditions of the possibility of meaning".[18] It is precisely the task of coherence logic to specify the basic conditions of coherence without which there is no 'meaning'. Although grammar is not a sufficient condition for 'meaning', Gardies' rational grammar is a suitable base for conceptual logic's slim grammatical requirements. My work falls within Ferdinand de Saussure's structuralist framework, because, like him, I give primacy to *la langue* (via attiva) over *la parole* (via passiva).

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Hans Reichenbach writes, "I must turn now to a discussion of Russell's *theory of types*…It is the basic idea of this theory that the division of linguistic expressions into true and false is not sufficient; that a third category must be introduced which includes *meaningless* expressions. It seems to me that this is one of the deepest and soundest discoveries of modern logic."[19] Reichenbach is a bit parsimonious here; he should have the fourth category, *meaningful*. I prefer the pair *coherent* and *incoherent* to *meaningful* and *meaningless*. The latter carry a lot of contested, useless freight.

Coherence logic makes such concepts as ^meaningful/meaningless^ and ^signify-cant/nonsense^ more precise, and matures the embryonic ^coherent/incoherent^ now popular in the philosophical literature. There's an inarticulated sense that it's a logical concept but not identical to truth logic's ^consistent/inconsistent^, which distinction I aim to clarify here. This essay on coherence/conceptual logic will damp the pain evident in the following examples where "coherent" aches for a mature elaboration that can turn it into a more precise concept, and retires the casually used, frequently vague "makes/ doesn't make sense" and instead promotes "coherent/incoherent".

Examples of the use of ^coherent^ and ^incoherent^

"But is any form of non-reductive *physicalism* coherent? Any *coherent* form of non-reductive physicalism would come at a price. It would have to make *sense* of the *idea* that there are certain modal facts..."[20]

"On the main issue of the *compatibility* of free will with determinism, Kane argues ...that there is no *incoherence* in the *idea* that free choices that are undetermined by their antecedents can nevertheless be things that the agent does...".[21] Ginet also mentions the "*coherence* of *indeterministic* free will" (p. 313; my emphases.)

I allow, Wedgwood may be confusing ^idea^ with ^statement^ as may Kane (via Ginet's reading), a common error, somewhat like Hegel's mixup in his *Logic.* Wedg-wood's "there are certain modal facts" looks like a statement that may or may not be true.

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[18] J.-L. Gardies, *Rational Grammar*, p. 32; trans. Kevin Mulligan, Philosophia Verlag, Munich, 1985; available from The Catholic University of America, Washington, D.C..

[19] Hans Reichenbach, "Bertrand Russell's Logic", p. 37. *The Philosophy of Bertrand Russell*, Ed. Paul Arthur Schilpp; Evanston and Chicago, Northwestern University, 1944.

[20] Wedgewood, Ralph, *Proceedings and Addresses*, American Philosophical Association Bulletin, Vol 72, No 3, January, 1999, p. 129. (My emphases.) This remark presumes alethic modalites are the only pertinent ones. I challenge this later.

[21] Carl Ginet's review of Robert Kane's "The Significance of Free Will", *The Philosophical Review*, April, 1998 (Vol. 107, No. 2), p. 312; the first two emphases are mine.

Kane's "agents" make "free choices (undetermined by their antecedents)" also looks like a statement; his "*indeterministic* free will" looks less like a statement. However, I don't think either is repeating Hegel's mixup. To do so, they'd have to be interpreting "coherent" as ^consistent^ and "incoherent" as ^inconsistent^. Charity calls for crediting them with knowing that consistency holds between two or more statements with respect to their truth value whereas in their examples they credit coherence value to but one 'statement'. This leads me to believe they're thinking about the coherence value of combinations of concepts in their single, cited sentences. With this interpretation, Wedgwood is wondering whether the combination of ^*non-reductive*^ and ^*physicalism*^ is "*coherent*", and whether the combination of ^*modal*^ and ^*fact*^ makes "sense", whether it is "*coherent*". Likewise, Ginet is attributing to Kane the claim that the combination of ^*free choice*^ and ^*things the agent does*^ versus ^*is determined to do*^ is not "*incoherent*", and that the combination ^*free will*^ and ^*indeterministic*^ is "*coherent*".

One end result I want for this essay is your recognition that inferences about the coherence value of conceptual combinations in single propositions must use a logic different from the one you use to determine several statements' consistency. Notice, too, Griffin's "conceptual truth" in the following remark: "It is, I believe, a conceptual truth that promises create obligations...".[22] I gather he consciously contrasts conceptual coherence with factual truth.

From the distinction between conceptual coherence and consistent truth, it's but a short step to one between coherence logic and truth logic.

The mentions of "coherent and "incoherent" in current literture shows philosophers are aware of this distinction but haven't formulated it nor provided a logical canon we can use to establish coherence value. Please note that I deliberately haven't chosen 'horrible' examples; they're standard specimens collected from highly competent philosophers' discourse to exhibit how embryonic ^idea^ and ^sense^, ^notion^ and ^concept^, are in contemporary philosophy, and, consequently, how inchoate the attribution of coherent and incoherent are to propositional combinations of concepts.

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Conceptual logic plays a parallel role in reasoning about concepts that truth logic plays in reasoning about statements. As valid inferences of truth logic preserve the truth of premises in the conclusion, so do valid inferences of conceptual logic preserve the coherence of premises in the conclusion. Benson Mates, in personal conversation with William Craig and me, called my conceptual inference schemas "production rules" for coherent sentences. The accent on agents' productions is right; but, for rules I substitute advice. Games thrive on rules, natural languages on advice, on counsel. Wittgenstein's strictures in the *Tractatus* led only to the outskirts of the Vienna Woods, in which "the best minds of his generation" lost their way. He was faithful to Russell's Proteus-model

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[22] Griffin, James, *Well-Being*, p. 79, Oxford, Clarendon Press, 1986.

for philosophers: Always be open to revising your thought. Wittgenstein was when he shifted from hard- to soft-boiled 'rules', the latter akin to advice. I put his 'game' metaphor and "forms of life" under the rubric of the hypothetical "**Lexical Imperative**", p. 105ff, this essay to which the following is an introductory approximation.

> If you want your sentences to be understood by others as you understand them and to understand others' sentences as they understand them, interpret their word→concepts and copula→functors and combine them as they do, if they're coherent.

Words enclosed in **carets** (^bog^) are interpretations of tokens and types. Check page 7 – 8 of our first conversation in "On Emplacing": A word type is *any* token that fits a given description; it is not an entity over and above this or that token, nor is it a set of tokens; it's a mode of counting several tokens as ONE (type). See the discussion about ^*any*^ and ^all^ in our first conversation, p. 17.

I call an interpreted word token/type a concept, with not a whiff of mental(ese) tolerated, whether it's a materialistic or purported mental version. I use **slash** marks, **/…/** as in /bank/ to indicate a token. ^Bank^ is a concept, an interpretation, a rewrite, of the token /bank/ that fits the physical description type for "bank".[23] To interpret a type's *token* is to place it in lexical space. Each place occupied by a token individuates a distinct concept. "Bank" has tokens in several places in lexical space; so, tokens in different places are different concepts. Tokens that occupy the same place in a system of lexical relations have the same interpretation whether or not they count as the same physical type of token; /red/ and /rosso/ have the same place in lexical space, hence, are identical concepts, although they're normally counted as different physical types.

An interpretation of a token is a **rewrite** of it; the rewrite might use the same or a different type of token. That's why I asked you to avoid 'mentalese', Tom. Stick to token chess. ^Red^ is a rewrite of /rosso/ and ^rosso^ is a rewrite of /red/. ^Commie^ is a different rewrite of /red/ if /red/ were subsumed under /political party/ in lexical space.

A concept is a token in lexical space; they're physical entities nested in a structured network; their locations are identified by the lexical relations they have to other tokens. (I don't claim my list of these lexical relations in this essay is exhaustive.). We may determine where they are with the help of conceptual logic. Concepts aren't our 'idea' of where their interpreted tokens are in lexical space—that's knowledge—but where they are. Our 'idea' of where they are may be mistaken. We may disagree about where they are. We need a conceptual logic to help us settle differences in our 'ideas' of where they are.

> By contrast, to say I *have* a concept is to say I *know* where a token I speak, write, sign, hear, or read is in lexical space. But *to know* C is not *to be* C.

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[23] For a useful discussion of ^type^, see Roy Mash's *Use, Mention, Type*, MA Thesis, San Francisco State University, 1987, especially Chapter III, "Token-Kinds", pp. 5-8.

Although my lexical relations are pretty minimal, they're enough to identify lots of concepts and to symbolize a wide range of arguments used by professsional philosophers and alert cognizers. And, importantly, they're rich enough to back up the claim I made in "On Emplacing": Past attempts to show the Liar is a paradox are incoherent. Since it's not a paradox, it doesn't need a 'solution'. Hold the presses! I show also that conceptual logic has suffiently refined utility to be a tool for rethinking ^natural kinds^. See my "Stipulating and Conceiving 'Natural' Kind concepts" on my website: http://www.sfsu.edu/~phlsphr/arthur_bierman.

Part II Functors in via attiva | Relations in via passiva

In this essay, I use seven binary combinatory **functors/relations** between interpreted categorematic words in subject-predicate sentences. They are interpretations of sentences' copulas. A **functor** is via attiva advice of how to travel between two concepts; a **relation** is a via passive report of which functor was used to combine which concepts. I list the seven interpretations of sentences' copulas below in functor/relation pairs, in this order:

Subsume/Subsumes,[24], Identify/Identity, Negate/Incompatible, Bond/Bonded (Bondage), Conger/Congery, Link/Linked (Linkage), Sooth/Soothed (Soothage),. Incompatible is a binary relation created by negating a concept; I report the concept and its negation(s) as Incompatible. If a negated concept concept has but one incompatible concept, they're contradictory as ^alive^ and ^~alive/dead^ are: Wanted: Dead or Alive!. Because ^~round^ subsumes ^square^, triangular^, ^oval^, ^…^, ^round^ is incompatible with each of ^~round^'s subsumed concepts; so, ^round^ and the ^~round^ concepts of shape are contraries. This is proved later.

Conceptual negation is the only monary functor. It's an advisory applying both to concepts and to propositions, creating incompatibility for both. I symbolize conceptual negation as [~]. When I use it on concepts, I create incompatible concepts, ^round^ and ^~round^. When I use it on propositions, I create incompatible propositions; ^[Bond] circle round^ is incompatible with ^~Bond] circle trapezoid/~round^. Tom, remember incompatible *statements* are evaluated with truth value, incompatible *propositio*ns with coherence value. ^Statement^ =|= ^proposition^.

I use square brackets, **[…]** to indicate functors in both their via attiva and via passie modes. I use [**F**] as a variable for both functors and relations.

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[24] Emplacement, not listed here, is a special form of subsumption. When we emplace a substantive in a sentence's subject token, we subsume it under that token's conceptual interpretation. For example, when we emplace your left incisor in /left incisor/ of /My left incisor hurts/, we've subsumed that tooth under /left incisor/. Similar results bloom from emplacing your hurting trope into /hurts/ of that token sentence. I symbolize an emplacement as ^**E…E @ /…/**^, as in ^Eleft-incisorE @ /left incisor/^; in old speak, Eleft-incisorE, a tooth of that kind, is the 'referent' of /left-incisor/. *Per emplaced*, Eleft-incisorE is subsumed under /left incisor/ in lexical space;. Because this emplacement gives your left incisor a place in lexical space, a structuralist account of concepts transforms the tooth into the concept ^Eleft incisorE^. Ground zero emplacments transform ^refer^ from its anomalous psychic status to a lexical act, ^E…E @ /…/^. There are other ways to emplace.

Introduction to Logical Relations between Concepts

I lift a section from my fullest, but incomplete, account to date of my conceptual logic, which I hope will give you a framework for understanding what I'm after in this endeavor, and of which I availed myself in some of the foregoing arguments.

On the next page, there's a chart of forms for via passive reports of binary relations between concepts in English subject-predicate sentences, which I distinguish with angle <…> quotation marks. Such lexical reports typically give us information about speakers' conceptual habits that are exhibited in what they believe are coherent propositions. Out of these relations, I will construct valid conceptual inference forms that we may use to reason together about the coherent/incoherent values of combinations of concepts residing in sentential structures.

Do any of (Si)'s token sentences,

(Si) /Socrates *is* an integer/, /*is not* an integer/, or /*is* a fraction/, /… /,

have a coherent interpretation? If none does, neither <Socrates *is* an integer>/<*is n*ot an integer>/<*is* a fraction, …> is true or false. It's possible to show (Si)'s sentence tokens are incoherent with valid conceptual inference forms, using true via passive lexical reports as premises. (Valid conceptual logic inference forms are exhibited in a precis at the end of this Appendix.)

(Sg) <Socrates *is* Greek> and <Socrates *is not* Greek>

differ from (Si); both (Sg) statements and their parent propositions are coherent. Either (Sg) statement may be true and the other false. This shows that conceptual logic is not reducible to alethic logic and vice versa. The values of propositions are ^coherent/incoherent^ whereas the values of statements are true/false.[25] ^Coherent/ incoherent =|= ^consistent/inconsistent^. Only one of a pair of inconsistent statements may be true, but both may be coherent. One truth =|= two coherents. So, ^true/false^ alethic logic and ^coherent/incoherent^ conceptual logic are not identical.

My tasks in this essay are (i) to distinguish ^sentence^, ^proposition/interpretation^ of a sentence, and ^statement^, to explain how they're related; (ii) explain coherence value and its role in determining statements' true value; (iii) provide valid conceptual inference forms and explain why they're valid; and (iv) illustrate how we may apply this conceptual logic to deal in an organized way with disagreements about the coherence value of propositions, which are the kind of disagreements philosophers have when they're about their 'proper' business. Conceptual logic is the canon par excellence for philosophers; alethic logic is secondarily useful to them, as when they're disentangling natural language statement forms, statement determiners and their scopes. In modern

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[25] For me, **/sentence**/ is a physical token or type. In this essay I explain nominalistically how types have no existence other than as being a ONE *count* of tokens satisfying a description. ^**Concept**^ is an interpretation of a word token or type. ^**Proposition**^ is an interpretation of a sentence or phrase token or type. These stipulated distinctions are a propadeutic to help you locate my terms in relation to those familiar to most conventional philosophical workers. ^**Statement**^ is (a /token/ + a ^proposition^ + a |-- turnstile, a Fregean alethic claim) = <statement>).

times, alethic logic and set theory were designed to deal with the foundations of mathematics, which may (or may not) be the one theoretical topic to which they're still important. It is of course practically important for soft- and hardware design for computer-assisted cognitive work Let's see, that amounts to ~2,500 years' worth of philosophers--with sporadic, partial exceptions--looking in all the wrong alethic places for ways to reason fruitfully about their conceptual, philosophical enterprise. Philosophers don't bake bread, but they do shape the dough.

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Via passive relations between concepts

(A) Relations between substantive concepts:
  (1) Subsumption: <^Mammal^ [Subsumes] ^dog^>;
  (2) incompatible: <^Dog^ [is Incompatible with] ^giraffe^>;
  (3) identity: <^Dog^ [is Identical to] ^dog/cane/chien/hund^>.

(B) Relations between property/trope concepts:
  (1) Subsumption: <^Colored^ [Subsumes] ^red^>;
  (2) incompatible <^Red^ [is Incompatible with] ^green^>;
  (3) identity: <^Red^ [is Identical to] ^red/rosso/rouge/rot^>.

(C) Relations between substantive and property concepts:
  (4) Bonded: <^Marsh^ [is Bonded to] ^wet^>;
  (5) linked: <^Bird^ [is Linked to]) ^gray red green …}^ {(a range);
  (6) congered: <^Bird^ [is Congered to] ^beaked^ and ^winged^>;
  (7) soothed: <^Bird^ [is Soothed to] ^blue^, ^gray^, ^red^, ^green^…>.

[Sooth] stems from Middle English, as in <In sooth, Sire> and <Forsooth, m'Lord, I saw it with me own eies>. Linkage and soothage differ in that noun concepts are linked to *ranges* of incompatible property concepts as ^bird^ is linked to the ^colored^ range ^{red gray green …}^, whereas noun concepts are soothed to a single concept from a property range. Range concepts are subsumed by one and the same property concept, as the various color concepts are subsumed by ^colored^.

Note that my *symbol* for each functor/relation follows the functor's name in my following introductions to them; [Subsume, /] is an example. Via attiva functors and via passive relations are interpretations of sentences' copulas. Functors are different ways to interpret copulas, each of which coherently combines concepts within propositions in different ways. For example, I'm *subsuming* ^dog^ under ^animal^, I'm *bonding* ^bird^ to ^beak^; with relations we report the concepts and the functors speakers use to combine them in constructing propositions. I use caret quotation marks, ^…^, to flag interpretations of words, phrases, and sentences. I set off copula interpretations with square quotation marks, as in the via attiva [Identify, =] and the via passive [is Identical to, =]. Func-

tors aren't concepts; in the via attiva mode, they're lexical acts of subsuming, bonding, soothing, … concepts.

Subsumption

The **subsume** copula, [Subsume, /], holds between substantive (S) concepts and also between property (P) concepts, illustrated in the following pair of pyramids/trees that are geometrical simulacra of subsumption relations in lexical space. Other lexical relations hold *within* each of these pyramids such as incompatibility (A)(3) and identity (A)(2) do above. Lexical relations also hold *between* S and P concepts in conceptual pyramids, per (C) (4) – (7) above.

Subsumed concepts lie on slanting lines in each pyramid. S1 subsumes S3; S1 and S3 subsume S6. Subsumption is transitive, pictured by descending subsumption pathways. In the S pyramid below, ^mammal^ subsumes ^dog^ and both subsume ^collie^. In the P pyramid, ^colored^ subsumes ^red^, and both subsume ^scarlet^.

So, ^mammal dog collie^ and ^colored red scarlet^ are subsumption pathways.

The S pyramid holds places for concepts of substantives, such as objects, events, and processes; the P pyramid holds places for adjectival property/trope concepts. Each numbered S or P place is the location of a distinct concept. The pyramids are illustrative, for propaedeutic purposes only; the network of lexical relations is too complex to be pictured by these simple two-dimensional pair of graphs. Lexical space is at least eight dimensional, which includes negation. Incomplete spatial visualization, however, needs no apology, because it aids comprehension and stimulates the invention and testing of conceptual structures. Just ask A. Einstein and N.C. Kleene.

The pyramids are empirically grounded visual models of logical relations between concepts from which we can obtain propositional *forms* by replacing their constant terms with variables. Out of these propositional forms we can construct inference forms and recognize their validity by acknowledging that if their premise propositions are coherent, their conclusions cannot be incoherent, just as we recognize the alethic validity of the Barbara syllogism. Logic is, after all, grounded on our shared linguistic practices, and supported by our agreed reports of them, which include the practices of forming gram-

matical sentences, coherent propositions, *and valid inferences*. Without consent by the mass of speakers to the validity of the Barbara syllogistic form, Aristotle's logic would still be confined to a lost *Logica whimsia*.

We recognize that lexical relations between coherent premises' are valid grounds for the coherence of their conclusions. Language users have implicit capacities to recognize coherent inferential relations between propositions. I aim to make these capacities explicit with this conceptual logic. Validity and grammatic recognitions are similiar; people have implicit capacities to speak grammatically without being able to provide a grammar as they have implicit capacities to validly infer.

I illustrate this logic-burgeoning marvel with the following sound conceptual argument whose premises and validity would receive as secure and as wide a consent as Barbara does among English speakers. [Bond] holds between a substantive concept and only one of a range of property concepts.

^Triangle^ [is Bonded to] ^3-sided^
^3-sided^ [is Incompatible with] ^~3-sided^ (^4-sided^ ^5-sided^ …)

---

^Triangle^ [is not Bonded to] ^~3-sided^ (^4-sided^ ^5-sided^ ...)

By replacing concept constants (^triangle^ and ^3-sided^) with concept variables (^S^ and ^P^), we can produce a valid conceptual inference *form* for use on other occasions.

^S^ [is Bonded to] ^P^
^P^ [is Incompatible with] ^~P^ (and to the concepts subsumed by ^~P^)

---

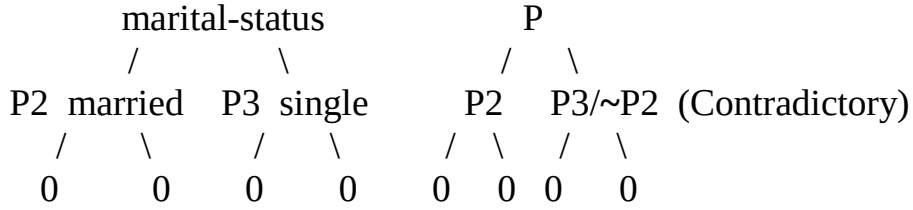
^S^ [is not Bonded to] ^~P^ (nor to any concepts subsumed by ^~P^).

We can use this and other inference forms to reason out more explicitly and precisely, less intuitively, the coherence value of combinations of concepts about which speakers may disagree or are uncertain. People disagree, for example, about the coherence value of <Abortion is murder> and <A fetus is a person>; about whether ^bonus^ is a ^cost factor^ for accounting and tax purposes; about whether ^she's a terrorist^ or ^she's resisting oppression^ is the correct conceptualization of what she's doing; about whether ^colored^ subsumes ^black, gray, white^.

Incompatibility

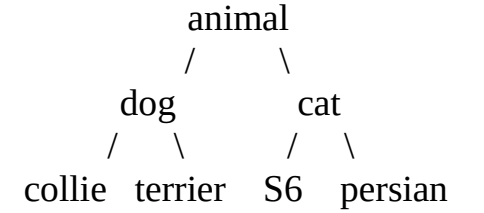
The **incompatibility** of concepts, [Incompatible, **!**] is created by conceptual negation, [~], which is distinct from truth negation, [-]. ^S^ and ^~S^, ^P^ and ^~P^ are incompatible concepts. [~] creates either contrary or contradictory incompatibilities. Each concept on a branching pathway of an S or P pyramid is incompatible with the concepts on pathways that branch off the same subsuming concept somewhere in the higher pyramidal reaches. ^~Collie^ creates the contraries ^terrier^, ^shepherd^ and so forth, under the same subsuming ^dog^. ^~Dead^ creates the contradictory ^alive^, as ^~single^ creates ^married^. If [**~**] creates but one incompatible concept, they're contradictories, as

^married^ and ^single^ are. Since the [~] of ^~collie^ creates several concepts, the concepts it subsumes are contraries . In the P pyramid above, P2 and P3 are incompatible, as are the S2 and S3 substantives, in the S pyramid, that carry those tropes. The move from inference constants, on the left, is illustrated by variable replacements, on the right.



In this example, ^P2^ is ^married^ and ^P3/~P2^ is ^single/~married^. Neither ^P2^ nor ^P3^ subsumes other concepts, ^0^. "Divorced" occurs in insurance applications. It goes proxy for ^singled^ (on mm/dd/yy). Thus, ^divorced^ is not contrary to ^married^ but contradictory to it, as its ^single^ rewrite shows us. ^Remarried^ entails ^~single^.

This ^marital-status^ case differs from the ^~collie^ case that subsumes such contraries as ^terrier^ and ^whippet^, which also are incompatible, branching off from the same concept, ^dog^. ^Collie^ and ^~collie^, ^terrier^ and ^whippet^ are incompatible They're also incompatible with ^persian(cat)^, because they're subsumed, respectively, by the branching incompatibles of ^dog^ and ^cat^ that branch off the same concept, ^animal^.



Concepts are incompatible, as in ranges, ^{collie terrier pug ...}^ if they're subsumed by the same concept, here ^dog^. So, too, are concepts subsumed by incompatible concepts, all the way down their subsumption pathways. Each subsumed concept inherits all the incompatibilities of every concept that subsumes it. Thus, ^collie^ inherits ^dog^'s incompatibility with ^cat^, as do ^collie^ and ^persian^.

Propositions, too, may be incompatible as are

^[Subsume, /] ^cloth^ ^cotton^^ and

^[~Subsume, ~/] ^cloth^ ^cotton^^.

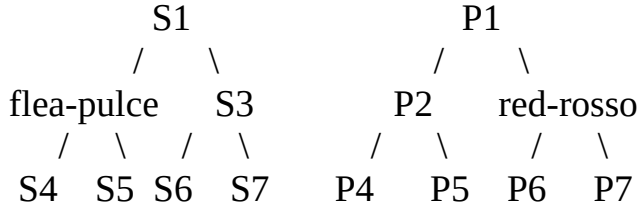
The first is coherent, the second is incoherent.

Identity

The via attiva **identify** copula, [Identify, =], indicates we are to interpret two tokens the same way, as numerically identical concepts or propositions. If word tokens have identical interpretations, assign them to one and the same place in lexical space. This also locates a type's place in lexical space, because a conceptual type is any token assignable to the same place in lexical space by way of its having identical relations to other tokens

in lexical space. This is how we can nominalize types instead of reifying them. For example, if we interpret "fleas" the same way for /My dog has fleas/ as in /Fleas are a nuisance/, the interpretations of /fleas/1 and /fleas/2 are identical concepts; we should assign these tokens to the same place in lexical space.

Tokens of different physical types, /flea/ and /pulce/, that may be interpreted/rewritten as the other, they're identical concepts; translators from Italian may rewrite /pulce/ as /flea/; translators from English may rewrite /pulce/ as /flea/. They are at least quasi-identical, because these diverse tokens occupy relatively similar isomorphic places in the English and Italian lexical systems. Also, the tokens /red/ and /rosso/ are isomorphic enough for most translators to rewrite ^red^ as ^rosso^ and vice versa. If you may coherently emplace the same tropes into /red/ and /rosso/, and the same tropes into their subsumed /scarlet// and /scarlatto/, they ratify the color rewrites/translations.



Tokens of both "red" and "rosso" may get more than one interpretation, political as well as colored. That puts 'colored' and 'political' tokens of these physical types in at least two locations in lexical space, which sometimes causes ambiguity and/or equivocation.

Two locations of a physical token in lexical space entails its type has two conceptual interpretations. That's because a token has coherent lexial relations with two diverse groups of tokens in lexical spae, one in a ^colored^ versus a ^political^ location. Stipulated identity of different tokens' interpretations legislates them into the same location in lexical space. I stipulated, for example, that ^proposition^ and ^interpretation/rewrite of a sentence token^ are identical in my vocabulary.

Up to now, I've often spoken of types in the traditional way, types of *physical* tokens. From the above remarks, you may have discerned that this transformation of tokens into types is too simple for a *structural model of concepts*. We have to distinguish **physical types** from **read types**, Tom. Pronounce /read/ as /reed/. I stipulate that I interpret /read type/ as ^**interpretation type**^.

Any token that satisfies a given physical description is *counted* as ONE and the same *physical type* as any other token that satisfies the description. Because the tokens /nose/ and /nose/ satisfy the description "have the same letters in the same order", they count as ONE *physical type*.

Tokens of physically similar or different types that have ONE and the same interpretation are *counted* as ONE and the same *read type* as any other physically similar or different token with that interpretation. /Nose/, /schnozz/, and /naso/ are physically different types but are ONE *read type*. They *count* as having the same interpretation if they

have (approximately) identical relations to other physical types in the same lexical space or in (approximately) isomorphic lexical spaces of physically different language types, such as English, Italian, or Arabic.

Think of read types in the same or different languages as ONE and the same concept. And think of read/concept types as having the same relative place in over- and underlay isomorphic maps within their respective lexical structures. If the local lexical English structures for /nose/ and the local Italian structures for /naso/ are relatively isomorphic per other tokens, they're ONE and the same read type and concept.

A nominalistic stance toward physical and read/concept types is possible, because these types are different ways of counting tokens as ONE, and because counts are neither 'things' nor abstract 'objects'. Tokens, unlike either physical or read types, occupy physical space. Types may occupy one and the same location in lexical space, because a type is a count mode of an indefinite number of tokens as ONE and because a count is not a spatial token. Since a type is a ONE count of tokens, physical nominalism doesn't come a cropper to the following challenge: <How can any two physical types, "red" and "rosso", occupy the same lexical place at the same time?>

This challenge confuses (i) the count of physical tokens (~3M) with the count of their type (ONE), and confuses (ii) assignments of read types (ONE) to one and the same place in lexical space with assignments of the MANY physical tokens (~6M) thereto. Conceptual space is not a physical Newtonian but an aphysical Leibnizian space.

I'll put this in another way. My use of /any/ instead of /all/ as a universal determiner licenses me to relate tokens and types to formulate a nominalistic account of concepts. This unorthodox tactic may hinder easy understanding. Berkeley's term for my /ONE count/ for a physical or read type was /*indifferent*/, which I interpret as ^the tokens of a physical or read type are indifferent to a count greater than ONE type^. That's why I'm offering you another, slightly altered, explanation of /read type/, Tom:

> We can count any tokens of two physical types as ONE read type if they have ONE interpretation. They may be counted as ONE interpretation if they have isomorphic lexical relations to other read types in different lexical systems. Because a count of tokens' interpretations is not a token, we don't have to put two tokens in one place in Newtonian *physical space* in order to place one differently garbed concept--^nose^ and ^naso^--in one place in Leibnizian *conceptual space*. ^Red^ and ^rosso^ are counted as ONE read type, a ONE interpretation/rewrite of /rosso/ as /red/ and vice versa.

Travel serenely, nominally, through lexical space, Tom, knowing all the while that you don't have to shuffle tokens instantaneously from one physical place to another in order to put two read types in the same location in lexical space. However, in order to avoid losing your way in lexical space, you'll have to keep track of where your tokens are in relation to other tokens in Leibnizian space like a good nominalist should.

Bond, Congery, Link, Sooth Functors

The next four copulas I explain were listed in (C) (4) – (7), p. 19 as via passive relations. Here I treat them as via attiva functor copulas.

With the [**Bond**, **:**] functor, I restrictively combine a substantive concept residing in an S pyramid with a single property/trope concept residing in a P pryamid link range.

[**Conger**, **:+**] is a multi-[Bond] functor. I use it to combine a substantive concept with *two or more* property/trope concepts from different P pryamids that I call a congery.

With [**Link**, *****] I combine a substantive concept with a range of trope concepts.

I use [**Sooth**, **.**] to combine substantive concepts with property/trope concepts drawn from ranges of concepts. Earlier generations approximated this as [*Predication*].

Leutic modals levy constraints on the coherence values of our via attiva lexical *acts* of constructing propositions by traveling through lexical space, and on our via passive reports of our lexical acts. The leutic modals [**Enjoined to**], [**Enjoined not to**] govern (A)(1) – (C)(6) (p. 11) as well as concepts' negations, (**~**S) and **~**P) in propositions; [**Allowed to**] governs C) (7)'s mode of combining concepts, and their negations.

Our combinatory acts of forming coherent propositions out of concepts and their copulas [Bond], [Conger], [Link], and [Sooth] copulas are constrained by these leutic modals. All functors are in the modes of [Enjoined to] or [Enjoined not to] except for [Sooth, **.**], which alone enjoys the choices offered by the leutic [Allowed to], although it, too, has constraints. I will explain and illustrate each kind of these four copulas' modal powers beyond the present remarks.

I use [Bond, **:**] and [Conger, **:+**] functors, (C)5 and (C)(6, (p. 19), to combine ^S S^ and ^P P^ concepts; I use [Link, *****] and [Sooth, **.**] functors, (C)(5) and(C)(7), to combine ^S P^ concepts into coherent and incoherent propositions under watch of their bodyguards' leutic constraints. Coherent combinations identify coherent paths between concepts in S- and P-pyramids in lexical space and vice versa. Incoherent combinations identify incoherent paths.

[Bond]

The **bond** copula, [Bond, **:**], modally *enjoins* us to combine a substantive concept with a property concept in a proposition. I symbolize this as ^[Bond, **:**] ^triangle^ ^three-sided^>. We're also modally *enjoined not to* bond ^triangle^ with ^~three-sided/four-sided^, as in ^[**~**Bond, **:**] ^triangle^ ^~three-sided/four-sided^^.

[**~**] may negate a *concept*, ^~three-sided^ or a *functor/copula*, [**~**Bond, **:**]. The negated functor constrains us, by the modal [*Enjoined not/~ to*], from bonding ^triangle^ to ^four-sided^. Thus, a conceptually negated functor in a proposition counsels us not to combine its concepts; don't combine ^triangle^ and ^four-sided^ on pain of incoherence. The way to deny a proposition is coherent is to negate conceptually. [**~**]. its functor,

^[**~:]** S P^, ^S is not bonded to P^which is the conceptual, not alethic, contradictory of^ ^[**:**] S P^, ^S is bonded to P^. Not both are coherent.

I often drop either the [Bond] or the [**:**] as redundant symbols, as I do with the other functors once I'm pretty sure you know they're redundant.

Here's a subsumption-functor example of conceptual negation's effect on the relation between via attiva propositions and via passive statements with *enjoined* functors. I use conceptual negation [**~**] to indicate the incoherence of a proposition and alethic negation [-] to indicate the falsity of its correlative via passive statement per this entailment,

^[**~**/] stone pear^ --} <[-]<[/] ^stone^ pear^>>.

The antecedent proposition's negated functor, [**~**/], enjoins us [Not/**~**] to travel on a subsumption path in lexical space from ^stone^ to ^pear^, which entails the falsity, of the entailed via passive statement. Here's the enjoined functors' pattern.

	Via attiva		**Via passiva**
Coherent	^[/] stone gem^	entails/--}	*True* <[/] ^stone^ ^gem^>
Incoherent	^[/] stone pear^	--}	*False* <[/] ^stone^ ^pear^>.

The *allowed* functor's [Sooth, **.**] pattern of relations between via attiva propositions and their correlative via passive statements differs from those for enjoined functors.

	Via attiva	**Via passive**
Coherent	^[**.**] ^gorilla^ ^strong^ --}	*True* or *false* <[**.**] ^gorilla^ ^strong^>
Incoherent	^[**.**] ^gorilla^ ^finned^ --}	*Not true* or *false* <[**.**] ^gorilla^ ^finned^>

[Conger]

The **conger** copula, [Conger, **:+**], modally e*njoins* us to bond more than one property concept to a substantive concept. I call the several property concepts bonded to a substantive concept a **congery**. ^[Linear 3-sided]^ is a **congery** of ^[Conger, **:+**] [(Euclidean) triangle [linear 3-sided]^. The whole or a portion of a congery may be used, respectively, to identify definitively or provisionally a *kind* of substantive concept, such as ^(Euclidean) triangle^. We're enjoined not to bond ^(Euclidean) triangle^ to ^**~**linear /curved (sides)^, entailing ^curved^ does not reside in a Euclidean triangle's congery.

[Link]

The **link** copula, [Link, *****], modally enjoins us to link *ranges* of property concepts with substantive concepts. The substantive ^pain^ is linked to the range ^{unbearable wracking severe harsh mild slight …}^; they're all concepts in the range because they are subsumed by the same concept, ^*degree*^ of pain, and none of them subsume any of the others. Most of us have been asked by our doctor to 'describe' our pain. Sometimes it's frustrating to know which of these available vague concepts from this range is accurate; still, they're all we patients have. Yet, we're definitely modally enjoined to link the range of them with ^pain^: ^[Enjoined to] [Link, *****] ^pain^ ^{unbearable wracking severe harsh mild slight …}^^.

Tom, note that I use square brackets, **[…]**, around a list of *congery* tropes, but use braces, **{…}**, around a list of *range* tropes to differentiate congeries from ranges.

Complementary versus Incompatible Concepts

Introducing this topic might seem off-slant, Tom, but it's important to elaborate on it here, because it will help you grasp the colloquially familiar, but neglected, logical functor of conceptual negation. It's lodged in such English prefixes as [un-], ^unexamined^, [mis-], ^misused^, [a-], ^atheist^, prefixes that I sanction as conceptual logic negation [**~**]. Medieval and pre-modern accounts of syllogistic reasoning generalized these prefixes, in English, as [**non**-], All A are B = No A are **non**-B. But, this interpretation of [non-] treats B and non-B as complementaries, which blinded logicians to the conceptual [**~**]/[non-] that yields ^incompatible^ property concepts rather than ^complementary^ concepts. Further, almost all syllogists, except JA Segner, were wedded, without divorce hopes, to truth value relations between categorical statements, thereby excluding coherence relations. There were dead-born hints of doubts about the adequacy of a singular alethic interpretation of negation and categorical statements. I'll let historians of logic sort out who-recognized-when that [Not] has both alethic and conceptual interpretations during the long course of Western logical investigations. The first one to my knowledge was Plato in the *Sophist*, as I will amplify in several places in this essay where I suggest that he used [**~**] to refute Parmenides' view that we can't make false statements. Aristotle the Stagalethic missed Plato's early morning ferry.

By learning the different lexical results these two kinds of negation functors grant us, you'll be able to appreciate how important it is to distinguish conceptual [**~**] from alethic negation [**-**]; it will help you to contrast and relate conceptual and alethic logics. Purely alethic logicians, from Boole to Frege as well as set-theorists I know about, failed to distinguish them as logically distinct, condemning themselves and their acolytes to the confines of alethic logic. Their exclusive devotion to alethic logic is one of the major, longest lasting mistakes in logical history, starting, maybe, with Aristotle.

[Link, *****] is a logical prelude to coherent [Sooth, **.**] predications. The coherent proposition ^[Link, *****] ^pain^ ^{unbearable wracking severe harsh mild slight …}^^ entails that any concept in that range may be coherently predicated/soothed of ^pain^,

^[Sooth, **.**] ^pain^ ^unbearable^^, ^[**.**] ^pain^ ^wracking ^^, ^[**.**] ^pain^ ^mild^^, unless ^pain^ is bonded to one concept in the range, such as ^unbearable^, as Jake avers it is: "You don't know what *real* pain is 'til it's unbearable". In Jake's lexical system, ^[**.**] ^pain^ ^wracking / severe / harsh/…^^ would be incoherent, because he *bonds* ^pain^ to ^unbearable^. This mistakenly makes ^[**.**] ^pain^ ^harsh^^ and ^[**.**] ^pain^ ^mild^^ incoherent.

[Link] went missing in Wittgenstein's *Tractatus* logical vocabulary as did ^coherent^. That's why he couldn't definitely answer his own most important *Tractatus* questions: What can we say/sooth (coherently)? And what can't we say/sooth (incoherently)?

He was seeking languages' sooth 'limits'. He didn't know [~] and [Link, *****] functors draw the limits of what we can *coherently* 'say'/sooth of *propositions' substantive* concepts, versus what we can *truly* or *falsely* 'say'/sooth of a statement's subject. This hampered him from distinguishing a *sooth proposition* from a *sooth statement*, per below.

^[Sooth, **.**] Socrates stupid^ is a coherent proposition *versus*

<[Sooth, **.**] Socrates stupid> is a false but coherent statement.

Wittgenstein and Frege were impaired by confining themselves solely to the narrow corridor of alethic logic and, in Frege's case, a set-theory oriented interpretation of [non- / ~], as did their positivist epigones after them. None explicitly distinguished *alethic negation* [-] of statements from *conceptual negation* [~] of concepts and propositions. Frege and Wittgenstein unduly pauperized accounts of natural languages' logics. Russell was more open to them, but Whitehead may have reined in his enthusiasims.

Alethic negation creates only *complementary* property concepts, whereas conceptual negation creates more limited ranges of *incompatible* property concepts for the [Link, *****] functor interpretation of the copula.

The alethic negation of

<S> <My pain is harsh>, is

(-S**)** **<**My pain is [*not*, -] harsh> = <[Not, -] <My pain is harsh>>.

The antecedent of (-S) is usually treated as identical to the equation's consequent. It authorizes the alethic legitimacy of such complementary concepts of ^harsh^ as ^reverent^, ^angular^, ^woven^ and untold numbers of other concepts. And, of course, complementary concepts breed seriously untold numbers of incoherent propositions and statements, such as

(-Ss) <My pain is reverent/angular/woven/…>.

Alethic logicians tell us (-Ss) statements with such complementary concepts of ^harsh^ are false if

(S) <My pain is harsh>

is true. Frege makes this move explicitly (which I cite later); he allows only true and false evaluations of statements rather than true, false, and incoherent/'meaningless', unlike Reichenbach who praises Russell for the triple evaluation range. For Frege, incoherent, ersatz 'statements' are false rather than incoherent. If (S) is false, then any (-Ss) statements with 'complementary'predicates are false, and if (S) is true, then.any (-Ss) statements with 'complementary'predicates are false. This is because, Frege limits his evaluations of 'statements' to true and false. Frege was a committed binomial man. I have more on Frege's negation parsimony later with references to Plato's ill-disguised critique of Parmenides' claim that we can't say anything false.[26]

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[26] Joseph Breuer writes *"If N is a proper subset of M, then the set, R, of elements of M which do not belong to N, is called the complementary set to N over M."* (*The Introduction to the Theory of Sets*, (Trans.) Howard Franklin Fehr, p. 8. Prentice Hall, Upper Saddle River, N. J., 1958 (address after 1958). This effectively restricts sets to two complementaries, *M* and *–M*. The attempt to give a logical foundation to set theory and mathematics required that logic and set theory be related one to the

Frege was seriously mistaken; not all such complementary (-Ss) are false. In the ^harsh^ case, any statement with a complementary predicate, such as ^reverent^, is incoherent, not false. In what proper set do reverent pains belong? Functions, such as, ^reverent^ are supposed to determine extensions and sets, per Eaton in fn. 9. But what extension-making powers of ^reverent^ derive from the range of concepts subsumed by ^degree(of pain)^, Tom? None, because ^degree(of pain)^ doesn't coherently subsume ^reverent^ in its received sense of ^Christian doctrine^ and would be an incoherent intrusion into the range of concepts subsumed by ^degree(of pain)^.

Set theory may be suited to mathematics but, because it's too gross to distinguish incompatible from complementary concepts, it can never be a formal counterpart of natural languages' conceptual logics. Mathematical research relies on more precise, conventional 'definitions' of rigidly governed mathematical concepts than practioners of natural language can provide for its wildly flexible concepts overrun by linguistic tropes. Natural languages have concepts undreamed of by driven, formal-dominated mathematicians. But for "a thae", as Bobbie Burns might say, natural language concepts are not without their modal constraints, [Enjoined to/not to], and freedoms [Allowed to].

The only property/trope concepts coherently soothable of ^pain^ are

(i) those concepts that ^degrees(of pain)^ and their ^(painful)neural(responses)^ *subsume*, such as ^harsh^ and ^rapid(firing)^, and the other concepts residing in their common range, per above;

(ii) those concepts that ^harsh^ and the other concepts residing in its range *subsume*, if there are any. Is ^*pulsing*(harsh)^ one such?

I pursue this matter. Tom, do you seriously think

<Frege is an integer> or <Frege is greater than 7>

are false? Frege would have said so. He has no choice. This is the result of his exclusive use of two-valued, alethic negation and its received complementaries:

<Frege is <[Not, -] an integer> = <[Not, -] <Frege is an integer>>

Well, what a relief <Frege is an integer> is false? If he'd been one, he couldn't have written all his fine tracts for us. Tom, do you think there's retrospective relief?[27]

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other. This was done by relating functions of propositions to sets. The set of harsh tropess were those to which the function/concept ^harsh^ applied; everything else in the world/universe-of-discourse was in the complementary set, in the extension of the -harsh function. ^Derivative^, ^spellbound^, ^reverent^ are complementaries to ^harsh^.

"A propositional function is a class in embryo. The logical relations of propositional functions to one another can be viewed as relations between the classes determined by these functions; thus the logic of classes results from that of propositional functions by substituting for any function its *extension*, namely *the entities for which the function is true*." (Ralph M. Eaton, *General Logic*, p. 410; Charles Scribner's Sons, New York, 1931). He adds on p. 422, illustrating complemetary classes, "All the entities that belong to the universal class of discourse (or the universal-class) are either members of *a* or of not-*a*; everything is either a man or not a man, everything is an organism or not an organism, and so on".

27 I allow Frege may have decided to jettison conceptual negation as unsuitable to his purposes; he eschewed ^~integer^, which renders the (-Ss) statements incoherent instead of false. He ruthlessly sacrificed incoherent statements on the altar of false statements to suit his program for giving a logical foundation to mathematics. He bypassed the distinction between alethic and conceptual logic. He fitted his logic if begatuib to mathematics to get what he wanted from it in order to underwrite his logical 'fouda-

The coherence value of the statement

(<F) <Frege is an integer>

dances to the tune played by its *correlative* proposition,

(^F) ^Frege is an integer^.

I symbolize (^F) for conceptual logic as

(^F) ^[Subsume, /] ^integer^ ^frege^^.[28]

(<F)'s coherence value is determined by (^F)'s. If (^F) is coherent, so is (<F); if (^F) is incoherent, so is (<F).

The conceptual negation of (^F) is

(^~F) ^[~Subsume, ~/] ^integer^ ^frege^^,

indicates (^F)'s subsumption is incoherent: You're advised not to subsume ^frege^ under ^integer^. By negating (~^F), (~~^F), (^F) is ***not in***coherent; eliminating the double negation, we're taken back to (^F) with which we advise others that the subsumption is coherent, although this (^F) example definitely is not coherent.

The following example of double negation, on the other hand, advises us that the doubly negated (~~N) is coherent.

(~~^N) ^[~~Subsume, ~~/] ^numeral^ ^integer^^

entails that (^N) is coherent:

(^N) [Subsume, /] ^numeral^ ^integer^^.

^Numeral^ subsumes a range of concepts, ^{integer fraction imaginary algebraic Gaussian …}^, but does not subsume ^frege^. In the de re mode of speech, he's neither an integer nor any other kind of numeral in that range. Any concept in a range subsumed by ^numeral^ is incompatible with any other in it. Each is a negation [~] of any other; we have different ways of coherently calculating with them. Ask any teacher about the greater difficulty of getting young scholars to add or multiply fractions versus adding or multiplying integers. Also, ask any fourth grade scholar.

The limits of conceptual negation/ [~]'s scope is outlined in (i) – (ii) in the second paragraph on the previous page. It creates *and limits* the reach of incompatible concepts. It's much more restrictive than alethic complementary negation [-]'s scope. Most complementary concepts are not incompatible. ^Numeral^'s range of incompatible concepts are lesser than its [-] complementaries. The alethic complement [-] of ^-numeral^ includes ^turkey ^ and ^brain^. Add whatever complementary substantive concepts you want to this egregious sweep, Tom, if you fancy a ride in Frege's bark on the river Styx.

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tions' for mathematics. I doubt Frege furtively concealed conceptual negation. The desire for alethic logicism was such a strong tonic brew-ing in the intellectual beakers on his and Russell's burners that it overrode any whispered hint of a supplementary conceptual logic. Frege's 'conceptual logic' is an alethic masquerade,, not withstanding his announced 'conceptual' pleading .

[28] In (^F), I didn't capitalize /frege/, because the concept of that person includes the man named /Frege/ once he's emplaced coherently in /Frege/. I used the lower case /f/ to warn you not to confuse the man, qua emplaced, with his name, /Frege /. I consistently follow this spelling rule throughout, unless I make a mistake. Corrections welcomed.

The consequences of the logical distinction between ^complementary^ and ^incompatible^ are very, very important. Consider this one.

A predicative/sooth statement < [.] S P> can be falsified only by a true statement < [.]S ~P> whose predicate concept, ^~P^, is incompatible with, *not* the complemenarity of, ^P^. <Jenny's hat is red> is falsified by <Jenny's hat is green/~red>, because ^red^ and ^green^ are incompatible concepts in the range subsumed by ^colored^:

^[Subsume, /] ^colored^ ^{red green yellow ..}^^.

As I explained in my "On Emplacing", Plato made this move in his *Sophist* to refute Parmenides' claim that we can't make false statements. Most translators of Plato use "other" in place of my [~], which may create either contradictory or contrary concepts.

<Jenny's hat is red> cannot, however, be falsified by a true statement with mere complementary concepts of ^red^ such as <Jenny's hat is *crushed*>; ^crushed^ lies outside ^~red^'s falsifying powers, per (i) – (ii)'s limits (p. 29). Conceptual negation [~] creates the incompatible property concepts required to falsify statements and to answer Parmenides' challenge. The following bi-entailment shows that [~] and [Incompatible, **!**] functors live off each other's flesh ~]:

(^C^ & ^~C) [←--→/Bi-entails] ^[Incompatible, **!**] ^C^ ^~C^^.

[Bi-entails] issues from an agent's two-way inference, which is the via attiva correlative of the via passive [Bi-entails]. The functor [Incompatible, **!**] is logically dispensible but cognoscibly useful.

^[~]Red^ creates concepts incompatible with ^red^, namely, the other ^~red^ concepts, {blue green ..}, in ^colored^'s subsumed range, (i). Also, the concepts subsumed by ^~red^ concepts, (ii), are incompatible with ^red^. ^Blue^ subsumes ^azure^; hence, ^red^ and ^azure^ are incompatible; thus, <Jenny's hat is red> is falsified by the true <Jenny's hat is azure>. This falsification power applies to any concept subsumed by the ^~red^ concepts in ^colored^'s range, such as ^yellow/*canary*^, ^blue/*cobalt*^, ^…^. But, since ^~red^ does not subsume ^crushed^, ^red^ and ^crushed^ aren't incompatible by (i) and (ii)'s limits. That explains why <Jenny's hat is red> isn't falsified by <Jenny's hat is crushed>. Let's use this to think coherently about Frege and learn why it's incoherent rather than false to predicate numerical properties or relations of Herr Frege.

<4 is greater than 2> is coherent, <Frege is greater than 2>is not. The latter violates (i) and (ii), p. 29. <Frege is greater than 2> is incoherent unless ^[Subsume, /] ^numeral^ ^frege^^ is coherent, per (i). But if ^frege^, per coherent emplacement, ^^EfregeE^ @ /Frege/^,[29] were the result of having been coherently subsumed by ^numeral^, he would also have to be coherently subsumed, per (ii), by ^integer^, ^fraction^, ^Gaussian^, or ^…^. But he isn't. Instead, we coherently subsume him under ^human^

[29] It's important to observe the easily confused distinction between ^frege^ and EfregeE. The first is not a concept of an individual identified by a congeries of 'essence' properties of Herr Frege; rather, the concept is Frege himself, EfregeE, as a coherently subsumed emplacement entity. An entity becomes a concept by coherent emplacement into a token with a unique place in lexical space.

guided by its congery of concepts (opposed thumb, lexical powers), which are but complementary to ^numeral^ and ^integer^; hence, the alethic ^-human^ complementary tropes have no incompatible, falsifying powers against <Frege is an integer> nor against <Frege is greater than 2>. Since statements can't be falsified by true statements with logically impotent complementaries, neither can <Frege is an integer> nor <Frege is greater than 2> be verified by such a complementary as ^Frege is *a human*^. So, <Frege is a numeral> and <Frege is greater than 2> are neither true nor false. That's why I consign them to the incoherent bin.

Similarly, ^greater than^ and ^married^ are complementary rather than incompatible. That's why

(F1) <Frege is married>

doesn't falsify or verify

(F2) <Frege is an integer>.

Maybe Parmenides thought negation was solely alethic and fostered only complementary predicates. If so, he may have understood that complementary property concepts can't falsify statements, hence, we can't make false statements. Plato supplied the conceptual interpretation of negation in his *Sophist*, which is why his critique of Parmenides' version of negation goes through, given that it's correct to say Parmenides thought we can't make false statements.

You can understand from this, Tom, why we mustn't ever sully conceptual negation and incompatibility with the grosser alethic negation and its complementary concepts. We can't use them to falsify or verify statements, because they consist of *any alethically negated* property concept, ^-P^, as in

(S-) <My pain is [*not*, -] harsh >,

where ^-harsh^ includes ^reverent/angular/woven/…^. This surfeit of complementary property concepts is too generous for logical purposes, especially when supplied by such abstemious philosophers as Frege and Wittgenstein. It crippled their logic of negation. This cries out for handcuffs on complementary property concepts so we can distinguish false from incoherent 'statements'. These handcuffs turn out to be ranges, ^{…}^, of concepts managed by the [Link, *****] functor interpretation of the copula in English.

To grasp what the link functor contributes to differentiating conceptual negation from alethic negation, note that the range subsumed by ^degrees(of pain)^ is {unbearable wracking severe harsh mild slight …}. We may coherently predicate/sooth any one of this range's incompatible tropes of the substantive ^pain^. The logical effects of conceptually negating ^harsh^, ^~harsh^, limits its incompatibility to the other concepts in its range (and to concepts subsumed by the others). Thus, the falsification predicates of <My pain is harsh> is more limited than the indiscriminate sweep of alethic complementary predication concepts. Also, the verification of

(S~) <My pain is ~harsh>

is limited to concepts in the range ^{unbearable wracking severe mild slight …}^ subsumed by ^degrees (of pain)^. The inclusion of any complementary property concept outside of a range in a link proposition justifies sending that link proposition to the Incoherent Bin.

^[Link, *****] …severe mild … irreverent …^ is so condemned.

While <My pain is *irreverent*> boasts a complementary predicate to <My pain is *harsh*>'s predicate, the [Link] functor restrains this complementary excess. It limits propositional coherence to subsumed degrees of pain registered in ^{unbearable …}^. Failure to distinguish complementary from conceptual negation condemned analytic philosophers to wander in the sere wilderness of positivism and in predominately truth-oriented accounts of 'meaning'. They lost nearly a century of more productive output. To their credit, they ushered Absolute Idealist windbags to their oxygen-free fate.

The [**Sooth**, **.**] copula modally *allows* us to predicate of a substantive any concept in a range linked to that substantive, *unless* the substantive is bonded to one of that range's concepts, such as ^ruby(stone)^ is bonded to ^red^, which entails the stone isn't coherently soothable to ^blue^, ^green^, …; ^[**~**Sooth, **~.**] ^ruby^ ^blue^^.

The sooth copula is familiar to you as predicating a property of an object, <My pen is blue>. Both ^[Sooth, **.**] my-pen blue (all over)^ and ^[Sooth, **.**] my-pen red (all over)^ are coherent; both are leutically allowed.[30] But we mayn't use both to make true statements about my-pen, which shows ^true^ and ^coherent^ aren't identical. It's logically important to distinguish propositions, ^…^, from statements, <…>; they play distinct roles in knowledge acquisition. The former are the interpretations we 'have in mind' when we make statements: Same proposition, same statement; different proposition, different statement.

Although ^proposition^ is bonded to ^coherence value^ and ^statement^ to ^truth value^, and although ^coherence value^ and ^truth value^ are incompatible, they're related in three ways.

(i) You cannot make a statement with a token sentence that has no coherent interpretations. The incoherent ^[Sooth, **.**] pencil hungry^ can't be used to make a true or false statement; you can't even imagine or think it. A 'pencil' with a stomach and other guts is no longer a pencil. Using a metaphorical interpretation of /hungry/, as in ^My pencil is sharpened, ready to fritter paper^ might be tolerated as fit for making a true/false statement. But, that reading of /hungry/ isn't established well enough throughout a sufficiently large population to qualify as a literal read. Many fresh metaphors drift too far from a tribe's literal lexical habits to provide reliable premises for conceptual logic's inferential algorithms we need to settle conceptual disagreements.

(ii) A true statement is a ground for the coherence of a **sired** proposition. The true statement

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[30] For brevity, I often do not use caret quotation marks around the constituent concepts of propositions when their propositions are surrounded by carets, exemplified here by these ^pen-color^ propositions.

<[Sooth, **.**] heavier-than-air-object fly>

sires the coherence of the following proposition,

^[Sooth, **.**] ^heavier-than-air-object^ ^fly^^.

This occurs when coherent emplacements into a sentence's subject and predicate tokens are identical in the true statement and its sired coherent proposition, the solitary case in which early positivists' truth theory of meaning is correct.

(iii) Sooth propositions may acquire their coherence value also by inference from coherent link combinations. The following coherent link proposition entails the coherence of the entailed sooth propositions:

^[Link, *] itch {mild annoying maddening, …}^ entails

^[Sooth, **.**] itch mild^, ^[Sooth, **.**] itch annoying^, ^[Sooth, **.**] itch maddening^, ^…^.

[Link]'s [Enjoined to] modality is a passport to [Sooth]'s [Allowed to] modality. An enjoined link proposition offers optional travel paths in lexical space between a substantive concept and the several concepts in its coherent range, as travels, for example, between ^itch^ and the concepts ^mild^, ^annoying^, ^maddening^.

There may or may not be coherent emplacements for sentences with /dog/ and /growling/, /cabbage/ and /boiling/, /king/ and /hesting/,[31] but, if there are, the leutic modalities of the propositions' functors are a determining factor in their coherence value and our travel plans in lexical space. The sooth functor is a more sophisticated version of what has traditionally been called predication or attribution, such as <The mouse is gray> attributes a color to a mouse. Its copula functor differs from the subsumptive functor in <A mouse is a mammal>, which we use to relate substantive concepts: ^[Subsume, /] mammal mouse^. We use the subsumptive function, also, to relate trope concepts. Both differ from the negation functor in <Red is ~green>, which establishes the incompatibility relation between trope concepts, <^[Incompatible, **!**] red ~red/green/blue/green/…^>. There's more on the different logical features of the diverse functors/relations coming up later in this Appendix. You'll be properly if not wholly sated, Tom.

Two-Place Predicates

I'm detouring from the subject-predicate focus I've featured so far, because an adequate conceptual logic has to accommodate *two-place+* predicates—but not definitively here. This detour is totally provisional and suggestive, Tom.

Nothing is more conceptually opaque in our epoch than the syntactical/lexical logic of two-place+ predicate sentences, except, probably, the opacity of theological and popular religions' 'interpretations' of their literature's terms. I ask 21st Century philosophers

[31] See the sixteen emplacement profiles outlined in "On Emplacing", Second Conversation, pp. 43 and 55.

to make it the *2-Place Predicate Epoch*![32] Refinements of what follows, hopefully, may come in following wavelets, unpredictably stealing through the lexical fog left over from the 20th Century. Whatever help readers can supply will be welcomed with deep-bowing gratitude. It's gonna' take a village, Tom.

I caution you against a common, serious mistake from the start: It's incoherent to classify all two-place+ predicates as 'relations'. Here, I distinguish two kinds of such predicates: (i) *ordering predicates* (left of, earlier, ordered pairs) in contrast to (ii) *alloyed predicates* (broke, arrived). I don't claim these two kinds exhaust the field.

Ordering Predicates

The ordering predicate, /left of/, in

(P left E) /the pliers are left of the egg/,

is a functor/predicate. It invites us to *do* something, namely, **order** /pliers/ and /egg/ as in (P left E) above or as in (E left P) below:

(E left P) /the egg is left of the pliers/.

We also have an ordering predicate in (0 earlier 1) below,

(0 earlier 1) /11:00 is earlier than 11:01/;

it invites us to coordinate the **order** /earlier than/ with the spatial order of our watchs' and clocks' hands and numerals.

Ordering relations have no independent existence outside our cognitive and practical acts; we use them to promote ways to **order** substantives to each other and to order tropes/properties to each other. Our uttered sentences are grammatical/lexical acts we ply with relation *functors*, [Left/Right of], [Earlier/ Later than]. Ordering acts are neither property/tropes nor substantives. So, ^left of^ and ^earlier than^ are not concepts but functors, advisements for ordering substantive (S S), trope (P P), and substantive-trope (S P) tokens, and their interpreted rewrites. Ordering relations call for cognitive and physical acts of ordering, period.

Ordering relations have no material powers; pliers, qua just being-to-the-left-of an egg, break no eggs; hence, they have no material existence. They differ from the alloyed predicate concept, ^broke^, in

(P broke E) <The falling pliers broke the egg>,

which is shameless in its physicality.

Alloyed Predicates

Too often alloyed predicates are classed with ordering predicates, as if they were one and the same. That's wrong. In (P broke E), /broke/ is an **alloyed** predicate, because we use it to perform two offices.

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[32] Perhaps sentences with three-place predicates may be expanded to conjunctions. Tom, help me on this one; I don't know the literature. ^Jack gave a present to Jill^ may be rewritten as ^Jack *gave* a present & it was *for* Jill^. Here we have three substantives, /Jack/, /present/, /Jill/. Language users tend to compress expressions for brevity's sake and for easier comprehension, so they drop the /&/ and its attendant redundancies. (Cf. the Grimm brothers' charted changes in linguistic habits.)

(i) to specify the concept of the physical event, ^broke^, which we may sooth of ^pliers^ and ^egg^, ^[Sooth, **.**] ^broke^ (^pliers^ ^egg^)^; and

(ii) to order the substantives: As ^[Sooth, **.**] ^ [Broke] (^egg^ ^pliers^)^? Which broke the other? Both orders are coherent but the first is more likely to be true.

Here's another way to describe these alloyed predicates' offices.

(i) Reading /broke/ as ^broke^ in (i), it's the **concept** of a substantive, a dynamic *event*. The pliers falling on the egg caused a breaking event, a material energy exchange.

(ii) Reading /broke/ as **[**Broke**]** in (ii), it's a **functor** we use to perform the offices of *ordering* the substantives of an event; the pliers broke the egg, not vice versa.

I'm not sure /^[broke]^/ is a happy, although suitable, way to symbolize alloyed predicates' double offices. Too many new symbols confuse readers. Perhaps it's better to symbolize them simply as ^broke^, because readers who've been alerted to it's additional ordering office incorporated into their understanding. I'll follow the second here to simplify, but may opt to use the first if needed to avoid lax interpretations.

2-place propositions and statements may be coherent or incoherent.

^ Frege is greater than 2^ is incoherent as noted above; hence,

<Frege is greater than 2> is also incoherent.

^Frege is younger than Wittgenstein^ is coherent; hence,

<Frege is younger than Wittgenstein> is also coherent, but false.

The next task awaiting work on conceptual logic is to provide a logic for 2-place propositions as I've done, at least partially, for one-place propositions. This is something I or you must do, Tom with welcome to whomever. Try this as a model procedure.

^ Greater than 2 1^, ^ Greater than 3 2^; hence, ^ Greater than 3 1^. It's often said this inference's validity needs another premise: <Greater than *is* transitive>. But no one gives us an interpretation of this premise's copula. Is it [Bond], [Sooth], […]? From a familiar explanation of alethic ^validity^, the truth of a valid argument's premises necessitate the truth of its conclusion. However, because [Necessitate] is an alethic modal, it's unfit to be a premise in a conceptual argument whose constituents are propositions rather than statements. The conceptual modal substitute for the via passive alethic [Necessitate] is the via attiva [Enjoined to]; and the fitting bonding functor for the ordering relation ^Greater than^ is [Bond, **:**]:

^[Enjoined] [Bond, **:**] ^greater than^ (^2^ ^1^)^.

You're enjoined to bond numerals on a greater-than basis in conformity to the Arabic numeral serial order. Thus, you're enjoined to bond /2/ to /1/ as greater than /1/.

From whence comes this bonded [Enjoined to] in the present example? From the Arabic numeral order /0/, /1/, /2/. /3/, /…/, which is the mother of all numeral transitivity. We're enjoined, according to the lexical imperative, to respect that order, if we want to be in sync with other numeral crunchers,; if we do, we're all assured the inference is valid. Since the premises mirror the Arabic numeral series, by continuing to respect the ^greater than^ ordering, you're lexical travel on the series /0/ to /1/, /1/ to /2/, /2/ to /3/, takes you

to /3/, which, being beyond /1/, *shows* you may validly infer the conclusion of the above inference. /3/ is greater than /1/ because it's later than /1/ in a left to right lexical trip.

It's not the 'missing' premise's declaration of transitivity that guarantees the validity of the inference. Rather, it's our respect for the numeral ordering that provides the needed transitivity. The textbook premise is a via passive report of our via attiva shared habits of counting. If humans didn't share these lexical/numerical habits, there would be no common numerical order to underwrite transitivity. Good bye, Eternal Numbers. Good-bye, from we mortal props of our shared, penciled out numerical series.

Does ^responsible for^ have a transitive order? It depends on the lexical habits that reflect a society's moral and legal system. Some hold *individuals* only are responsible for their acts; others hold family or tribal members are *collectively* responsible for their ancestors' acts, "until the seventh generation thereof ". Collective responsibilty is an enduring feature of tribal feuds, of revenge, reprisal, an eye for an eye moralities. In collective responsibility societies, ^Responsible for^ is transitive up to X generations. In the United States it is not; there a child isn't legally responsible for his father's having murdered a neighbor. Collective responsibility flourishes in the Israeli-Palestinian conflict (2009); it's not a dead letter in the transitivity of ^responsible for^.

In general, the usual features of ordering relations--transitive, symmetrical--aren't endemic to 'relations;[33] they're terms we use to report on our habitual lexical allowances and restraints on the ordering of two-place predicates' substantive terms, just as we report on our numeral series' ordering with such concepts as ^before^, ^after^, ^successor of^, ^greater than^, ^farther from^, and ^closer to^.

Events' energy exchanges are asymmetrical; a cause event is not an effect event nor vice versa); exchanges pass the asymmetrical directions of causal events into serial processes--and then the egg stained the table, proximate versus remote causes--as in the serial run and rack of pool and billiards. However, this serial order may not correctly characterize biological energy exchanges, as in the reciprocal exchange when bees pollinate plants and plants' flowers yield honey makings. Biological and mechanical exchanges may differ. I say no more here. I'll check with my friend, Rudi Mattoni.

Although alloyed two-place predicates' ordering and conceptual offices are distinct, they have intimate conceptual connections.

(a) ^Dynamic event^ and ^energy exchange^ are bonded to ^cause of^, which subsumes ^broke by^. Events cause subsequent events; falling pliers cause breaking-egg events, on-time arrivals occur because rail lines were accident-free and departures were punctual. Processes are multi-strings of caused events recorded as narratives, histories,

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[33] Ordering relations don't materially exist except as tokens' positions in cognitively dependent temporal (before/ after) or spatial (left/right) order of spoken or written tokens. Shared, habitual token orderings are the ur-source of the various clar-acterizations of 'relations' commonly listed in logic texts (transitive, reflexive, symmetrical, …). The validity of ^^greater than 2 1^, ^ ^greater than 3 2^; hence ^, ^greater than 3 1^ doesn't rest on ^greater than^'s endemic transitivity, but on the report's being a true account of speakers' shared, via attiva, lexical habits as *exhibited* (not stated) in that inference.

reports of experiments; and so forth, if there are any 'so forths'. (b) ^Cause^ has been overwhelmingly considered asymmetrical, with exceptions. The substantive concepts, ^pliers^ and ^egg^, of (P broke E), are *reordered* in

(E broke P) <The egg broke the pliers>,

which is coherent, but implausibly true, although one tough ostrich egg and a fragile ceramic pliers could have deeded us different truth conditions:

(E broke P) <The (ostrich)egg broke the (ceramic)pliers>.

In these lights, consider the alloyed ^transports/carries/conveys^ that bear an ordering functor (the carrier versus the carried). Here's a logical narrative of some concepts in the following, joyous parade of conceptual inferences.

` The asymmetrical ordering functor residing in the ^transport^ concept (trains carry goods but not vice versa), leutically enjoins us to (1) **bond** the substantive concepts ^vehicle^ and ^goods^ to ^transport^ in that left-to-right order. Then, via the offices of the (2) **subsume** and (3) **link** functors, we reach the conclusion (4) that we may coherently **sooth** any concept in ^vehicle^'s range to any concept in ^goods^'s range, unless a vehical concept is bonded to a goods' concept. ^Tanker^ may be bonded to ^oil^ for the shipping industry. I don't know; tankers do have crews and they're transported from port to port.

(1) **[Bond, :]** vehicle *transports* goods (forget free-rider insects)
/ \ / | \

(2) **[Subsume, /]** auto tanker … and person cocoa oil …

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(3) **[Link, *]** {auto tanker} *transports* {person cocoa oil …}

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(4) **[Sooth, .]** tanker *transports* people
tanker *transports* oil
auto " cocoa and so forth

These inferences show we may sooth any concept in ^vehicle^'s subsumed range, such as ^auto^ and ^tanker^, and any concept in ^good^'s range, such as ^person^ and ^cocoa^, with the 2-place property ^transports^. (Underlining marks off inferences' premise(s) from their conclusions in the descending order.)

These inferences use the copula functors [Bond], [Subsume], [Link], and [Sooth], which ride herd on two-place predicates, because ordering predicates enjoy an auxiliary role in alloyed predicate concepts, as in ^broke^ above, although not always obviously so. English speakers like other languages' speakers drift toward brevity, which calls for cutting and culling. Listen to stockbrokers' talk in the heat of a bull market.

In Part II, I distinguish via attiva lexical concoctions into sentential combinations from via passive reports of such activities. The via attiva is agent-oriented, a pragmatist's proper stance; there is no linguistic activity, that is, there's no language nor any of its

employments, without a speaker/auditor or writer/reader exchange. Wittgenstein's central shift in the *Investigations* is toward the via attive and away from his *Tractatus*' via passive. The via passive is observer-oriented, which, unfortunately is the almost universally adopted stance in philosophical and logical literature. This lamentably invites expressions such as <"Water" refers to water> and <This word means …>, as if words could do these things. Imagine! Even logicians and mathematicians and philosophy teachers too often fail to distinguish the concept ^infer^ from and ^imply^ and ^entail^, and animate beings that can 'mean' from inanimate ones that cannot. That's,why we often hear "Are you implying that…" when they should be saying "Are you inferring that…". Lazy writing habits lead to bad logic and in due course to bad metaphysics and, worse, to harmful moral acts. A statement *implies* another, but a person *infers* from one statement to another. When a via attiva inference is valid, then, but not before, one may make the via passive claim that one statement (or more) entails or implies another.

Bondage

Anyone who uses the bondage copula *enjoins* us to combine a substantive and a property concept, anyone's use of a soothage copula *allows* us to do or not to do so. [Enjoin to] is a via attiva conceptual logic modality, which is one of what I call **leutic** modalities. They're modalities of copular lexical acts. [Enjoined to] replaces the truth logic via passive modality [Necessary]. For my contrast of [Necessary] and [Enjoin], go to this Appendix's Leutic Modalities, Part IV, p. 104ff.

A substantive concept may be bonded to one or several property concepts.
If to several, it's bonded to a congery, a conjunction of property concepts.

I explain ^congery^ more fully below than I did above. It's reducible to a conjunction of bondings of various lengths; contradictory congeries are not a congeries, because a substantive may be bonded to but one of two incompatible concepts, ^[Bond] ^corpse^ ^dead^^. Check ^dinosaur^ for a very lengthy congery.

<^Marsh^ is bonded to ^wet^> reports an enjoined predication. If an area of land isn't wet (^~wet^), you're enjoined not to call it a marsh. [Bond] superficially resembles [Define]. [Bond] is a copula between substantive and property concepts whose modal status is [Enjoined]. [Define], on the other hand, is wildly differentiated. Bierman and Assali identify twelve methods for defining, each resulting in a different kind of definition.[34] Philosophers are fond of genus-species definitions which they often use to identify an entity's 'essential' properties; they use them as modal gatekeepers to sift 'essential' kernels from 'accidental' chaff; 'essential' properties serve them as grounds for 'necessary' truths, a view that Quine justly maligned. Aristotle still sways this crew. Truth logic's only partially redeemable modal is [Possible] for statements of contingent 'facts'; it appears in my conceptual logic as modally [Allowed]. [Sooth] interpretations of the

[34] *The Critical Thinking Handbook*, pp.326 - 329

copula, as in <[Allowed] [Sooth, **.**] Socrates dead> and in <[Allowed] [Sooth, **.**] Socrates ~dead>. [Allowed] is act-oriented; [Possible] serves logical spectators.

^~Wet^ negates a 'necessary' gatekeeper for ^marsh^, but not a sufficient one. If ^wet^ is bonded to ^marsh^, it's an [Enjoined]/'[Necessary]' condition. ^Spongy (soil)^ is another enjoined condition, part of ^marsh^'s congery. An area that carries all the congery properties of ^marsh^ satisfies the 'sufficient conditions' for coherently emplacing that area in /marsh/.

^(Euclidean) Figure^ subsumes ^triangle^. Proponents of old-speak 'necessary predication', the friends of 'essential' geometric properties, take courage from the species part of genus-species definitions; they may do so unwittingly, however, unless they know that ^genus^ utilizes [Subsume], ^[Subsume] ^figure^ ^triangle^^, and that ^species^ utilizes [Bond] and [Incompatible],

"(Euclidean)triangle" = df. ^closed(figure), rectilinear, three-sided^.

The species part of this definition, ^*three-sided*^, is bonded to ^triangle^. The Euclidean ^triangle^ is bonded also to ^closed^ and ^rectilinear^. Bonding ^triangle^ to ^three-sided^ specifies (^species^) its incompatibility with ^square^ and ^parallelogram^, whose bonded concepts also include the inherited ^closed^, and ^rectilinear^ from (Eu.)figure^.

Triangle ^[Bond] [^(figure)^ ^[closed rectilinear 3-sided]^>

Square ^[Bond] [^(figure)^ ^[closed rectilinear 4-sided/~3-sided]^^.[35]

Because ^triangle^ and ^square^ are bonded to incompatible species concepts, ^3-sided^ and ^~3-sided/4-sided^, ^square^ and ^triangle^ are incompatible. I0 use [~] to differentiate concepts. Sans [~], we'd affirm with Sir Toby Belch in his cups that our universe is conceived as "It's all one". Which raises the question, <Was Parmenides a drunk?>.

Congery

When Socrates asked Theaetetus what knowledge is, he was asking him for a property or a **congery** of properties to which ^knowledge^ is bonded and to which no other congery is bonded. If Theaetetus can provide the bonded property concept(s) he will understand why the various examples of knowledge he cites--mathematics, astronomy, shoemaking--are or are not examples of it. If concepts on the list share a congery, except for differentiating concepts, they're subsumed by ^knowledge^. Frege appeals to his metaphorical "falls under" for a similar feat; however, because he didn't distinguish his subordinate from the subsumptiove functor nor conceive of a congery of propert concepts being bonded to substantive concepts, he couldn't literalize his metaphor. He was too focused on truth value, as most epigones are, to notice coherence value.

In asking that question, Plato's Socrates supposed property concepts have priority over substantive concepts in lexical space. He's right about that. Substantive concepts are **nominal abridgments** of bonded congeries of property concepts. This is basal for

[35] I use square brackets, […], to surround *congeries* of concepts in contrast to wiggle brackets, {…}, that I use to surround *ranges* of concepts.

idealists, most specially Berkeley. I take this as a conceptual stance that entails nothing about existence of matter. English substantive concepts, except for proper names and their pronouns, are kind concepts. Because they're bonded to property concepts they tote 'kind' generality. An object concept bonded to a congery of property concepts acquires these properties' 'any' generality, because congeries' word types may have numerous emplacements, as "cardinal", for example, may have many trope emplacements.

"colored"
[Subsumes] |
"cardinal"
[Subsumes] / | \
1-EcardinalE 2-EcardE 3-EcardE E…E tropes

We may coherently emplace any cardinal trope, E1-cardinalE…En-cardinalE into any cardinal token, 1-/cardinal/…n-/cardinal/. Because the similarly interpreted /cardinal/ tokens are counted as ONE concept, ^cardinal^, these tropes are counted as ONE property. With the ONE concept-property and the MANY-ANY emplacement-tropes, we erect a kind-concept home for cardinals' robes. A numerosity of cardinal tropes and the [Any] determiner confer generality on /cardinal robe/ and turns it into a substantive kind-concept, ^cardinal robe^, which is a nominal abridgement of its congery. Wherever and whenever robes may be, if ^cardinal robe^ is congered to the list of its bonded property concepts that includes ^cardinal(color)^, this trope concept seals ^cardinal robe^'s status as a kind-concept.

I use the determiner [Any] as George Berkeley did where his alternative to a general word's being a "sign" of an "abstract idea' is its being a "sign" of any "particular ideas" "indifferently" suggested to the mind. He held this supported nominalism, as do I.[36] At the risk of insulting your memory with undue repetition, recall that because *any* trope *any* where at *any* time that may be coherently emplaced in a property token /P/ this token may be interpreted as ^P^; ^P^ counts as a distinct property concept because these tropes are *counted* as ONE property. That concepts of properties must be kind-concepts of substantives follows from what I said in our conversations about the difference between the way we individuate objects and properties; a one-count property *is* any trope that is coherently emplaceable in a token of a property concept, /limp/, wherever it is at any time. An object, on the other hand, is at but one place at a time; so, it's but one of a 'kind'; it's a particular, because it lacks the 'indifferent' generality of its kind concepts.

By the way, don't get all agitated just because I plump for proper name concepts, Tom. As you'll see, my reasons for thinking there are such concepts differ from those that have been touted and disputed for decades. Proper names have places in a lexical system; since having a location in a lexical place is what turns a sound or ink mark into a

[36] "But it seems that a word becomes general by being made a sign, not of an abstract general idea, but of several particular ideas, any one of which it indifferently suggests to the mind". *Principles of Human Knowledge*, Introduction, Section 11. Read also Sections 12. and 15. There you will find one of the clearest and most cogent cases for any-nominalism.

concept, putting /Socrates/ into a lexical place marks where we may coherently emplace Socrates. ^EsocratesE @ /Socrates/^ turns EsocratesE into ^socrates^. The lexical place for /Socrates/ is in a subsumed place under /person/, where the transmuted ^Socrates^ inherits the congery of concepts bonded to ^person^ rather than those bonded to ^parrot^. The location of /Socrates/ and EsocratesE by emplacement in /Socrates/ in a place in lexical space is what counts toward a concept in a structural theory of concepts.

That substantive concepts are bonded to the several property concepts in a congery is often forgotten. The substantive ^juror^ is bonded to a congery of adjective concepts, a point raised explicitly during the impeachment proceedings against U.S. President Bill Clinton. Charles E. Weisselberg wrote: "The senators judging President Clinton bear little relation to modern jurors. In this country, in this century, jurors do not start the case with firmly fixed views about the evidence. Nor do they have a political stake in the outcome of the case. And they certainly do not appear on television to discuss the case while they sit in judgment." [37]

A juror is a person "qualified" to serve on a trial jury; "qualified" nominally abridges the congery of adjectives Weisselberg lists for ^modern jurors^. His argument is conceptual; interpret its conclusion as <^Senators are jurors^ is incoherent>, because it violates the congery of property concepts for ^juror^; the senators did not have the required properties the ^qualified^ congery specifies. For another congery example, see a decent dictionary entry of "bird". ^Canary^ inherits all the bonded predicate concepts of its subsuming concept, ^bird^, which is another reason why substantive concepts may be bonded to many property concepts in a congery. The farther down we travel on substantive subsumption pathways, the longer their kind-congeries are.

Categories/Determinables[38]

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[37] *San Francisco Chronicle*, 19 January, 1999

[38] ^Category^ is so fraught in philosophy's history as to make it a seriously useless concept for present purposes. W. E. Johnson broke free of its mesmeric hold with his introduction of ^determinable^ and ^determinate^. ^Color^ is a determinable, ^blue^ a determinate. I interpret these as, respectively, subsuming/subsumed predicate concepts. He gives pride of place to ^determinable^ and ^determinate^ predicate concepts over substantive concepts. I agree. We individutate substantive concepts with their congeries of determinable and determinate concepts. Johnson contrasts determinables/determinates with "the traditional account of the principles of logical division where a class (of substantives) is represented as consisting of sub-classess". (W. E. Johnson, *Logic, Part I*, p. 173; Cambridge, Cambridge University Press, 1921, Reprinted 1940.) He favors 'intensional' versus 'extensional' interpretations of adjectives and nouns for logical purposes. He remarks in his "Preface" that Mill's *System of Logic* is "subjected to important criticism, mostly on the lines of the so-called conceptualist logicians". See Part I, Chapter I, "The Proposition", p. 15, for his conceptual account of ^incompatibility" of concepts and propositions that he says lie "at the root of the notion of contradiction". He explains ^determinable^ in Chapter XI of the same volume. Johnson's work is, regrettably, so little read that I hesitated to use his "determinable/determinate" terms in place of ^category^; I'll use the latter sometimes for brevity. His distinction sits cheek-by-jowl with my subsuming/subsumed properties. I first ran across his *Logic* in the University of Michigan library around 1948; it evidently left imprints on me of which I've been unconscious until now (2007). Think of his *Logic* as a philosophy of logic with metaphysical riches.

> "...It seems obvious that in any given linguistic system lexical entries enter into intrinsic semantical relations of a much more significant sort than is suggested by what has been said so far."
>
> --Noam Chomsky, *Aspects of the Theory of Syntax* (p.160)

^Congery^ inherits the vexed 'category' question: Is there a congery of the most general property concepts that are sufficient for us to conceive in the most general way any substantive entity in the world? There is, if we possess all the concepts these categories subsume, and have mastered all the coherent functorial ways of combining them with substantive concepts. Each fact in Wittgenstein's "totality of facts" would be conceivable and so would is each fact in the totality of what "is not the case." (*Tractatus*, 1 – 1.12) The way I've put this question assumes

(i) the grammatical distinction between subject and predicate,

(ii) that ^substantive^ concepts take the subject position(s) and ^property^ concepts take the predicate position in sentences,

(iii) that ^property^ dominates ^substantive^, because substantive kind-concepts are bonded to conceptual congeries of properties, which congeries we use habitually, usually unconsciously rather than deliberately, to identify and emplace substantives in kind-words' tokens, even though the congeries may be incomplete and its concepts embryonic,

(iv) that determinable/determinate concepts take only the predicate position, and

(v) that we can identify the most general, minimal, but full list of determinables.

Here are comments on and some arguments for and against these assumptions.

(i) and (ii)

Assumptions (i) and (ii) may be sloganized as:

Subject/substantive concepts Predicate/property concepts.

Thinking about categories/determinables begins with the subject/predicate grammatical division. It provides relative positions in some languages' sentences into which substantive and property concepts and their rewrites, respectively, may be found.

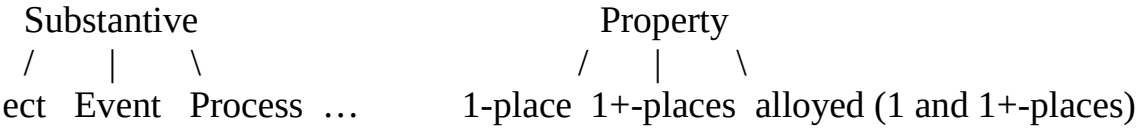
I was schooled in Madison, Nebraska, except for three grades spent in the one-room, Red School House midst farms five miles west and two miles north of Madison. The Lutheran elementary parochial school I attended in Madison was also one-room. Later I spent several weeks one summer in the town's Carnegie Library reviewing grammar. I'd never felt competent at diagramming sentences and thought I was mentally inadequate until I ascertained that traditional English grammar was deficient, which I learnt only after I'd studied Aristotle's *Categories* and *Metaphysics*, and taught his logic as filtered through several historical eras. The combination of impaired grammatical distinctions and Aristotle's shifty categorial system were instructive but not comforting.

As you've probably noticed, Tom, I've wavered above between ^object^ and ^substantive^ as the lexical mates for English grammar's ^subject^. I've wavered between

^Subject/substantive^ and Subject/object^. It's because I was tempted to do some category metaphysics, although less tempted than Saint Anthony was by his feverishly imagined female flesh; it distracted me from my present sole mission of providing a conceptual logic *canon* for people better equipped to do serious metaphysics than I am. Whatever categorial structure of concepts I show here, please, it's for introductory, illustrative purposes only. However, I hope it's not so far off that it lessens your confidence in my proposed conceptual structures for English.

If you check out my list of functors on p.9f, you'll notice that my partial, double-pyramid simulacrum of lexical space, like Descartes' algebraic geometry, has vertical and horizontal axes, x and y values. (A) and (B) functors align vertically, (C) functors horizontally. The vertical functors hold between (i) subject concepts and between (ii) predicate concepts—[Subsume-Emplace], [Incompatible]/[Counter/Negate], [Identify]. The horizontal functors hold between subject and predicate concepts--[Bond], [Conger], [Link], and [Sooth].

I prefer ^Substantive^ as the highest lexical subject, because it coherently subsumes ^event^, ^act^, and ^process^ as well as ^object^. In your wisdom, Tom, you may wish to subsume others. Doing categorial metaphysics requires more knowledge about nature, including humans and all their works, than I have. Whitehead may have been the last philosopher equipped to do it well, as in his *Process and Reality*.



I prefer ^property^ as the highest 'predicate' concept, because it coherently subsumes ^1-place^ property concepts, dominated by ^quality^, ^1+-place/ordering relations^, such as ^larger^, and ^alloyed^ concepts. Alloyed concepts combine event and action components and their ordering. ^Transport^ describes what's being done, as in /Tankers transport oil/, which differs from /Oil transports tankers/, because it reverses the order of what's doing the doing to what. ^Transport^ is an alloyed property; it combines a description of something done and includes the order of substantives doing from that of done-to. Logicians and grammarians often think of alloyed properties as relations only.

(iii)

Congery assumption (iii): "^property^ dominates ^substantive^", because substantive kind concepts' identity resides in the conceptual congeries to which they're bonded. We use congeries, mostly unconsciously, to determine which entities we may coherently emplace in substantives' kind tokens, such as /hiccup/, even though its congery may be incomplete and its concepts imprecise.

^Hiccup^'s congery includes ^involuntary, ^spasmodic^, ^glottalized^, ^sharp hic sound^. We use these approximate congery concepts to identify hiccups. The ubiquitous use of congeries whose concepts are subsumed by determinables (^spatial^, ^temporal^,

^quality^ …) is why substantives (^object^, ^event^, ^act^, ^process^ …) are **kind** rather than categories although both are nominal abridgements. Contributors to lexical systems, such as molecular biologists, use new substantive concepts to spawn new congeries; they use property subsumption pathways and bondage to elaborate, identify, and distinguish substantive kind-concepts. We sort sensibly observed substantives by coherently emplacing properties in congeries' tokens, such as ^trifoliate^ and ^spherical^. Inferentially diserned congeries enable us to identify such non-sensibly presented substantives as quarks. Remember the "theoretical entity" disputations in the '50s, anybody?

Some, headed by S. Kripke, think we can't coherently use congeries to emplace entities in proper names coherently; individuals have no congeries and can never have them. His notion of ^rigid designation^ for the referents of proper name tokens, /Saul Kripke/, unlike /gold/ and /water/, debars them from being bonded to 'essential' concepts; they're only soothed to 'contingent' property concepts. Kripke is a philosopher, but he might not have been. Even if he were not, because his being a philosopher isn't 'essential' to his identity, he would still have been Kripke. No conceptual description of an individual can prevail over the identification of it by the 'rigid' relations between it and its name, according to Kripke. Every conceptual description of an individual is contingent, the name's 'rigid' designation is necessary.

He's right, individuals, human and non-human, creatures and plants aren't kinds; they're distinct. But, there are two wrong turns in his story that strip his beguilingly simple account of proper names' roles in our cognitive life of its plausibility. The first one isn't news, the second one is.

First, individuals aren't rigidly designated by their 'proper names' only; they have other familiar, unique rigid relations that are more practical, reliable, and conceptual than the name-entity relation. Dental records, birthdates and -places, parentage, fingerprints, DNA profiles, scars, tattoos are used by coroners worldwide to identify the coherent emplacements into /Maximus Em as individuals' *unique* identifers; they're as singular as the individual bearing them. They have *distinct* versus kinds' *shared* tropes . Tom, check your birth certificate, please. Verify your name. Now? Well, as soon as possible, if you're anxious about knowing your name. In fact, unique identifiers not only may be used to identify an individual but also to ascertain its proper name, if it has one. "Yes, it's Martin Bormann, or at least it's Martin Bormann's remains."[39]

First, there's the dental match, then the recovery of the remains' birth name, which is useful for legal and historical purposes. The remains would not have been identified as Martin Bormann's if there hadn't been the dental match. It's true, Martin mightn't have

[39] Here's an excerpt from Katherina "Katie" B. Altendorf's obituary: "Born on Dec 26, 1908, in Neufra, Germany, Katie was one of 12 children. Katie was the beloved wife of the late Willie Altendorf; and the loving mother of the late Robert Altendorf, Sr.; dearest mother-in-law of Betty Altendorf; devoted grandmother to Robert, his wife Colleen; Denise, her husband Mark; and Paula; cherished great-grandmother to Mark…" The list of relations to other persons continues. I think enough has been quoted to convince reality-oriented identifiers that individuals have unique identifiers whose conjunctive power grows withs accretions.

had that dental work, but neither mightn't he have been so-named. Both are contingent; so, neither supports necessity, synthetic or otherwise. Emartin bormannE was as contingently tied to his name, /Martin Bormann/, as to his dental work. The person in question might have been named /Paddy Borman/; in that case the remains with the same dental work would have been Epaddy-bormann remainsE. Names, /…/ can be shuffled off and on while the individual, E…E, remains itself; so, rather than tracing the rigid history of a name for identification purposes, it's the individual's unique history that must be traced, whatever his or her name. The Rosetta Stone would have remained itself, in Egypt, Paris and now London even if it had been named /Bon Basalte/. Nothing else may be that stone although its names may be replaced. This disjoint ruins names' rigidity. Rigid designation is an orphan of necessity for those who advocate a possible worlds' account of alethic modality, who need to identify individuals across all possible worlds, and who believed a rigid/necessary connection with their proper names could do the job.

Second, Kripke doesn't use conceptual logic's subsumptive structure to conceive ^referent^ as ^coherent emplacement^. Tom, you're an emplacement into /Tomasso Paradosso/ at the bottom of the subsumptive path: ^creature^/^human^/^U. S. citizen^/^Tommaso Paradosso^/^Etommaso paradossoE @ /Tommaso Paradosso/^.[40] Since subsumption is transitive, you inherit all these subsuming concepts' concergies. /Tommaso Paradosso/ carries a heavy conceptual load. You're a creature not a mineral, a human not a shrimp, an American not a Peruvian, and you're you, not me. So much for the conceptual nudity of proper names! The same point was made on p. 17f by noting that ^Socrates^ is bonded to ^person^'s congery rather than to ^parrot^'s.

(iv)

Assumption (iv), p. 20: "determinable/determinate concepts take only the predicate position", never the substantive. Here, a *genus generalissimum* or *summum genus* is supposedly a property concept, not a substantive-kind concept nor a substantive category (mind, matter) in my conceptual logic, contrary to Aristotelian theory. Substantive concepts are identified by congeries of property concepts.

^Property^ isn't a determinable; it's a predicate, a grammatical concept with lexical promise, just as ^substantive^ is the grammatical ^subject^'s lexical promise. Property concepts are bonded, linked, and soothed to substantive concepts, never to each other nor to their subsumed concepts. Standing alone, these grammatical place-holders are empty; they grow full when we emplace determinable and determinate concepts in their designated places. The determinable ^colored^, with its subsumed determinates, ^yellow^, ^red^, ^blue^, …. fatten ^property^. The grammatical pair ^predicate/property^, placeholders for property determinables and their determinates, when buttressed by bond, conger, link, and sooth functors bring substantive beings and their subsuming kinds into cognized existence.

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[40] For explanations of emplacement, ^E…E @ /…/^, see footnote 24 on p. 9, and p. 115f.

(v)

Assumption (v), p. 20: "we can identify the most general, minimal yet complete list of determinables". This assumption is very hard to satisfy. It's never been done convincingly for or by any partisans. As a farm girl, Tom, the sheer, harsh, demanding physicality of farm work overwhelmed the dualism promoted by Luther's versions of Catholic bureaucracy's theology. My exhausted body's mind paid scarce heed to its soul.

Materialists allow only ^material^ as a *summum genus* property concept, and idealists only ^mental^. For materialists, nothing answers to ^~material/immaterial^, which some render as mental, spiritual, or soulish property concepts, and who claim there are no subsumed tropes to emplace in /~material/. Idealists, such as George Berkeley, counter this with the claim that nothing answers to ^~mental/material^, This isn't unreasonable for a church Divine; it's more plausible that a worshipped, cognizant deity can create 'ideas' than that it can create matter. The mark of a *summum* concept for monists, whether it's material or immaterial, is that its negation has no coherent emplacement.

Both schools may deny there are any such material *summum genus* substantives as ^time^ and ^space^. Kant was a champion of this view. Instead of counting them as substantive concepts, he enrolled them as epistemological intuitions, not abstracted from experience but counted among cognizant agents' given capacities: The intuition of space provides "the form of all phenomena of the external senses", and the intuition of time "the form of the internal sense", simultaneity and succession.

For me, as a materialist, the ground zero emplacement of a trope into a /P/ token is the physical act of emplacing a substantive bearing that trope into a /P/ token. Take the token sentence /Butter is slippery/; you can emplace EbutterE into the place occupied by its subject, /Butter/, and you can emplace EslipperyE into the place occupied by its predicate, /slippery/. Emplacing a warmed chunk of butter into /butter/'s place is coherent. If it carries a slippery trope into /slippery/'s place, you have the coherent proposition

^EbutterE @ /butter/ & E(butter)slipperyE @ /slippery/^.

This coherent emplacement proposition entitles you to say <<Butter is slippery> is true>.

By contrast, numbers for Frege and Goedel, unlike token numerals, are substantive immaterial, atemporal, aspatial denizens of a 'third realm'. Materialist nominalists object: Agents' can physically emplace numerals but not numbers in tokens; numbers cannot carry 'third realm' tropes into property tokens; so, there's trouble in the Third Paradise.

As long as only determinable concepts occupy the grammatical position for ^property^, as in the pyramids on p. 10, there are no subsumption pathways under them until they're fleshed out with subsumed determinate concepts. The same holds for kind-concepts that may occupy the position held open by the grammatical ^substantive^; an occupant may be ^object^ and its subsumed ^spool^, ^event^ and its subsumed ^thunder^, ^process^ and its subsumed ^growth^.

Once determinable concepts cohererently occupy a predicate position and substantives occupy a subject position, and both determinables surmount their subsumed determinates on subsumption pathways, we may discern two conceptual relations:

(a)

When more than one determinable occupies the ^predicate^ position in sentences, they become **incompatible** with each other. Conceptual negation, the incompatibility-maker, enters the categorical bureaucracy with antagonistic brio when ^property^ occupies predicate positions; ^object^ doesn't subsume ^event^, nor vice versa.. The determinant concepts of one determinable don't subsume those of another, because they, *like their determinables*, are incompatible.[41] I use the conceptual monadic functor, [Not, ~], before a binary functor; for example, ^[~Subsume, ~/] taste color^ to indicate a subsumption is incoherent. ^Taste^ doesn't subsume ^color^, nor vice versa. The general schema for [~]'s incompatibility-making is basic:

(1) **^[~/] P1 P2^ and ^[~/] P2 P1^ --} ^[Incompatible, !] P1 P2^**.

Read this as: If ^P1^ doesn't subsume ^P2^ and ^P2^ doesn't subsume ^P1^, then ^P1^ and ^P2^ are incompatible.

This is the symbolic expression of the incompatibility of concepts represented in conceptual pyramids by branching subsumption pathways. [~] is a bifurcating wedge for contradictory concepts and a multifurcating wedge for contrary concepts per "Incompatibility" (p. 11).

This schema's equivalent, transposed and DeMorganed, is:

(2) **^[~Incompatible, ~!] P1 P2^ {--} ^[/] P1 P2^ or ^[/] P2 P1^**.

The functor [~Incompatible] equates to [Compatible] by double negation: [~] + [in-]. I have no distinct functor symbol for [Compatible]; [~!] works just fine. From this equivalence, we may validly infer that if ^P1^ and ^P2^ are compatible, then one of them subsumes the other.

(3) **^[Compatible, ~!] P1 P2^ {--} ^[/] P1 P2^ or ^[/] P2 P1**.

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[41] This departs from Johnson's view that "determinables—e.g. colour, pitch, etc.—are ultimately *different*". Because *different* is equivalent to *not alike*, Johnson's "different" harbors negation, [~], which explains why "they're incomparable [incompatible] with one another…" (Johnson, p. 175, Part I) I give a conceptual logic explanation for incompatibility in place of Johnson's 'incomparable' de re try. I subsume these determinables under ^property^. The [~]s in ^[~Subsume, ~/] color pitch^ and [~Subsume, ~/] pitch color^ makes ^pitch^ and ^color^ incompatible. I surmise Johnson says the determinables ^color^ and ^pitch^ are "different" and, especially, "incomparable", because he recognizes that down the line he has to explain why we may coherently say of one and the same substantive that it is red and sweet, which would be incoherent if ^red^ and ^sweet^ were incompatible simpliciter. I will propose the solution to this problem further on: /is red/ and /is sweet/ are different *aspects* of an object, analogous to the way Plato solved the apparent contradiction of saying a spinning top is both at rest (its axis) and in motion (its periphery) in his *Republic*, 436b. Johnson needed the logical supplements of coherent [Emplacement] and conceptual negation functors; not having them, he also didn't have access to logical positivists'centerpiece, the siring relation. See p.48ff then p. 28f. for an explanation of how true sooth statements sire propositions' coherence. Objects have aspects, because they're related to different human powers; we sense odors in relation to our noses' powers, colors in relation to our eyes' powers, and so forth. Also, my pen's being 5 inches long is so in relation to my ruler's 'powers'.

If you substitute ^wide^ for schema (1)'s P1 and ^3:PM^ for its P2, per below, you get (i)'s incompatible consequent; and if you substitute^far^ into the first schema's P1 and ^before^ for its P2, you get (ii)'s incompatible consequent:

(i) ^[~/] wide 3:PM ^ and ^ [~/] 3:PM wide^ {--} ^[!] wide 3:PM^

(ii) ^[~/] far before^ and [~/] before far^ {--} ^[!] far before^.

These entrenched lexical incompatibilities migrate upward to infect their respective parent determinables, ^spatial^ and ^temporal^:

^[~/] spatial before^ and ^[~/] temporal far^; hence,

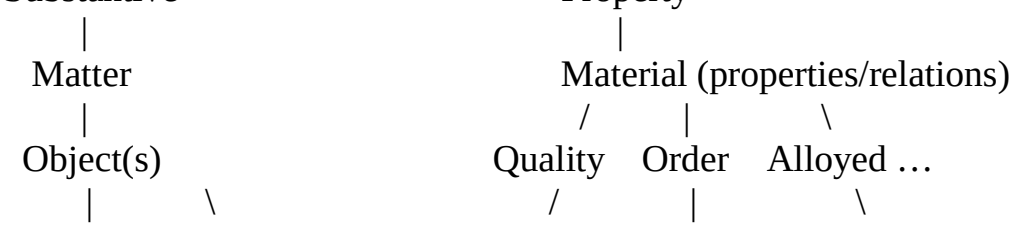
^[~/] spatial temporal^ and ^[~/] temporal spatial^.

The same schemas hold also for substantive concepts, ^S1^ and ^S2^. This example is a variation of (2) above:

^[/] animal tiger^ or ^ [/] tiger animal^ {--} ^[~!] animal tiger^.

(b)

In a monistic metaphysics, there is only **one *summum* determinable** to which a *summum* substantive is bonded. It follows that only the *summum* determinable's subsumed determinates are coherently bondable, linkable, and soothable to that monism's *summum* substantive's concept and its subsumed determinates, whatever they may be.



^Or^ stands for ^ordered^. ^S P^ might be ^the dot is red(quality)^; ^[Or] (S1 S2)^ might be ^the dot is left of(ordered) the pin^, rather than right of; ^[Or] (S1 S2)^ might be the alloyed ^the pin is sticking in(P) the dot^, versus ^the dot sticking in the pin^. I leave out ^event^, ^act^, and ^process^ as determinables under ^Matter^ here to simplify the illustrations.

Since monistic materialism admits no ~material determinables, only ^material^'s subsumed determinates are admitted into a materialist conceptual system's coherent SP bondings, congeries, links, and sooths. Locke's distinction between 'primary' and 'secondary' properties might be interpreted as his way to distinguish, respectively, between material and mental properties: ^Square^ is intrinsic to and may be coherently soothed of ^(material)object^ but ^ red^ cannot as it's not materially intrinsic but a humean "idea".

Berkeley held a monistic flush. He was clever and adroitly inventive, so much so that few have accorded him the serious respect he deserves. His formidable mental monism accosts crude materialism; he showed us how we can rethink material determinates as mental. Dualists also hold some cards. In the present context, dualists can point out that thoughts, hopes, wishes don't have the material properties of weight, length, nor spa-

tial distance from others of their kind. They can and have used these incompatibilities of material and mental determinables and determinates to challenge material monism. Note, however, that both material and mental events may be dated coherently. Time evades both monisms' as well as dualism's settled determinables, unless we take Plato's view that time is the measure of material substantives' motion, or unless we adopt Dewitt Parker's proposal that time is the measure of distance.

Each substantive concept lies on a subsumption pathway headed by the most general substantives, ^object^, ^event^, ^process^, ^act^…. They may be bonded, linked,and soothed to such material features as ^hot/~hot (chili), cleaved/~cleaved (hoof), young/old (dog), clever/stupid (remark)^. The incompatibility of determinables and their determinates doesn't, however, logically outlaw them or their subsumed concepts from being jointly, coherently bonded, linked to, or soothed of what is taken gulllibly as one and the same substantive. Plato's spinning/at-rest top seems incoherent; but a distinction in the top's parts reveals these tropes are soothed of two substantives rather than the one top, the peripheral versus the center part; each part may be soothed coherently to incompatible determinates. The following propositions are coherent even though ^spatial^ and ^temporal^ determinables and their separate determinants are incompatible.

^[Bond, **:**] object spatial/temporal^, ^[Sooth, **.**] knuckle here/now^;

^[Bond, **:**] event occurs^, ^[Sooth, **.**] knuckle-bends here/now^.

These bondings and soothings are coherent legitimations of property congeries, whatever location /here/ and whatever time /now/ designate when uttered, and whether or not the knuckle is bending here/now even though ^time^ and ^space^ are incompatible.

Congery Summary

Congery: [**:+**] S [A1 … An].

[A1 … An] is a range of **complicit property concepts**. All property concepts in a congery are bonded to the same substantive concept. I use /A/s, as in /**A**ttribute/, for congery concepts' ranges to distinguish them from link ranges' /**P**roperty/. At least one of a congery's concepts is a **determinable**; so are selected concepts subsumed by it; any other complicit concepts are other determinables and selected concepts subsumed by them. The congery/link distinction is important for the validity of some conceptual inferences.

> If a ^Px^ from a link range, {P1…Pn}, is a congery attribute bonded to a substantive ^S^--^[Bond, **:**] S Px^--the remaining ^P^s from the link range cannot be soothed coherently to ^S^.

For example, ^red^ belongs to the gem ^ruby^'s congery--^[Conger, **:+**] ruby red^; so, we cannot coherently sooth ^green^ of the substantive ^ruby^. ^[Sooth, **.**] ruby green^ is incoherent.

(i) Determinables reign atop subsumption pathways under ^predicate/property^;

(ii) determinables are incompatible with each other; their subsumed determinates are incompatible with other determinables and their determinates;

(iii) a congery's range, ^[A1 … An]^, consists of complicit property concepts, both of diverse determinables and of germane selections from their subsumed concepts;

(iv) each complicit concept in a congery is *bonded* to the same substantive concept,

(v) which we use to distinguish distinct *kinds* or *sorts* of substantive concepts.

End of Congery Summary

With (v) I claimed there are no *categorical* substances, only *kinds* of them, a consequent of this conceptual logic. Descartes was wrong to claim that his ^[**:+**] [extended ~thinking]^ congery for ^matter^ versus his ^[**:+**] ~extended thinking^ congery for ^mind^ established different ontological categories for substances. It's been a disastrous confirmation of Christian theology's hold on Western culture. By raising different kinds of substantive concepts to the level of *categorical* concepts, he walled off more capillary investigations of property concepts needed to distinguish *kinds* of substantives. The flurry of the last sixty years (2009) effort to quell substance-dualism's toxic clout with identity, reductionist, and anomalous theories were philosophers' vain efforts to repair Descartes' blunder. Flying by the seat of their pants, without a conceptual logic canon to guide them, they nourished a conceptual jungle where we wanted a garden. Like other traditional alethic logicians, Descartes thought of complicit concepts in congeries as essential versus accidental *properties*, as if he were doing semi-natural science classification of categorical substances rather than of substantive kind-concepts. He was wrong to claim he'd distinguished two categorical substantives; he should have more modestly claimed he'd distinguished two *kinds* of substantives, anticipating Spinoza's single substance with its two kinds. Tom, it's time to sing, wistfully, "And Aristotle lingered on" to the tune of "And the melody lingers on".

The incompatibility of ^spatial^ and ^temporal^ determinables and their respectively subsumed concepts, such as ^Greenwich^ and ^Autumn Solstice^, coexist with the coherence of <Sir Hubert Gumbrigg's almost wholly decomposed body was found floating on Autumn Solstice Day at the intersect of Greenwich and the Equator>. The explanation for this seemingly anomalous coexistence lies partly in the different coherence conditions of vertical SS and PP functors in lexical pryamids, [Subsume-Emplace, Incom-\patible-Negate, Identify] versus horizontal SP functors' coherence condtions. [Bond, Conger, Link, Sooth]. Any proposed conceptual structure for natural languages must incorporate the horizontal direction. Not doing so would be like doing analytic geometry solely with the *y* axis. This shortcomng strikes 'ontology' theory whose proponents, to my present knowledge, concentrate on expert systems' vertical axes.

Although it's contradictory to say of *one and the same* printing slug <It's hard> and <It's not hard>, because ^hard^ and ^~hard^ are incompatible, it's not contradictory to say <It's hard> and <It's large> although ^hard^ and ^large^, too, are incompatible, being on branching subsumption pathways headed and subsumed by, respectively, the incompatible ^dense^ and ^spatial^. So, why are hard and large tropes consistently pred-

icable of one and the same slug whereas hard and ~hard tropes are not? W. E. Johnson 'explains' it by saying density and size are ^incomparable^. Well, yes, but why? Youth wants to know. From whence cometh the /in-/ of /incomparable/? I suggest they come from different conceptualized *aspects* of substantives, which I explain shortly.

A predication/sooth interpretation of "to be" opens the gates to observed combinations of substantives and their tropes. Our visual, auditory, tactile, … perceptions, isolate substantive clumps on Old McDonald's farm—here a pig, there a cow, here a chick chick--with their grunts, moos, and chirps. One of the surprising and exciting side features of emplacement is that we not only put substantives and their tropes into tokens, we also go in the opposite direction as when we read. We read words aloud by emplacing shaped tokens into sound tokens; we emplace written /love/ into the sound /luv/. So do we read out portions of our perceptual fields with substantives and their tropes. Look at the pencil on your desk, Tom. What do you see? "A pencil", you say. What color *is* it? "Yellow", you reply. With that simple exchange, you've uttered the sound tokens /pencil/ and /yellow/ and have coherently emplaced them, respectively, into the pencil and the color yellow, thereby awarding the pencil with the sobriquet /subject/ and yellow with /predicate/. With this, you've read what you saw with the sound /The pencil *is* yellow/. You've literally, not figuratively, read out loud a 'fact' in the world with that sentence token. Once you're over the shock to your semantic conventions, Tom, you'll rally to the side of reading the world's substantives and their tropes out loud in sentence forms. It's the locus of discovery. It makes parents proud: A small child able to read a rose and its pink trope, although never having seen such a rose before, may read, in comic-book Russian syntax, /Is pink rose, Mama/. Awwww. The child's ability to read substantives and their tropes isn't actually that much of which to be over-proud seeing how easy it is. In old-speak, philosophers tell us baby Bunting *named* the rose and its pink aspect. She's done much more! She's also structured them with English grammar (subject/predicate), with English ontology (substantive/property), and mistressed two-way emplacements—world-to-word and word-to-world. Whadda' girl! /Tom, you're smiling/ is a read of your dear face. I hope you're thrilled at having this world-to-word ability as much as you were by your word-to-world aptness. You sip your wine and say, "It's very tannic". There, you've done it again! You've read a perceived substantive-trope portion of the world. Quine was wrong about there being an impassible barrier between extension and intension. The ability to read the world is the start of answering the question I asked on the previous page:

> Why are hard and large tropes coherenttly predicable of one and the same printers' slug whereas hard and ~hard tropes are not?

Why may incompatible property concepts be bonded and soothed/predicated of one and the same substantive? You may truly say <My pencil is long and yellow> even though ^yellow^ and ^long^ are incompatible, tripping as they do down diverse subsumption pathways. That they're incompatible is easily established by noting there are no coherent

answers to <How long is yellow?> and <How yellow is long?>. However, the truth of the conjunction <Your pencil is long and yellow> sires the coherence of both ^[Sooth, **.**] pencil long^ and ^[**.**] pencil yellow^, because the conjunctive statement is true if and only if it's conjuncts have coherent emplacements, which they do. This is the one occasion when we can intelligibly, justifiably connect 'truth conditions' to 'meaning', the cornerstone of logical positivists' reformation program for Western philosophy. However, my explanation for this is more hands- and speech-on than any they could furnish since they were dependent solely on alethic logic and psychologized ^reference^.[42]

Property concepts in a congery may be coherently bonded to one and the same substantive kind-concepts on the horizontal SP axis, even though their property concepts are incompatible, as ^spherical^ and ^putrid^ are because they're located on different vertical subsumption pathways. In contrast, statements whose property concepts are incompatible, as ^spherical^ and ^cubical^ are, because they're both subsumed by and branch off from the determinable ^shaped^ on the same vertical pathway per WE Johnson's first remark in my fn. 38, p. 35. ^[Sooth] peach *spherical*^ and ^[Sooth] peach *cubical*^ are incompatible, assuming one and the same fuzzy emplacement in their /peach/ tokens. That's why not both <My peach is spherical> and <My peach is cubical> may be true.

I take up my fuller answer to the question I raised above by explaining ^aspect^, beginning on p. ~80.

As to listing 'all' determinables, it needs pioneer work at lower conceptual levels ascending from determinates to determinables rather than starting with 'abstract' concepts and working downward. Marx had the sense to turn Hegel "on his head". Sorting out true predications, gifts of both common and scientific sense honoring emplacements, employing all lexical functors, and gathering them under higher level subsumptions can eventually yield a fuller list. The way up is the way down. Having found that both <This peach is spherical> and <This peach is putrid> are true, we may infer that both ^[Sooth, **.**] peach spherical^ and ^[Sooth, **.**] peach putrid^ are coherent.[43]

We may so infer because we may coherently emplace one and the same peach into both "peach" tokens, and because it carries the spherical trope into /spherical/ and the putrid trope into /putrid/. These emplacements at these low subsumption levels puts conceptually sensitive persons on the trail of their distinct subsuming determinables, ^shape^ and ^odoripherous^. entailing that ^[Sooth] peach shape^ and ^[Sooth] peach odoripherous^ are coherent. Kant relied too much on our mind's autonomous supply of categories via traditional judgment forms (a generalized 'innate' idea hangover?), although he used scientific judgments rather than Lockean native experience from which to ascend retrospectively to higher rungs on property subsumption ladders in order to reach 'categ-

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[42] See "*More on Sybou / Leutic Modalites"*, beginning with p. 2.

[43] See the siring relation, p. 48ff, for an explanation of how true statements sire coherent propositions.

ories', freeing us from Aristotle's jumbled lists.[44] Relativity physics, non-Euclidean geometry, quantum mechanics, and such cosmological speculations as string theory and the explosion of biological concepts are recent contemporary sources for determinable candidates.

Linkage

I use {**P…Pn}** as the variable schema for ranges' incompatible property concepts; each is subsumed by the same concept. With the link copula you travel midst substantive concepts and **ranges** of property concepts. A substantive concept, ^S^, bonded to a property concept, ^P^, that subsumes the concepts in a range, {P1… Pn}, is linked to that range. ^Animal^ is bonded to ^epidermic^, which subsumes ^{quilled vaned barbuled feathered scaled …}^; hence, ^animal^ is thereby linked to that range of property concepts.

[Bond, **:**] S P
[Subsume, /] P {P1…Pn}
_____ This line in an argument = [Entails] = [--}].
[Link, *****] S {P1 … Pn}.

A substantive concept, ^S^, bonded to a property concept ^P^, which subsumes {P1… Pn} is coher-ently soothable to any concept in that range, unless one of its concepts, ^Px^, is bonded to ^S^--^[Bond, **:**] S Px^.. ^Bird^ is bonded to ^feathered^; so, ^[Sooth, **.**] bird quilled|scaled|barbuled|…^ are incoherent. The following premise would explicitly exclude this restriction--^[~Bond, ~**:**] S P and … ^[~Bond, ~**:**] S Pn^. Link ranges differ from congeries; only one link concept may be coherently bonded to a substantive concept, whereas all of congery's concepts are bonded to a substantive concept.

The search for a satisfactory account of factual predication has been a constant in Western philosophy. Wittgenstein got close to [Link] in the *Tractatus* when he asked "What can be said (factually)?", which is asking, in my terminology, what property concepts may be coherently linked to what substantive concepts. Coherence logic supplies precise conditions for coherent linkage; it gives us a firm grip on sooth predictions, on what "we may say" coherently, whether true or false. I unveil and validate these conditions starting on the next page in the course of developing conceptual/coherence logic.

Russell conferred "*range*(s) *of significance*" on his "types, although, because he was concentrating on quantified truth logic, he posed them as restrictions on the range of values for the *subject*'s variable ,"x". in propositional functions, F(x). [45] By contrast, in my coherence logic, I use "range" to refer to *predicate* ranges, which take pride of place

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[44] "The final purpose of all the operations is to end up with principles of physics, which is entrusted with the task of determining retrospectively the passage from judgments to categories ." Maurizio Ferraris, *Goodby Kant! Cosa resta oggi della Critica della ragione pura*, (*Goodby Kant! What Remains Today of the Critique of Pure Reason*); Chapter 9, p. 113, "Kant's Leica (Deepening)", pp. 107 – 114 [Trans. AKB]: Milan, Tascabili Bompiani, 2004.

[45] Russell, B., *Logic and Knowledge*, pp. 72 - 73, (Ed.) R. C. Marsh; London, George Allen & Unwin, 1956.

over subject ranges. Russell's adumbration is closer to my **Soothwalk** argument form, p. 58ff, and its **Selwalk** extension, p. 64ff, than to my [Link] functor.

Soothage

Sooth and link predication differ modally. [Link] is a leutically *enjoined* functor, while [Sooth] is leutically *allowed*. [Link] lists an enjoined **range** of property options *any one* of which may be coherently soothed to a linked subject concept, unless the subject is bonded to a concept in the range. I use [Link, *] to indicate a range of property concepts we may coherently sooth of an individual--^[Sooth, **.**] Tom tired^ or ^[Sooth, **.**]Tom ~tired^ or of any of a kind's substantive, ^[Sooth, **.**] cherry ripe^ or ^[Sooth, **.**] cherry ~ripe^. With the [Sooth] copula, we may use conceptually incompatible property concepts to construct contradictory statements, <[**.**] (the)cherry ripe> and <[**.**] (the) cherry ~ripe>, both of which are coherent.

Because of the following very important conceptual entailment,

^[Link, *] S {P…~P}^ I use ^{P…~P}^ to flag the incompatibility of ^P1^…^Pn^ in link ranges.

_____

^ [Sooth, **.**] S P^ and ^[Sooth, **.**] S ~P) … ,

the sooth statements, <The bird is blue>, <The bird is ~blue>; <The bird is yellow/~yellow>, are coherent. In making a sooth *statement*, we choose one predicate or its negation(s) from among those offered by a link range. We may choose <The bird is blue> or <The bird is ~blue>, depending on which we think we're entitled to claim is true about some bird, which depends on what coherent emplacements we're entitled to make. Sooth statements are subject to the sixteen possible emplacements presented in the Emplacement Chart, p. 48, of "On Emplacing". There's more on link/sooth relations later.

COHERENCE, CONCEPTS, AND LEXICAL SYSTEMS

Alethic logic should be restricted to relations between sooth statements but this is almost universally ignored presently. So called a priori statements are treated as if they had truth value, whereas they have only coherence value and may be assigned such a value on the basis laid down in conceptual/coherence logic. Most logicians, B.C. and A.D work with alethic logic. This trammel has impelled them to treat the althetic modalities--possible, necessary, impossible--as if they were truth operators or predicates instead of leutic modalities of propositions' functors. There's another modal universe awaiting swashbuckling logicians and adventurous philosophers. Come along on the good barque Eidolon, Tom, soon to set sail.

To adapt to a logical pragmatist's agent-oriented project, I suggested propositional conceptual activities are *travels on paths in lexical space*. This replaces the static, building-block metaphor of sentences' 'meanings' being 'composed' of its parts' 'meanings'.

Lexical systems have warranted *enjoined* and *allowed* routes between concepts and *disallowed*, unwarranted ones. If there is a warranted pathway in lexical space from one concept to another, the proposition is coherent. Given a concept's location, sometimes you can't travel from it to another; incoherent propositions are cases of "You can't get there from here" in lexical space. There are no paths between incoherent combinations of concepts. I can go from ^ cloth^ to ^woven^ but not from ^cow^ to ^woven^; the latter has no literal warranted path. Do not read /warranted path/ as ^rule^, except for stipulated, justified *de jure* paths. *De dicto* and *de facto* warrants are not rules, but, respectively, reports on actual via attiva lexical travel and on sired coherence.[46]

Many word type's tokens have warranted and unwarranted paths to other tokens, as "bank"'s do.[47] Each difference in a type's tokens' warranted paths individuates a different concept; there are different paths between "bank"'s tokens and "financial" and "topographical" tokens. ^Bank^ indicates that /bank/ has been interpreted, which occurs when paths between it and other tokens are known and/or specified. ^Bank^***f*** is a different concept from ^bank^***g***, because the first has warranted paths to ***f***inancial tokens (/reserves/, /savings/…) while ^bank^***t*** has them to topographical tokens (/steep/, clayey/…). Different kinds of paths between tokens in lexical space are identified by propositions' diverse functors—[Subsume], [Link], … . Think of coherence logic as the study of systematic relations between concepts, where concepts are interpreted lexical tokens, and interpretation/rewrites are based on warranted, functorial paths between tokens.

Functors' modally enjoined, allowed, and disallowed paths between tokens tallies their coherent interpretations; "bank"'s meanings are specified solely by these pathways; there is no entity over and above tokens and their copula/functor-specified paths to other tokens in lexical space that answers to 'the meaning(s)' of a word type. You can never say a token's meaning or 'definition'; when you try to, you just say other words. A dictionary definition merely hints at a token's lexical relations. Check out "debonair". It's precise 'meaning' is traced out in its warranted and unwarranted paths in lexical space. I include "unwarranted" because a token's interpretation is as much a function of where we may *not* travel as where we may; without this, there would be no distinction between concepts. Unfortunately, synonymous definition is the dominant form in English lexicography. Although synonymity is usually hedged by lexicogaphers who warn us in dictionary's prefaces that most words have no identical synonyms, they seldom list types' antonymous tokens in its entry to buttress this point.

If a definition is disputed or in doubt, as they often are in philosophical discourse, a lexicon is of no help, because, if a definition is accurate for an idiolect, it reports the very

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[46] I explain de jure warrants extensively in "Stipulating and Conceiving Natural Kind Concepts". See my web site: www.sfsu.edu/~phlsphr/arthur_bierman.

[47] Hereafter, I use "paths" as ^warranted and unwarranted paths^, unless expressively used otherwise. ^Unwarranted^ is as important as ^warranted^, because it provides the ^incoherent^ of the two-valued ^coherent/~coherent^ of conceptual logic. Strictly speaking, there are no unwarranted 'paths', just a want of them; there is no path from ^skull^ to ^square root^.

thing disputed or in doubt. Your best tactic in that case is to use coherence logic, a tool fashioned from natural languages' resources to help you systematically trace a word's paths. Such a logic will help you create new, de jure coherent paths for a type's interpretation. In a later Abstract, I provide valid argument forms for coherence logic you may use for this purpose.

Coherence value holds for categorematic concepts related via their copula/functors, ignoring, except for [Not], all other of sentences' words, including determiners, except for the shy [Any]. So, to interpret "The bank is stable", we start by identifying which one of the copula's seven possible interpretations is intended. This one is likely a soothage predication as when some one makes the claim--<Insooth, the auditor found your bank's assets liquid>, which should prompt us to interpret "bank" as ^financial^ institution with liquid assets, and to interpret "stable" as ^financially^ stable. This contrasts with a geological interpretation of "bank", as when someonc claims <In sooth, sire, you bank is ~water-logged> , not ^topographically^ stable.

I signal the change from word and sentence types, "…" and tokens, /…/, to their interpretation by putting carets, ^…^, around them per above and below; I generally drop the carets around words when they're enclosed within propositions' carets; then, I write (b) instead of (a):

(a) ^[Sooth, **.**] ^(financial)institution^ ^liquid(assets)^^,

(b) ^[Sooth, **.**] (financial)institution liquid(assets)^.

Side Note: I favor functors to the left of concepts in the Polish notation style, which is why I moved the [Sooth] functor to the left in the proposition. The concepts, ^(financial)institution^ and ^(topographical)slope^ are at the substantive ends of the two different warranted paths between /The bank is stable/'s categorematic terms. A topographical interpretation of /The bank is stable/ is indicated by,

^[Sooth, **.**] slope dry^,

which relates ^bank^ and ^stable^ to topographical concepts. Remember, the type "bank" is *any* token that fits a specified description of tokens, which says nothing about how many places nor where "bank" might turn up in lexical space. "Bank" tokens do occur in many places in lexical space; each different location entails each token will have different a interpretation. That's because they will be coherently bonded, congered, linked, soothed to different property tokens (/liquid(assets)/ versus /dry(clay)/)[48] located in different regions of lexical space--/financial/ versus /topographical /--or be combined with tokens of an exact or approximate type if you're punning to hug fun.

The Loci of Coherence Values Are Propositions

[48] Interpretations of word and sentence types and tokens are rewrites, which I flag with carets, ^…^.. Thus, ^liquid^ and ^dry^ are two interpretative rewrites of /stable/ in /The bank is stable/. Interpretations need no fancy mentalese prescriptions from philosophical doctors, just eye-balled token rewrites that help you espy paths through lexical space.

The coherence values, coherent/incoherent, of statements are **bestowed** on them by coherent/incoherent propositions, our sentence interpretations/rewrites that also are visible, audible, palpable tokens, standing between carets--^[Sooth] slope dry^ and ^[Sooth] (financial)institution liquid^ made visible, audible, palpable by physical tokens. These propositions bestow coherent value on /The bank is stable/ and <The bank is stable>.

Statements about lexical and non-lexical states of affairs alike may be made only with sooth-sentence tokens whose bestowing propositions are coherent. There are no incoherent statements; you can't make a claim with a grammatical sentence token that has no coherent interpretation, because it has no truth value. <His heart beats> is coherent, because it has a coherent bestowing proposition, ^[Sooth, **.**] heart beats^; this token rewrite, ^[Sooth, **.**] heart beats^, may be used to make the statement <His heart beats>. But ^His heart reasons^ is literally incoherent; consequently, it can't be used to make the statement <His heart reasons>; it's neither true nor false. There's a warranted path from ^heart^ to ^beats^ but not to ^reasons^. Not even the 'knowing' hearts of kind aunts in Alabama can literally reason, no more than roses can. Tom, encourage your friends to tether their undeveloped metaphors. Don't let them accuse me of ignoring how rhetorical tropes keep lexical systems flexible, adaptable to fresh circumstances. Lets hear it for poetical license! I'm neither a slave to literalists nor a foe of rhetorical flourishes, but a lover of a poet and poetry. Besides, coherence logic is the royal road to more satisfying accounts of such linguistic tropes as metaphors and synecdoches.

/The bank is stable/ has a coherent interpretation under both financial and topographical interpretations of "bank" and "stable", but not a mixture of the two; ^[Sooth] slope (asset)liquidity^ is incoherent. This is a proemial account, Tom; a fuller one coming up requires much more detail. It should be credible that if we travel on warranted paths from ^bank^ to ^financial^, ^owing^, ^liquid^, and ^credit^, we're dealing with different interpretations of ^stable^ travelling on warranted paths from ^bank^ to ^dry^, ^steep^, ^eroded^, and ^sandy^.

It follows from my structural account of concepts that persons share them if they travel on isomorphic warranted paths in their personal lexical spaces. Such paths yield intersubjectivity of concepts. Optimal communication occurs when all of a language's users' coherence paths in lexical space are isomorphic. If there were a single Master Lexical System (**MLS**) we could inculcate and stabilize in speakers' lexical habits, they would enjoy conceptual solidarity. Don't feel sad, Tom, that there is no single MLS? In a world of change, we can't expect and don't want a static MLS. Also, I know you take pleasure in shaking the tree. The plurality of personal lexical systems, idolects, poses recurrent challenges: Is mine like others'? Is it like most others'? Should I defer to more 'informed' others' if we differ? If my idolect differs from others' in 'some' respects, what are the consequences? If there is no given, abiding MLS against which to judge the correctness of mine nor others' systems, how do I decide if I should change mine to suit theirs or if they should change theirs to suit mine? How may we cooperatively revise our

lexical idiolects? I doubt there's a general answer to any one of these questions. I'm sure it depends on cases, and on tconceptual arguments that may be brought to bear on them.

I hope these difficult questions help you appreciate why I think mastery of a conceptual logic is a civic virtue. It can help us construct a civil society. Is that too much to hope for? If widespread learning and use of coherence logic can help we lexically imperiled creatures to navigate toward more approximate conceptual isomorphism, it can prepare our way to mitigate, even if not to resolve ultimately, ideolological, moral, and political conflicts due to conceptual differences, then this mastery would not be in vain. Stay up 'til midnight mastering, Tom, quickening the flight of Minerva's owl's to the demi-Absolute.

An MLS is not given. *It can only be constructed*. Kant divined that the construction of a civil society of autonomous agents requires a constructed MLS of moral concepts and judgments. His Categorical Imperative requires the coherence, not truth consistency, of our universalized maxims of proposed acts for the construction of a moral community. Conceptual logic is an essential tool for constructing an MLS, hence, also for constructing a civil society.[49] Stitch corrective leutic modals into Kant's practical, alethic based modalities of maxims' proposed acts. Maxims aren't [Forbidden] because they're contradictory, hence, impossible but because they're incoherent. Stitch leutic [Enjoined to] into the [Obligatory] flag, [Enjoined not to] into the [Forbidden] ensign, and [Allowed to] into the [Permitted] banner. Moral evaluations are conceptually grounded.

The goal of conceptual logic studies is not confined to ascertaining the coherence of lexical travel; we may use it also to construct lexical isomorphism, which, as the questions about different personal lexical systems shows, requires de jure adjudications. The *civic function* of using coherence logic is to be a tool of a normative action program by which we aim to construct a shared lexical system in a language community. This is the Minerva Program. A practical one is to approximate an MLS with a reasonable cost-benefit ratio in those lexical sub-systems where serious conceptual disputes reside. Accountants' interpretations of /liquidity/, /deductible expense/, /capital gains/ often differ radically. These are serious disputes; a lot of money and employee pension plans are at stake as well as the moral standing of CEOs and CFOs. The Internal Revenue Service answers with new de jure stipulations of adjudicated interpretations. Witness the financial scandals of the late-20th and early-21st century in the United States. There will be more.

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[49] See A. K. Bierman, *Life and Morals*, 7.6, Making a World, pp. 251 – 255; New York, Harcourt Brace Jovanovich, 1980. It is said that Kant kept a copy of Rousseau's *Emile* on his desk and read it annually. In his *Du contrat social*, Rousseau asks himself "how to find a form of association that defends and protects, with the full power of a community, the person and property of each member of it, and by which each, though uniting wih all the rest, is still only giving obedience to himself and remains as free as before". Book 1, chapter 6, P. N. Furbank's translation, quoted in his "The Charms of Selfishness", *The New York Review of Books*,Volume LIII, Number 10, June 8, 2006. Note the kinship of Rousseau's question to Kant's Categorical Imperative answer.

Part III Functors versus Relations: Via attiva versus via passiva

Functors are to the via attiva as relations are to the via passiva. Talk about relations between concepts is the via passiva. To report the relation between one concept and another is to make a de dicto report on language speakers' via attiva travels through lexical space. In the via attiva, we use functor readings of copulas to tender alleged coherent travel paths in lexical space. Note the difference between via attiva [Subsume] (go this way) and via passiva [Subsume] (they went that'a way); and between [Link] and [Linked] to the same effect. Propositions sport functors to speed us on our via attiva way; via passiva de dicto statements cite relations to tell us where we've sped, been, and gone. My orientation is toward the primacy of the via attiva, which I think is what any person who takes the part of pragmatism should adopt. Walk the walk before you talk the talk. Early self-nominated pragmatists, except Peirce and early-and-late Dewey, tended to be too loose with the role logic should enjoy in accounts of meaning and truth. My aim, Tom, is to supply a conceptual logic that will take the slack out of pragmatic accounts of meaning. This includes a pro-active account of truth logic by explaining how we interweave it with coherence logic to keep the active presence of agents foremost when we reason by insisting on the primacy of agents' inferring activities over passive reports of inert statements' implications and entailments. The predominant orientation toward logic has been and is the via passive, which puts enormous pressure on logicians to declare they've visited a platonistic/ goedelian place outside the cave and have come back to tell we cave-dwellers their tales about implications and entailments 'out there'. Via passivists tend to forget that ^infer^ is vastly different from ^imply/entail^; inferring is an activity, emplying and entailing are not. There are entailments and implications between statements because we infer correctly. Persons act; statements do not; their truth value and arguments' validity are the passive product of our acts. We verify and disverify, we determine validity standards and judge arguments compliance with them.

Perhaps the apposite description of what I'm after is a **pragmatic account of logic**, where ^logical^ includes conceptual logic, which matures the non-alethic concept of ^coherence^.

Functor:	^[Subsume] ^mammal^ ^dog^^	(coherent proposition)
Relation:	<^Mammal^ subsumes ^dog^>	(true conceptual relation statement)

Functor:	^[Sooth] ^dog^ ^sleeping^^	(coherent proposition)
Relation:	<^Dog^ soothes to ^sleeping^>	(true conceptual relation statement)

Don't think of via attiva functors as rules or commands, but as tendered hypothetical invitations and advisories:

If you wish to understand what I'm saying, please take the same lexical paths ([Subsume], [Link], [Identify], [Bond] ...) between concepts as I do. I'll honor the same adivisory when I wish to understand what you're saying.

Examples are <Take the [Subsume] path from ^mammal^> to ^dog^, <Take the [Sooth] path from ^dog^ to ^sleeping^>. See "The Leutic Imperative", p. 133ff, this Appendix.

Via attive functors have temporal and logical priority over via passive relations. Temporally, there is nothing to report about concepts' relations until speakers have a shared history of travels between tokens in the seven (at least) copulative ways I've listed above. Logically, via passiva *truth* about conceptual relations is entailed by the *correlative* via attiva coherent paths a language community treds in lexical space. If the functors [/] and [**:**] tender us coherent paths between concepts, as in

^[Subsume, /] mammal dog^ and ^[Bond, **:**] yell loud^,

then we may infer they entail the following true correlative via passiva statements:

<^Mammal^ subsumes ^dog^> and <^Yell^ is bonded to ^loud^>.

I'm sure you've noticed I bracket copula functors, [Subsume] [Bond], to indicate they differ from categorematic concepts, ^dog^ and ^sleeping^. /Dog/ and /sleeping/ take emplacements, but copulas, whatever their interpretations, have none. FH Bradley pointed out that whomever puts relations on a par with what they relate, including the copula, must suffer the infinite pain of infinite regress.[50] [Link, *], for example, may be thought of as a road sign for travel on what is believed to be a warranted linkage path between a noun (dog) and an adjective range, {sleeping awake dozing ..} rather than as another emplaceable object standing between a dog and its slumbering/~slumbering state. In the via attiva mode, with functors we invite and advise routes to travel; in the via passiva mode, we report on routes taken.

Postcard: "Dear Tom, Great conceptual paths here in Crotona Pythagoria for mind travelling. Wish you were here. Love, Thelma.SP

The via attiva travel orientation to meaning obviates a composition theory of propositions. It's difficult to find a comprehensible statement of 'composition', but its proponents seem to treat the meaning of a sentence as if it were an 'amalgam' of the separate meanings of the words that are its parts--the ***Haggis Theory*** of sentence meaning. That, however, is as inapt as thinking the 'whole' intensional meaning of "bachelor" is an amalgam of 'its parts' meanings, 'male' and 'unmarried'. Composition theorists may think they have a mental capacity for 'melding' words' meanings, assuming <Mary is merry> could even have **a** 'meaning'. I doubt the utility of the magic 'meld' metaphor.

I propose replacing 'meld' with a logically based coherence account of travel between propositions' categorematic concepts via routes specified by functors in lexical systems' functors. In terms of conceptual travel metaphor, we have the congery proposition ^[**:+**] bachelor [male unmarried]^ that invites travel on two paths rather than inex-

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[50] Bradley, F. H., *Appearance and Reality*, Chapter 2; Oxford, Oxford Univ. Press.

plicable melds of these words' meanings, although this condemns ^[Sooth, **.**] Elizabeth Taylor bachelor^ to incoherence--several times over. I defend 'Elizabethan' concepts of individuals further on.

Neil Tennant states the composition thesis comprehensibly for its proponents.[51] He points out that, although his account makes it comprehensible, "it hardly constitutes more than a re-description of the problem to be solved...". He cites the challenge posed by D. Davidson: "The theory [of meaning] must show how out of the meanings of parts the meanings of wholes are composed."[52] On this view, each part of /Verbs are colder than adverbs/ has a 'meaning'/, although I doubt composers would allow /each/, /are/, and /than/ to have 'meaning' as /verbs/, /adverbs/, and /colder than/ do. Yet, ^verbs are colder than adverbs^ has no literal meaning although its /verb/, /adverb/, and /colder than/ parts do. I doubt the friends of compositional meaning can explain this anomaly. How do they square this with the absurd ^cold verbs^ and ^cold adverbs? It's hard to see how they can explain it on truth condition grounds, because, without a coherent interpretation, the sentence is neither true nor false, hence, has no such grounds, and, hence again, no compositional meaning. Also, the composition theory says nothing of the relation between falsity conditions and meaning; false statements, after all, are are meaningful.

The composition theory's plausibility may stem from the belief, often professed, even explicitly supported with citations from Frege, to the effect that words don't have meaning outside of and independent of sentences. Paul Horwich, for one, seems to believe this.[53] Although Horwich verges near the via attiva with his "construction property" (p. 505), he continues to think "terms" have meaning as do their wholes. Once you give up the bias that words and sentences have meanings over and above traveling on coherent functorial paths between constitutive tokens you're free to think of 'meaning' activity as movement in lexical systems via coherent paths. The burden of having to explain 'meaning composition' under the part/whole metaphor, abetted by the magic melding of parts' 'meanings' into wholes' 'meanings', that albatross lifts bearably away.

The part-whole-composition account of sentence meaning is as inapt as explaining that 4 is composed of two 2s, or 3 and 1, or 4 and 0. /2 + 2/ is via attiva tendered travel along the natural numeral series. rewrite /2 + 2/ as ^[+] 2 2^. You may invite me with the functor [+] to travel two places beyond /2/ on the numeral series; if our series are isomorphic, we'll both arrive at /4/, a unique place in the numeral successor structure. <2 + 2 = 4> is the via passiva report of my ^[+] 2 2^ travel on the numeral series.[54]

Similarly, /[Link, *] dog {sleeping ~sleeping}/ advises us that we may move coherently from ^dog^'s place in lexical space to ^sleeping^'s ***and*** to ^~sleeping/awake^'s

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[51] Tennant, N., "Truth, Meaning and Decidability", *Mind*, Vol. 86, No. 343, July, 1977.

[52] Tennant, pp. 368 – 370.

[53] Horwich, P., "The Composition of Meanings", *The Philosophical Review*, Vol 106, No. 4, October, 1997.

[54] For a nascent via attiva account of mathematics, see Leslie Tharp, "Myth and Mathematics": A Conceptualistic Philosophy of Mathematics", *Synthese*, Vol. 81, No. 2, November 1989. Especially see "3. Davy's Number Blocks", pp. 172 – 180. Charles Chihara's excellent prologue to Tharp's essay is very helpful, pp. 153 – 163.

places. The [Sooth, **.**] functor invites us to move from /dog/ to /sleeping/ *or* to /~sleeping/awake/. It also invites us to emplace a dog into /dog/ and a sleeping state into /sleeping/ *or* an awake state into /awake/~sleeping/ of either /[Sooth, **.**] /dog/ /sleeping// *or* into /[Sooth, **.**] /dog/ /~sleeping/awake//. By coherently emplacing them into one or the other sentence token, we create coherent emplacement propositions. Depending on which emplacement proposition is coherent, we verify which statement, <[Sooth, **.**] /dog/ /sleeping/> *or* <[Sooth, **.**] /dog/ /awake/~sleeping/>, is the warranted correlative truth of the emplacement propositions. It may help you to scan our "On Emplacing"'s first conversation about referential contents and our second conversation about my coherent emplacement account of truth.

Functors are like street signs, such as "Enter", "Exit", "Turn Left", "No U Turn". Use [Sooth, **.**] to tender directions, such as start from ^dog^ and end at ^sleeping^ or at /awake/ on a predication path. There's no entity to emplace into in the advisory "Enter" as there is for "road; with [Enter] we give directions for travel in physical space. Interpret [Subsume], [Bond], [Conger], ([Counter], either [Contradict] or [Contrast]), [Identify], [Link], [Sooth], and [Negate] as invitations to communal travel between token-types in lexical space, that is, between the locations of physical tokens' of those types, which is all we need to explain the 'meanings' of sentences. "Just say 'No'" to the Haggis Theory of sentence 'meaning'. When I hear or read anything about words' and sentences' 'meanings', Tom, I reach for my tokens and functors. "Bogs are wet" may be interpreted as the via attiva proposition ^[Bond, **:**] bog wet^, with which we're advised to travel on a bonding path, starting at "bog" and ending at "wet". The via passiva report of that chartered travel is <^Bog^ is bonded to ^wet^>.

Take the "A" train, Tom. Travelling from concept to concept in lexical space differs from 'melding' composite word 'meanings'. On the first, we travel on various paths between way points. That's enough. On the second, we're fruitlessly trying to compose non-existent whole meanings out of non-existent part meanings. Consider ^qualified^ juror. To get from ^juror^ via the property abridgement ^qualified^, you have to take several bonded paths--to ^disinterested^, ^open (to evidence)^, and ^isolated (from news reports)^--because ^qualified^ is not a composite of meanings, but an abridgement of a congery of property concepts with their feeder routes from ^juror^. Buon viaggi!

In the chart below, via attiva functors pose advisories--a hypothetical, invitational mode of speaking or writing--in contrast to via passiva reporting--with its names for functorial travels taken between interpreted tokens. I use the same symbols for both via attiva functors and via passive relations' names; they may be read both ways, depending on whether they're functors in propositions or names of functor relations in lexical reports. The symbols will be handy for succinctly presenting valid coherence arguments and argument forms.

In this **Correlative Chart**, [**F**] is a variable for binary via attive functors such as [Subsume] and [Link] and for reports of via passive relations. /**S**/ and /**P**/ are variables for substantive and property concepts, respectively.

The scope of the monary functor, [**~**], in propositions bears some attention.

^[**~**F] S P^ and ^[F] S P^

are incompatible propositions; not both are coherent. With ^[**~**F] S P^, you deny the coherence of ^[F] S P^, and vice versa, [**~~**F] = [F], given that ^S^ and ^P^ are identical concepts in both propositions. With ^[**~**Bond, **~:**] bog dry^, you deny the coherence of ^[Bond, **:**] bog dry^.

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CORRELATIVE CHART

SYMBOLS	**VIA PASSIVA** *FUNCTOR NAMES*	**VIA ATTIVA** *FUNCTOR ADVISORIES*
	CONCEPTUAL NEGATION	
~S, **~**P	**~**S negates S **and** S negates **~**S	[Negate] S with **~**S **and** **~**S with S
	~P negates P **and** P negates **~**P	[Negate] P with **~**P **and** **~**P with P
	^[**~**F] S P^ negates ^[F] S P^	[Negate] ^[F] S P^ with ^[**~**F] S P^
	^[F] S P^ negates ^[**~**F] S P^	[Negate] ^[**~**F] S P with ^[F] S P ^
	SUBSUMPTION AND EMPLACEMENT	
Read ^[Subsume, /] S1 S2^ as ^[Subsume] S2 [under] S1^; you go down a subsumption pathway. S1 is a determinable, S2 one of its determinates.		
[/] S1 S2	S1 subsumes S2	[Subsume] S1 S2
[/] P1 P2	P1 subsumes P2	[Subsume] P1 P2
[/] S EsE	S subsumes EsE	[Emplace] EsE @ /S/
[/[P EpE	P subsumes EpE	[Emplace] EpE @ /P/

Emplacing, as in the last two lines on the right above, EsE and EpE, is a sub-functor of [Subsume]. It transforms 'reference' into the conceptual logical functors [Subsumes]/[Emplace]. This is how substantives and tropes enter into places in lexical space, razing the wall between blighting dualisms--extension and intension, reference and cognitive meaning. Emplacing an entity where a singular term resides bequeaths it with all the lexical relations the term has; having such relations legitimatizes the entity's conceptual status just as they legitimatize tokens's conceptual status by turning shapes into words by giving them a unique place in lexical space. The physical token /Zrpa/ is not an English word or concept because it has no lexical relations in that language

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	BONDAGE	
[**:**] S P	S is bonded to P	[Bond, **:**] S P

Bondage should not be confused with genus-species definitions of /S/, because such definitions use subsumption (genus) as well as bondage. Also, the 'meaning' of a token isn't given by [**:**] and [/] alone, but by all of a language's lexical functors. Lexicographers' 'definitions' are but preliminary traces of coherent paths, more easily trod by those with a relatively mature mastery of a language than by its neophytes.

CONGERY

[**:+**] S [A…An] S is congered to [A…An] [Conger, **:+**] S [A1…An]

[A1…An] is a congery of property concepts each of which is bonded to S. Each concept in a congery is **complicit** in individuating a substantive kind-concept.[55]

INCOMPATIBILITY[56]

[**!**] S ~S S is incompatible with ~S [Counter] S with ~S or vice versa
[**!**] P ~P P is incompatible with ~P [Counter] P with ~P or vice versa

[Incompatible] and [Counter] subsume two functors, [Contradict] and [Contrast].

P is incompatible with ~P [Contradict] P with ~P, or vice versa, iff neither subsumes other concepts

P is incompatible with any concept in the {P1…Pn} range [Contrast] P with any concept in {P1…Pn}; they're contrary concepts

[Contradict] and [Contrast] apply similarly for S-incompatibility.

IDENTITY

[=] S1 S2 and [=] P1 P2

[=] S1 S2 S1 is identical to S2 [Identify, =] S1 S2;
[=] P1 P2 P1 is identical to P2 [Identify, =] P1 P2

LINKAGE

[*****] S {P ~P} S is linked to {P ~P} [Link, *] S {P ~P}

S is linked to a range of incompatible property concepts

SOOTHAGE

. S P **.** S ~P S sooths to P Sooths to ~P [Sooth, **.**] S P [Sooth, **.**] S ~P

FURTHER EXPLANATORY REMARKS OF SOME CORRELATIVE FUNCTORS

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[55] Recall, Tom, that [A..,An] indicates a conjunction of bonded property concepts; I use "A", for "Attribute" instead of "P" for "Property", and brackets, […], instead of braces, {…}, to help you distinguish the symbols for congered from linked determinables and determinates, ^[Link, *****] S {P.. .Pn}^. ^[**:+**] bird\ [beaked taloned …] is a congery proposition.

[56] Propositions, too, may be incompatible. See **Negation** above. I explain this further below.

IDENTITY

[=] S1 S2 and [=] P1 P2

[=] S1 S2 S1 is identical to S2 [Identify, =] S1 S2;
[=] P1 P2 P1 is identical to P2 [Identify, =] P1 P2

Here I consider only the identity of substantives and tropes/properties. Keep this distinct from the identity of concepts of these entities. I discuss the identity of concepts later in the light of conceptual/coherence logic. Briefly, two different token/type terms are one and the same concept if they occupy the same place in lexical space. Without being able to determine the identity of concepts we could no more determine the identity of substantives, tropes, nor properties than we could grow hair on a billiard ball. This is because substantive and property tokens/types' structural relations in lexical space provide the information we need to determine the coherence of their emplacements. /Putrid/'s lexical relations differ from /loud/'s. ^Odor^ subsumes ^/putrid^, ^sound^ does not.

The S1, S2 variables take substantive emplacements as values; for example, S1=S2 take respectively EMarkTwain = SamuelClemensE as values. The P1=P2 property variables take tropes/properties as values; P1=P2 take, respectively, Eangry = arrabiatoE as their values. The conditions for the coherence of ^[=] S1 S2^ propositions differ from those for ^[=] P1 P2^ propositions. I start with ^[=] P1 P2^.

Emplacements for /P/-tokens are tropes, so, no [Identify] proposition with different emplaced tropes, ^[=] trope1 trope2^, is coherent, even if tropes coherently emplaceable in the tokens exist. That's because a trope unrepeatably exists at one time and one place unlike properties that exist at many places at one and many times,. Close your eyes to the cloued sky; open them and the trope you see isn't identical to the one that existed before you shuttered your eyelids. Neither are similar photos of tropes identical. Tropes don't have temporal continuity from one appearance or photo to another even though you may not discern any difference between them, which is unlike Descartes' melting wax, which persisted even though its appearance changed as it went from cold to hot.

Property type "P"s are not emplaceable, because they aren't physical entities; they are but *counts* of specified tropes. A property is a One count of those tropes coherently emplaceable in similarly interpreted word tokens. You won't get a ONE count for ^[=] red red by interpreting^the left /red/ as subsumed by ^colored^^and the right one as journalistic slang for ^communist^; distinct red color tropes emplaced into a /red/ token or tokens share an interpretation, so ^EredE1 @ /red/, ^EredE2 @ /red/^ ... ^Ered/*n* @ /red/^ are to be counted as ONE property.

Similarly interpreted tokens are assigned ONE and the same place in lexical space; we count them as *ONE concept, ONE lexical type*. Any trope coherently emplaceable into a lexical type is counted as ONE property; such tropes are *ONE property type*. This ONE-count principle explains why both *lexical token-types* and *property trope-types* may be assigned to one and the same place in lexical space. "Try double-strength nominalism. It's good for what ails platonists. Ask for it at your druggist, G. Ber oley & Co.".

In summary, if /blue/1 and /blue/2 are similarly interpreted tokens of the type "blue", coherently emplacing blue tropes into them, ^EblueE1 @ /blue/, ^EblueE2 @ /blue/ …^, entails blue tropes may be assigned one and the same place in lexical space where the type "blue" resides. Then, any trope of a ONE count property will have the same lexical relations as the property. The ONE count *property type* concept ^"blue"^ makes ^[=] ^"blue"^ ^"blue"^^ coherent. It does so despite the incoherence of

^[=] E(trope)blueE1 E(trope)blueE2^.

By this account, the coherence value of propositions with *property* terms, which I indicate with double quotes, and the [Identify, =] functor, as in

^[Identify, =] ^"blue"^ ^"blue"^^,

is contingent upon coherent trope emplacements. If trope emplacements into the first and second token of /[=] /blue/ /blue// are, respectively, EaquamarineE and EturquoiseE, then ^[=] EaquamarineE^ @ "blue" & ^EturquoiseE @ "blue"^^ is incoherent and <[=] EaquamarineE EturquoiseE> is false.

This shows substantive and property identity statements are not modally [Necessary]. If <A = B> is a 'Law of Logic' or 'Thought' as Boole would have it, it's only because [=] is an enjoined functor; whoever uses [=] enjoins us to emplace one and the same substantive and one and the same property into their respective identity sentence variables, /[=] S1 S1/ and /[=] P1 P2/, on pain of incoherence. This provides numerical identity. Whether we do or don't so emplace is contingent, we may or mayn't, which dictates the coherence of [Identify] propositions and the truth values identity statements.

A ONE count for trope emplacements is a coherence condition for [Identify] property propositions' coherence, ^[=] "P1" "P2"^, because a property is any trope coherently emplaceable into "P"'s /P/s. A property exists at any time and any place where its tropes are. "Blue"'s tropes, EblueE1, EblueE2, … EblueEn, become the single property E"blue"E upon coherent emplacements into "blue"'s tokens, /blue/1, /blue/2, … /blue/n.

In short, propositions with the form ^[=] "P1" "P2"^ are coherent if and only if (iff) their coherent trope emplacements are counted as ONE.

This differs from the coherence conditions for identifing substantives in propositions with the form ^[Identify, =] S1 S2^. Their coherence requires that our **count** of the number of substantives coherently emplaced into an identifying sentence's terms be *one* and *only one*. This differs from the way we count tropes and properties, as explained above, because substantives, unlike tropes, may continue to exist at different places at different times, but, unlike properties's, they may be at only one place at a time. My bocce ball rolling down the densely carpeted grass in Golden Gate Park retains its identity as it rolls from my hand toward its destination. If it didn't, we couldn't keep score; but we can/do keep score; therefore, we assume/maintain that balls retain their identity through time.

We have lots of ways of identifying substantives, including same names, pointing, similar descriptions, pronouncing, indexing, locating, and drawing them. **If you count**

one and only one coherent substantive emplacement into an identifying sentence's terms, as in /[=] Mark Twain Samuel Clemens/, using any combination of these identification techniques, the resulting proposition is coherent per below:

^[=] ^Emarktwain1E @ /Mark Twain/^ & ^EmarktwainE @ /Samuel Clemens/^^.

If you count more than one emplacement, the proposition is incoherent, as in the following case, where the coherent emplacement count is two,

^[=] ^EmarktwainE @ /Mark Twain/^ & ^EhenryjamesE @ /Mark Twain/^^.

Coherently travelling on an identity path is walking in place; you never leave from where you started whereas you travel on a sooth by leaving the subject's place and going to the predicate's place or vice versa. Despite this, [Identity] and [Sooth] statements share a feature: Their truth depends on extra-lexical emplacements. That's because via attiva [Identify, =] propositions' coherence is dependent on the count of the emplaced entities, however that's established. I'll explain later, p. 68ff, The Siring Argument, how [Sooth] statements made true by coherent emplacements may alter a lexical system, even deposing some de dicto enjoined, coherent pathways and adding others. This mode of extruding coherent propositions tightens our choke-hold on a priori and a posteriori claims' for statements' [Necessary] and [Impossible] alethic modalities. Agents' via attiva semantic activity relies on leutic modalities. [Enjoined to], [Enjoined not to], and [Allowed to] travel on designated paths from one concept to others. My larger exposition of leutic modalities is in the essay "More on [Identify]", on my website.

Anticipating identity conditions for concepts, consider tokens of the *same* word type, "*T*". With [Identify] we advise giving them the same interpretation until further notice: Treat them as *one concept*, as in /He's *apt* to curse/, /She's *apt* to laugh/, assuming both "apt" tokens have one and the same coherent paths to other tokens in lexical space. For tokens from different languages, /*T1/* and /*T2/*, [Identify] invites reciprocal 'translation' rewrites, ^[=] ^just^ ^giusto^^, just like ~synonymous tokens in the same language, ^[=] ^irons^ ^fetters^^. Identifying concepts that are supported by different languages is more complicated than it is in a single language since we have to look in both their lexical spaces for matching coherent pathways of both Engish and Italian tokens. For example, both ^just^ and ^giusto^ have to be bonded, linked, and/or subsumed to ^law^ and ^legge^, respectively, which in turn must have isomorphic coherence paths to ^legitimate^ and ^legittimo^, and so forth.

If proper names are paired with definite descriptions, pronouns, or indexicals in the terms of [Identify] propositions, we're invited to emplace one and the same entity, EtommassoparadossoE, into their token pairs,

(a) /[=] EtommassoparadossoE @ /Tommasso Paradosso/ EtommassoparadossoE @ /Tom Paradosso// and

(b) /[=] Etommassoparadosso/ @ /Tommasso Paradosso/ Emy-favorite-guyE @ /my favorite guy//.

become coherent propositions if you, Tom, are the coherent emplacement into both tokens of (a) and of (b). But, don't ask me if you'll be the coherent emplacement in /my favorite guy/ next year. No description, no indexical, no name has eternally coherent emplacements. The basis for a coherent [Identify] proposition is a ONE count of the coherent emplacements in its terms in a time at a place. You count as ONE coherent emplacement in both terms of /[=] /Tom/ /Tommasso//. This is also the basis for the truth of correlative via passiva identity statements, <[=] ETomE ETommassoE>.

Coherent emplacements in propositions' /S/s and /P/s are *subsumed*, respectively, by ^S^s and ^P^s:

^[Subsume, /] ^man^ ^EtomE^,
^[/] ^blue^ ^EazureE^.

This knells the end of the disruptive bifurcation of 'meaning' and 'reference' that Quine championed. See the anti-epigraph in this Appendix's third paragraph.

Coherent emplacements in a sentence's token terms requires knowing which substantive and property terms—S S, P P, S P--are grammatically suitable to its copula one of the seven binary functors. For terms grammatical pairings, see p. 130f. The [Subsume] copula takes S S and P P terms; [Sooth] and [Bond] take S P.

Rigid designation has a marginal role to play in the coherence of [=] propositions. Rigidity is required for the identity of substantives across all possible worlds, a clever extensional move to undercut Quines' objections to 'intensional' logic. Enthusiastic kripkiens rely on it ingenuously. However, this issue is distinct from [Identify] propositions' coherence value and [Identity] statements' truth value. Rigid designators lay claim to a proper name's identification powers for substantives (but not for tropes?), which is a binary relation between a proper name and its designee rather than the binary relations between two [Identify] sentence terms and their emplacements. The challenge for the reference issue is to explain the relation between a referring term and its designee. The emplacement/designee is subsumed by all the term's in its subsumption pathway's concepts; you're subsumed by ^matter^, ^animal^, human^, ^male^…. The emplacement inherits all the relations in lexical space of every concept that subsumes it. Since subsuming concepts have a wealth of six other binary lexical relations, we can use them to cross-check the identity of emplacements. Identical emplacements/designees share all lexical relations.

So, (a) accounts of binary [Identify] propositions' coherence value and statements' truth value versus (b) identifying coherent emplacements for sentences' terms address different issues; rigid designation addresses the latter but not the former. Once you know you've identified coherent emplacements for the terms of an [=] sentence, you're past the issue of rigid designation and into counting the number of emplacements into the token terms of an [=] sentence. To identify coherent emplacements for the terms, I suggest we stay loose. Use, indifferently, proper names, descriptions, pointings, pronouns, etc.. Discourse context is the shoulder to lean on. "Which drunk do you mean?' "The one with

vomit on his vest." So, the coherence value of two-termed [Identify] propostions and the truth value of its correlative two-termed via passiva statements skirt rigid designation's all-purpose use. Let's relax, use every means already afforded us by our daily speech. If it was good enough for Wittgentstein, it's good enough for us Earthlings.

The two terms of a coherent [=] proposition must have one and the same emplacement regardless of whether it's subsumed by a proper name, a description (my favorite guy), or other means, such as pointing you out, to identify who/what's to be emplaced. Later I'll show how agents' coherent via attiva emplacements by-pass challenges to the validity of inferences with oblique premises and, so, unschackle us from Quine's severe extensional fetters without need of recourse to 'rigid designation'.

LINKAGE

[*****] S {P ~P} S is linked to {P ~P} [Link, *****] S {P ~P}

^{P ~P}^ is a range of determinate, incompatible predicates **subsumed** by the same determinable concept. Determinate color concepts ^blue^, ^green^, ^...^ are incompatible concepts subsumed by ^colored^. [Link], like other functors, is an advisory for coherently combining substantives and tropes in propositions. It's important to know that ^S^ can *not* be coherently linked to ^{P ~P}^ if ^S^ is bonded to one of the predicates in that range. I mentioned this above and will explain it in more detail below.

INCOMPATIBILITY

Conceptual incompatibility holds between *propositions* as well as concepts. Assume the variables [F], ^S^, and ^P^ in the following propositional forms,

^[**!**] ^[F] ^S^ ^P^^ & ^[F] ^S^ ^ ~P^^,

have identical emplacements. The resulting propositions are incompatible: ^[**.**] ^sun^ ^hot^^ is incompatible with ^[**.**] ^sun^ ^~hot|tepid/cool/cold / …^^. But both are coherent, although not both of their paired statements, <[**.**] sun hot> and <[**.**] sun hot|{tepid/ cool/ cold/ …}> are true. On the other hand, if ^hot^ is in ^sun^'s congery, the [**.**] functor above becomes [**:**], which makes [**.**] ^sun^ ^~hot|tepid/cool/cold / …^^ incoherent. A coherent proposition with an enjoined functor, such as [**:**], does not entail the coherence of a proposition with the allowed functor [**.**]. This is contrary to those who maintain that a statements with a [Necessary] functor entails the truth of a [Possible] statement: [Necessary] P --} [Possible] P. I showed why this alethic entailment is incoherent in "On Emplacing". See pp. .

Read [~Compatible, **~!**] as [Compatible] by double negation: [**~!**] is equivalent to the doubly negated [**~*in***] compatible; [**~~**] X is equivalent to X. Propositions are incompatible iff (if and only if) they have the same modal functor [F], the same subject concept, but incompatible predicate concepts. For example, the propositional forms,

^ **:** S P^ and ^ **:** S ~P^,

share the modally enjoined functor [Bond, **:**], have identical emplacements into /S/, and coherent emplacements into the incompatible /P/ and /~P/; any propositions substituted into these forms under those conditions would be incompatible. The following emplacements satisfy these conditions and, lo, these propositions are incompatible:

^[**!**] [Bond, **:**] sun hot^ and ^[Bond, **:**] sun ~hot|tepid/cool/…^,

^[**!**] [Bond, **:**] sun hot^ entails ^[**~**Bond, **:**] sun ~hot|tepid/cool^.

It follows that only one of the following correlative, via passive contrary statements may be true,

<[Bonded, **:**] ^sun^ ^hot^> entails <**-**<[Bonded, **:**] ^sun^ ^tepid/cool/cold/…^> > .

Only one concept in a link range, {hot tepid …}, may be coherently bonded to a substantive concept. If you coherently travel on a ^[**:**] S P^ bondage path, you can't coherently travel on any ^[**:**] S ~P^ path. The eleutic functor [**:**] enjoins you to travel from ^sun^ to ^hot^; so, you're enjoined not to bond-travel from ^sun^ to ^cool^, ^[**~:**] sun cool^. Read ^[**~:**] sun cool^ as [Enjoined not to bond] ^sun^ and ^cool^, because [**~:**] conceptually negates ^[**:**] bond hot^, which I read as [Enjoined to Bond] ^sun^ and ^hot^. In these reads, I include here the leutic modals suitable to [**:**], [Enjoined to] and [Enjoined not to].

[Bond, **:**] allows but one of a property range's concepts to be coherently bonded to a substantive concept. This explains why these bond propositions are incompatible and why not both of their correlative statements are true.

Tom, please remember: These via passiva statements,

<[Sooth, **.**] ^sun^ ^hot^> and <[Sooth, **.**] ^sun^ ^~hot^>,

are not factual claims about the sun and its temperature. The conceptual carets around the subject and predicate indicate they're via passive reports of two conceptual sooth relations between ^sun^ and ^hot/~hot^, correlatives to the via attiva propositions,

^[Sooth, **.**] ^sun^ ^hot^^ and ^[Sooth, **.**] ^sun^ ^~hot^^. (Cf. p. 56.)

This correlative distinction escapes many alethically confined philosophers hot after empirical truth accounts. Few betray earnest interest in it. Those who do face tenure challenge as Fanebius Perlyng did.

Tom, don't be offended if I repeat some of the above points on [Incompatible], which is the least know and understood functor after [Link] and [Identify].

Both of two propositions with enjoined functors, the same substantive and incompatible property concepts are incompatible; you can't enjoin travel on both of two such paths as ^S^ to ^P^ and ^S^ to ^~P^. If you're [Enjoined to travel] ^[**:**] S P^, you're [Enjoined not to travel] ^[**~:**] S ~P^; and if you're [Enjoined to travel] ^[**:**] S ~P^, you are [Enjoined not to travel], ^[**~:**] S P^. The latter enjoins you not to travel on that functorial route between specified concepts/tokens on pain of incoherence.

I embark the leutic modal [Enjoined] here, because, in my examples, [Bond, **:**] is an *enjoined leutic functor* whilst [Sooth, **.**] is an *allowed* one.. Two coherent propositions with the *allowed* [Sooth, **.**] functor, same substantive concept and contradictory or con-

trary property concepts are incompatible; yet both are coherent. Both ^[Sooth, **.**] rose red^ and ^[Sooth, **.**] rose ~red^ are coherent, just as both ^[Sooth, **.**] rose red^ and ^[**.**] rose white^ are, but conceptually incompatible, because their predicates, ^red^ and ^~red^, ^red^ and ^white^, are incompatible. In general, both ^[**.**] S P^ and ^[**.**] S **~**P^ are coherent, whether ^**~**P^ is the contradictory or the contrary of ^P^; both are leutically allowed. There's lots on leutic modalities coming up, Tom.

Introducing [**{--}]**: Read [**{--}**] as via attiva [**Mutually infer**], (MI). Read its correlative via passive [**If and only if**], [**iff**], as [**Mutual entailment**], (ME). For example,

(MI) ^[**:**] Rose thorned^ {--} ^[**~:**] rose ~thorned ^.

This mutual inferring is coherent, because ^{thorned ~thorned}^ is a property concept range, and, because ^rose^ is bonded to that range's ^thorned^, it can't be bonded to any other concept in that range. That's why you're enjoined not to bond ^rose^ to ^~thorned^ per (MI).

This inference is valid, because (MI)'s ^[**:**] rose thorned^ conceptually negates^ ^[**~:**] rose ~thorned^'s coherence; that is, it negates [*You're enjoined not to bond*, **:**] ^rose^ to ^~thorned^. From this, by substituting matching variables for the tokens /rose/ and /thorned'/, you get this valid form of mutual entailment,

(ME) <[**:**] S P^ {--} ^[**~:**] S ~P>.

This valid entailment whose propositions' copulas are *enjoined functors* contrasts with the valid form for mutually inferred propositions with the *allowed functor*, [Sooth, **.**]:

^^[**.**] S P^ {--} ^[**.**] S ~P^^.

This form holds, because ^S^ is coherently soothable to ^P^ {--} ^S^ is coherently soothable to ^~P^, even though the propositions are incompatible, This is because [Sooth, **.**] is an *allowed* functor that differs from *enjoined* functors. As I've noted several times, this shows coherence and truth value are not identical. Both of the following statements are coherent, but not both are true.

<[**.**] S P> {--} <[**.**] S ~P>

The consequences of these modal differences for conceptual and alethic logic are noted, beginning with p. 132ff, which few others travel but on which I happily pipe your way.

SOOTHAGE

[**.**] S P S sooths to P [Sooth, **.**] S P

To find the property concepts you may sooth coherently to a subject concept, look to the predicate ranges with which the subjects are coherently linked. The entailment,

^* S {P ~P}^ --} ^**.** S P^ and ^**.** S ~P^,

is valid: If the [Link] antecedent is coherent, so are the consequent's [Sooth] propositions, where ^~P^ may be the contradictory of ^P^ (being the single concept incompatible with ^P^) or may be a contrary concept because ^~P^ subsumes several concepts incompatible with ^P^, such as <^[/] ~hot^ ^cold^, ^tepid^, ^frigid^ … >.

^[/] ~hot^ {cold tepid frigid …}^ .

Of course, in the pursuit of finer tuning and 'scientific objectivity', numerical ranges measured by instruments may be substituted for these qualitative concepts 'measured' by subjects' nerves.

Consider ^cup^. Two of its coherent link ranges offer us two lists of property concepts we may coherently sooth to ^cup^.

	[**:**] object	trope/properties	
	|	/ | \	
#1 link	[*] cup	{tactile	shaped	colored ..}
	|		/ | \
#2 link	[*] cup		{blue red yellow …}

^Cup^ is coherently linked to **#1**'s linked tropes, because ^object^ subsumes ^cup^, and because ^cup^ inherits ^object^'s coherent tropes, {tactile …}. ^Cup^ also inherits the subsumed link ranges of each of **#1**'s tropes; so, ^cup^ inherits **#2**'s ^colored^ link range propetries, {blue red yellow …}; hence, these concepts, too, are coherently soothable to ^cup^, *provided* , as I said before, ^S^ isn't bonded at some level to a concept in ^P^ or ^~P^ subsumption pathways.

. Thus, both ^[**.**] S P^ and ^[**.**] S ~P^ *propositions* are coherent, whereas contradictory and contrary statements, <[**.**] S P> and < [**.**] S ~P>, are not both true. Both ^[**.**] fingernail broken^ and ^[**.**] fingernail ~broken^ are coherent, whereas <This fingernail is broken> and <This (identical) fingernail is ~broken> cannot both be true, which proves coherence value can't be reduced to truth value, nor vice versa. 2 coherents [=/=] 1 true. This feature of [Sooth] coherence shows why the alethic [Possible] is a beggar to leutic [Allowed]: You must transmute alethic [Possible] to leutic^ [Allowed]:

<<[Possible] This fingernail is broken> is true> and <<[Possible] This fingernail is not broken> is true>

beg their alethic consistency from the coherence of

^[Allowed, **.**] fingernail broken^ & ^[Allowed, **.**] fingernail ~broken^.

This is because, per above, ^* S {P ~P}^ is coherent> --} ^[**.**] S P^ & ^[**.**] S ~P^ are coherent>. We may dispense with the alethic modality [Possible that] in favor of the leutic modality [Allowed to]; the leutic modal underwrites the superfluous alethic.

* * * *

The following nine functor/relations between concepts have lexicographic roots that *approximate* them. They may help you to comprehend my functors, which supersede the old distinctions quite enough to make them at least second cousins once removed.

Conceptual negation	Opposing suffixes (in-, un-, de-, ...)
{Subsumption }	Hyperonymy/Hyponymy

{Emplacement}	Reference (A sub-functor of Subsume)
Incompatible	Antonymy
{Bond }	Essential Property (Approximate)
{Conger}	Definition (Very approximate)
Identity	Synonymy
Link	Meaningful Predication
Sooth	True/False Predication

VIA ATTIVA, PRAGMATIC SEMANTICS LOGICIZED

THE **CORRELATIVE** LOGICAL RELATIONS BETWEEN VIA ATTIVA PROPOSITIONS AND VIA PASSIVA STATEMENTS

Summarily, the truth value of a via passiva statement about the relation between concepts is **correlative** to the coherence value of the via attiva proposition with the same concepts and the same functor used per the Correlative Chart above, pp. 56 – 57.

Let ^[F] C1 C2^[57] be the general form for via attiva propositions tendering travel in lexical space, and let <[F] C1 C2> be the general form for correlated via passiva statements about concepts' relations in lexical space. [F] is a copula variable for which we may substitute one of the binary functors or lexical relations, depending on how we interpret a sentence's copula. ^/C1/^ and ^/C2/^ are token variables for categorematic concepts per the following samples:

Noun-noun concepts, ^[/] bird tit-willow^;
adjective-adjective concepts, ^[**!**] blue red;
noun-adjective concepts, ^[**.**] mouse hungry^.

The first [F] in [F][F] C1 C2 is a monary variable for conceptual negation, [~], of propositions and for alethic negation, [-], of statements. ^[~][/] mouth modem^, or [~/] as short for [~][/], we negate the coherence of subsuming ^modem^ under ^mouth. Of course, we also negate concepts with [~], ^~hungry^. The proposition's negated functor, [~/], advises us not to subsume ^modem^ under ^mouth^ on pain of incoherent anthropomorphism. With <[-][**.**] pencil dull> we alethically negate <[**.**] pencil dull>.

Substitutions for ^[F] C1 C2^ s are coherent if travel between its concepts on the lexical path specified by its copula is warranted. It's *de dicto* warranted if a language's speakers customarily travel on it; its *de jure* warranted if they decide to travel on it for defensible reasons. It may be *de facto* warranted, also, which I'll partially explain as the siring relation on p. 68ff and as a partial vindication of logical positivism. For now, a proposition's coherence is de facto warranted if its siring statement is true:

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[57] Later, I will drop the square brackets around functor/advisories unless it's needed for clarity or as a reminder that lexical advisories are not concepts but are used to indicate its an interpretation of a sentence's copula. I use them also to indicate relations, the kinds of travel paths taken in lexical space between concepts in the via passive mode.

<<[**.**] Whale mammalian> is true> --} <^[**.**] whale mammalian^> is coherent>>.

A via attiva proposition is incoherent if it tenders an unwarranted path, [**~**F],. It's unwarranted eithe de dicto, de jure, or de facto by fluent speakers of a language. Coherence logic's valid inference forms may be used to establish that via attiva travel is or is not warranted in case speakers fluent in a language are uncertain or disagree about what paths may be taken from one concept to another. Examples of such arguments are coming up. However, hovering over us, Tom, with beating wings, is the disagreement about the status of the Liar Paradox. Are the arguments for its being a paradox conceptually valid? No. The proof for this, too, coming up.

With a via passiva statement, a person claims its concepts either have the relation specified by the copula [F] of <[F] C1 C2> or do not have it, <[-]<[F] C1 C2>>.[58] <F C1 C2> is true if its correlative via attiva proposition, ^F C1 C2^, is coherent after emplacements. <F C1 C2> is false, [-]<F C1 C2>, if its correlative via attiva proposition, ^F C1 C2^, is incoherent after emplacements. Substituting [Subsume, /] for [F], we have:

If ^ / C1 C2^ is coherent, < / C1 C2> is true.

If ^ / C1 C2^ is incoherent, < / C1 C2> is false, or equivalently, <**-**/ C1 C2> is true. If there's a warranted de dicto subsumption path between ^water-vessel^ and ^dinghy^, ^ / water-vessel dinghy^ is coherent. From this it follows that its correlative via passiva statement, < / ^Water-vessel^ ^dinghy^>, is true. In general,

<^ / C1 C2^ is coherent> --} << / ^C1^ ^C2^> is true>>.

We advise, dear friends, not to subsume C2 under C1 when there's no warranted subsumption path, ^**~**/ C1 C2^, between C1 and C2. Here's some negation deployments.

<<^ / Train dinghy^ is incoherent> {--} ^ **~**/ train dinghy^>.

<< / Train dinghy> is false> {--} -< / ^train^ ^dinghy^>>;

<<^ **~**/ train dinghy^ is coherent> {--} <[-]< / ^train^ ^dinghy^>>.

^[*****] Concept {oval circular …}^ is de dicto incoherent. [**~***] invites us not to link ^concept^ with the range ^{oval circular …}^, because no such lexical de dicto combinations of these tokens come out of native speakers' mouths to describe literally concepts as oval or circular shaped. We use /circular/ to describe an invalid argument form or a physical shape, but don't do so to describe a concept. ^[**~***] S {P ~P}^ correlates with [-]< [*] ^S^ ^{P ~P}^>.

THE BESTOWAL RELATION BETWEEN PROPOSITIONS AND STATEMENTS

Propositions **betstow** their coherence value on sentences. Sentences have no coherence value in themselves. To say a sentence is coherent or incoherent is to say in a

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[58] Note that here I use the statement negation functor, [-], and that it lies *outside* the angle brackets of statements to indicate its scope, namely, the statement as a unit as /is false/ does. [-] does not negate a proposition. The negation of a *proposition* uses conceptual negation, [~]. and lies *inside* the braces to indicate its scope is confined to the functor at its immediate right. For example, ^[**~**Subsume, /] harness apple^ advises us not to subsume ^apple^ under ^harness^ on pain of incoherence.

short-hand way that one or more interpretation of it is, respectively, coherent or incoherent. I call an interpretation of a sentence a **proposition**. For brevity's sake, we may be tempted to say a 'sentence' is coherent or incoherent. That's not advisable; it may cause us to forget they have coherence value only after we bestow a proposition's coher-ence value on it.

THE BESTOWAL RELATION

Our interpretations of sentences, propositions, **bestow** their coherence value on sentences as well as on statements. Propositions' bestowals on sentences are why we can use interpretated token sentences to assert statements:

/Sentence/ → ^proposition^ → <statement>.

If the interpretation of /[F] C1 C2/, ^[F] C1 C2^, is coherent/incoherent, <[F] C1 C2> is coherent/incoherent.

The bestowal relation differs from the correlative. We *bestow* coherence value on *sentences* by our interpretations of them, which enables us to a make statements about a lexical or a non-lexical state of affairs. On the other hand, we correlate via attiva *propositions*'s coherence value solely with the truth value of via passiva statements about lexical states of affairs, namely, the relations between propositions' concepts.

The coherent interpretation of /The car is hot/, ^**.** car(coolant) boiling^ bestows a coherence on that sentence. The incoherence of ^**.** ruby boiling^'s bestows incoherence on /The ruby is hot/, which blocks the coherence of < **.** Ruby boiling> made with that incoherent interpretation.

If the interpretation ^[F] C1 C2^ of /[F] C1 C2/ is coherent/incoherent, it bestows coherence/incoherence on that token sentence, and, if ^[F] C1 C2^ is coherent, <[F] C1 C2> may be used to make a statement.

Statements may be made only with token sentences that are given coherent interpretations; hence, statements' coherence depends on the coherence of the interpretations we give sentences that we use to make statements. For example, if on some occasion the interpretation of /The car is hot/ is ^**.** car's-coolant boiling^, then, since ^**.** car's-coolant boiling^ is coherent, <The car's coolant is boiling> is coherent and may be true or false. No stat-ment may be made with /The ruby is hot/ if its interpretation is ^**.** ruby boiling^. Because that 'liquidless' proposition is incoherent, <The ruby is boiling> is neither true nor false. Of course, if the interpretation of /The ruby is hot/ is ^**.** ruby stolen^, <The ruby is stolen> would be coherent.

SOOTHAGE AND THE SIRING RELATION BETWEEN NON-LEXICAL STATES OF AFFAIRS AND PROPOSITIONS' COHERENCE

Coherent via attiva propositions entail the truth of their correlative statements about lexical states of affairs. In the other direction, true and false *sooth* statements about

non-lexical states of affairs directly **sire** coherent sooth propositions, and indirectly **sire** coherent link propositions per the following inference form:

< **.** S P> or < **.** S ~P> --} ^ **.** S P^ & ^ **.** S ~P^
^ **.** S P^ & ^ **.** S ~P^ --} ^ ***** S {P ~P}^

< **.** S P> or < **.** S ~P> --} ^ ***** S {P ~P}^.

I'll explain these and other subsequent entailments further in the sections on the Link Walk and the Sooth Walk inferences.

Sooth statements sire coherent sooth propositions when coherent emplacements, S+P+, into the subject and predicate of the sentence used to make a statement, < **.** S P>, makes the statement true. As I show later, < **.** S ~P>'s falsity also sires the coherence of ^ **.** S P^ and ^ **.** S ~P^. This shouldn't surprise you, given Plato's refutation of Parmenides' claim that we can't make false statements, which I explicated in our "On Emplacing" conversations. Here again briefly, is Plato's refutation, according to my reading of his *Sophist*.

< **.** S P> is true, ^ **!** P ~P^; hence, < **.** S ~P> is false, and
< **.** S ~P> is true, ^ **!** P ~P^; hence, < **.** S P> is false.

A sooth statement is made by performing these acts: (1) Uttering and (2) interpreting a sentence token, and (3i) asserting a truth value entitlement based on emplacement success or failure, or (3ii) withholding judgment if emplacement success or failure is unknown to the claimant. The truth-entitlement claim, (3i) and (3ii), was traditionally an essential feature of ^judgment^. Descartes thought truth-value claims were acts of will, which accounted for the possibility of making true or false judgments. Today, we have to pass through Frege's turnstile, |--, to enter the pastures of judgment.

Although a sentence token may have more than one interpretation, a statement's identity is tied to but one of them. The reverse of this is that a true sooth statement sires but one coherent proposition, because its coherent/incoherent SP emplacements dictate it's entitled truth value (true, false, unknown). To write a statement's sired proposition,

(i) replace a statement's angle brackets <…> with carets ^…^,
(ii) use your rewrite(s) of the sentence's subject and/or predicate tokens.

For example, if your rewrite of /Emily is mad/ yields ^ **.** Emily angry^, and if < **.** Emily angry> is true or false—yes, either--its sired, coherent propositions are ^ **.** Emily angry^ and ^ **.** Emily ~angry^. By the siring relation,

< **.** Emily angry> is true or false^ --} <^ **.** Emily angry^ and ^ **.** Emily ~angry^ are coherent>.

After all, < **.** Emily angry> would be false if < **.** Emily ~angry> were true and < **.** Emily ~angry> would be false if < **.** Emily angry> were true. Tom, isn't this co-involvement? Were we to interpret /Emily is mad/ as ^ **.** Emily crazy^, the sired propositions of a true/false statement, < **.** Emily crazy>, would be ^ **.** Emily crazy^ and ^ **.** Emily ~crazy^.

True or false statements entail their sired propositions are coherent, but not vice versa. The de dicto coherence of ^ **.** Emily angry^ does not entail < **.** Emily angry> is true, nor does its incoherence entail it's falsity. Only coherent emplacements, S+P+, into /Emily is angry/'s subject and predicate makes it true.

* * * *

The sooth functor is the interface between coherence and truth and their logics.

The coherence value of emplacements' into a sentence's interpreted /S/ /P/ tokens determines sooth propositions' coherence fate and its allied sooth statemens' truth or falsity. If the emplacements' are coherent, the statement is true, if one or both are incoherent, the statement is false.

Soothage can be an interface between coherence and truth, because, contra Quine and probably you, too, Tom, it integrates *conceptual* and *emplacement/referential coherence*. The sooth functor tenders an incompatible combination of property concepts, ^P^ and ^~P^ in ^ **.** S P^ and ^ **.** S ~P^, both of which may be coherent. But, in a [Sooth] statement we claim that only < **.** S P> or < **.** S ~P> has coherent property emplacements; so, not both are true. This is the part of conceptual logic where the "truth conditions" theory of meaning makes its trenchant but limited contribution to semantics. For most philosophers, in old-speak, 'meaning' and 'truth' are mutually relevant, but, as the correlative, bestowing, and siring relations show, not as simplistically as we've been led to believe by our celebrated masters. I illustrate and buttress this some pages on with ^dinosaur^ and ^bird^ (p. 99ff).

IN SUMMARY

Correlative: A coherent via attiva proposition ^[F] C1 C2^ --} a via passive statement about lexical relations <[F] C1 C2> is true. An incoherent proposition entails its correlative statement is incoherent. (For the latter, see the reasoning, pp. 61- 63.)

Bestowed: A coherent/incoherent interpretation, ^[F] C1 C2^, of /[F] C1 C2/ bestows, respectively, its lexical coherence/incoherence on any sentence so interpreted and on any statement that uses that sentence's interpretation.

Siring: The truth or falsity of < **.** S P> or < **.** S ~P> --} ^ **.** S P^ & ^ **.** S ~P^ are coherent.

A biconditional for siring is proved on p. **??????**

Tom, I know it may tax you to hold on to the differences between ^correlated^, ^bestowed^, and ^sired^, but you have to if you're ever to escape the limitations of the 'truth conditions' theory of meaning and all its trailing, losing causes. Without these conceptual relations between propositions and statements, you can't comprehend mature versions of ^meaning^ and ^reference^ nor their conceptual siblings. Put them in your learning dreams. If you find some clever way of more memorably naming them, please tell me. Grazie.

End of this Summary

Part IV Link, Sooth and Other Inference Forms; and via consiglia (de jure) versus via fattiva (de facto)

We wield the sooth functor differently from that of the other binary functors/relations, True *sooth* statements, which have coherent emplacements, S+ P+ or S+ ~P+ in the subject and predicate of a token sooth sentence are by themselves *de facto* grounds for altering or confirming the de dicto coherence of tendered travel routes in lexical space. The sooth truth, or falsity, of

< **.** Emily upset/agitated> or < **.** Emily ~agitated/tranquil/...>

allow and entail the coherence of both sired propositions,

^ **.** Emily upset/agitated^ and ^ **.** Emily ~agitated/tranquil/placid/…^.[59]

The coherence of propositions flowing from the siring warrant takes precedence over the coherence flowing from the de dicto and de jure warrants when they conflict.

This has important consquences for how factual discoveries, popular and scientific, may change a conceptual system. Philosophy as a study of concepts has to be au courant with new information if it's to maintain its vitality and relevance. I explain and illustrate this further on in "Some Sooth Truths about Dinosaurs and Birds" (p. 99ff).

The siring warrant is importantly useful. In our "On Emplacement" conversations, I pointed out how mastery of coherent emplacement enables us to read the world. Once a child has learned, separately, the coherent emplacements for /apple/ and /red/, upon seeing a red apple for the first time, she may proclaim /Red apple/. She's picked up on how to construct a new apple state of affairs; it shows she's caught on to linking and soothing, because she knows she may emplace the discerned apple into /apple/ and the red trope into /red/. So, when she utters /Red apple/, we know she's simultaneously made a coherent state of affairs and verified the truth of < **.** Apple red>, S+ P+.[60] Children learn to emplace substantives and tropes into sounds before they learn to emplace them into written tokens, Tom.

The sooth truth < **.** Apple red> entails its sired propositions ^ **.** Apple red^ and ^ **.** apple ~red^ are coherent. It does so, because a sooth statement can't be true or false unless the sentence used to make it has coherent emplacements in its subject token /S/, and in either its predicate token /P/ or /~P/; by hypothesis, this condition obtains by virtue of the statements' truth or falsiy; another reason is that one or the other of these coherent

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[59] Tom, you may sense my uncertainty about the contradictory or contraries of ^agitated^. This is a good example of where a conceptual logic is helpful. ^Upset^ likely subsumes ^agitated ^; ^tranquil^ is a pretty secure contrary of ^agitated^. ^Annoyed^ and ^exasperated^ are ^~tranquil^ but may not be easily subsumed by ^upset^. Refinements have to be marshalled here. Concepts of emotional states are very unorganized in street and salon English and in lecture halls.

[60] Ordinarily,what we call identifying an 'object', an apple, is identifying it as a component of a state of affairs, an apple and its property(s), such as its red trope, what Wittgenstein seems to have called a "fact" in the *Tractatus*. It's important to recognize, however, that 'a state of affairs' doesn't exist outside a conceptual system; instead it's *made* by coherent emplacement into a grammatical sentence /EappleE @ /apple/ & E(apple) redE @ /red/^, which is the verification of the statement <This apple is red>. This making requires having the competence to use grammatical and lexical frameworks.

emplacements in /P/ or /~P/ must co-exist with /S/, be carried by it into a true sooth statement.

In prior remarks, I extended this argument to the siring power of a false statement. Here's why < **.** Apple red> is false if its perceived color trope is green, which is coherently emplaceable only in the predicate token /green/. The concept ^green/~red^ is incompatible with ^red^; thus, < **.** apple red> is false because < **.** apple green/~red> is true. Although the concepts in the range ^{red ~red}^ are incompatible, all are *linked* coherently to ^apple^; hence, ^apple^ may be soothed coherently to ^~red^ as well as ^red^, giving us the coherent proposition, ^ **.** apple ~red/green^, a case of a subject concept and incompatible predicate concepts co-existing in coherent harmony. I explain this linking of ^apple^ to a range in the Link Walk, coming up. We may fully symbolize these siring statements and their sired coherent propositions as:

<EappleE @) /apple/ and E(apple)red @ /red/> --} ^ **.** apple red^, and
<EappleE @) /apple/ and E(apple)green @ /~red/green/> --} ^ **.** apple ~red/green^.

Both propositions are coherent even though < **.** Apple red> may be true in one case, false in another, namely in the case < **.** Apple ~red/green>, because ^red^ and ^~red^ are incompatible. The coherent ^EappleE @ /apple/^, S+, may carry a red trope coherently into the predicate ^E(apple)red @ /red/^, P+. An S+ may carry, instead, a green trope into the predicate token, /~red/green/, ~P+. Such coherent emplacements into sooth sentences and statements entail they have coherent interpretations.

In short, if a sooth sentence's subject, /S/, and its predicate tokens, /P/ or /~P/, have coherent emplacements, S+ P+ or S+ ~P+, both sentences have coherent interpretations.

We get this result when we interpret embryonic ^reference^ as mature coherent ^emplacement^. This conceptual shift integrates 'meaning' and 'reference' contra Quine and his panoplied procession. In new-speak, it integrates coherence and truth logics.

The siring warrant may implicitly have misled many to think a word's meaning is atomistic, the antithesis of which is often vaguely tagged as 'holistic'[61], which I propose may be nurtured to maturity with the use of conceptual logic to show that concepts are systematically integrated with others. This mistake tends to be committed by people who are intensionally challenged, who overly rely on designation, denotation, and extensional truth as the lone guarantees of words' meanings, and who have a simplistic view of ^reference^. The atomistic view ignores that "apple" and "red", "water" and other natural kind names, as well as proper names, say "Saul Kripke", have seven lexical relations that serve as brakes on and aids to coherent emplacements. Think of a one-many relation:

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[61] The truth-conditions theory of meaning has this effect on many. G. E. Moore, followed by Russell, objected to the absolute idealist' global account of truth led by stronghead F. H. Bradley. Russell's early influence on Wittgenstein gave us atomistic "facts"—one fact, one picture. The idealists confused a coherence account of truth with a coherence account of concepts (and so did Russell and Moore), a mistake that persists to my own late days, which I'm attempting to correct here with an account of 'global' coherence in a language's lexical space before I blinker out.

^Apple^ has *many* lexical relations we must respect in order for an apple to be coherently emplaced in /apple/. Because of these different lexical relations, such as ^ / fruit apple^ and ^ ~/ fruit tennis-ball^, it's incoherent to emplace a tennis ball in /apple/. There are similar brakes and aids on emplacing red, water, and Saul Kripke into the categorematic tokens /red/, /water/, and /Saul Kripke/.

Tom, I'd appreciate getting an email message, "Thanks, Thelma", if I've made this comprehensible and if you're grateful for being freed from extensional addiction.

IN SUMMARY

Propositions' coherence is *sired* by emplacements in sentence tokens that entitle us to claim their siring sooth statements are true or false. In addition, coherent readings of sooth sentences and statements is *bestowed* on them by sooth propositions whose coherence derives from a lexical system via the **Link Walk** (coming up). Should these two sources of sooth coherence—true or false sooth statements and a lexical system—conflict, the coherence derived from sooth statements' truth values overrides those derived from the lexical system. I expand on this very important feature of coherence logic below. It's "important", because it clarifies the clouded relations between the 'analytic' (vs. lexical systems) and the 'synthetic' (vs. emplaced sooth truths), and alethic 'necessity' (vs. leutically enjoined), and because it renounces the a priori/a posteriori distinction upon which so much epistemology since Kant has relied, but does so on wholly different grounds from those of Morton White and WVO Quine's.

All truth values about *<u>lexical</u> states of affairs* are 'synthetic a posteriori' as I explained with the *correlative* relation between via attiva propositions' coherence and the coherence of via passive statements about concepts' relations. All truth values about *<u>non-lexical</u> states of affairs*, too, are 'synthetic a posteriori', because they derive from coherent emplacements of observed or inferred substantives and properties into token sooth sentences. Leutically allowed sooth sentences is mana that drops night and day from the Link functor in our own wilderness. Leutic modal [Allowed] replaces derivative alethic [Possible]. But as I explain later, my erasure of alethic modality is no cause for despair, because I supply the logical comfort of replacing alethic modalities in semantics with their leutic masters.

THE LINK WALK

We may infer coherent link propositions from a lexical system's grounded via attiva premises with the Link Walk inference pattern. Think of sound conceptual inferences, such as Link Walk inferences may be, as coherence-preserving travels in lexical space. A sound conceptual inference has coherent premises and is valid.

LINK WALK INFERENCE

(1) [**:**] S P	**:** animal self-moving
(2) [/] P {Q ~Q}	**/** self-moving {walk swim fly slither…}
(**FP**) (**~:** S Q & **~:** S ~Q)	The **Free-Predicate Condition**–S isn't bonded with any concept in {Q ~Q}; **~:** S walk & **~:**S ~walk (swim fly slither...)
(3) [*] S {Q ~Q}	* animal {walk/~walk fly swim slither…}

(1) If a substantive concept is bonded to a property concept ^P^, (2) the (P) concept subsumes a range of property concepts, and (FP) the substantivet concept is not bonded to any property concept in that range, then (3) the substantive concept is validly linked to that range. We can hike via (1), (2), and (FP) to (3).

According to (**FP**), if a substantive concept, ^S^, isn't bonded to any property concept in a range, we're **free to link** ^S^ to that range and, as I'll show shortly, we're also allowed, we're **free to sooth** it with any concept in the range. (1) enjoins us to bond ^S^ to ^P^; (2) enjoins us to subsume the trope range under ^P^, which identifies the range to which we're enjoined to link ^S^. (1) and (2) locate (3)'s ^S^ and its linked concepts in lexical space.

If (1), (2), or (FP) is incoherent, we can't validly hike to (3), because incoherent premises indicate there is no such path in lexical space--*inter intercipus*. Negating (FP), **~^ ~:** S Q & **~:** S ~Q^, (~FP), gives us by DeMorgan (**~FP**). (**: S Q** or **: S ~Q**), the **UnFree-Predicate Condition**. The coherence of either of (**~FP**) bondings hinders us from validly inferring (3), because (~FP)'s disjunctive antecedent entails the link proposition is incoherent, as in this entailment form's negated consequent:

(**~FP**) **(: S Q or : S ~Q) --} ~* S {Q ~Q**}.

The following inference is valid just because (5) breachs (FP) and puts (~FP) into play, thereby rendering ^* S1 {Q ~Q}^ incoherent, which conclusion (6) reflects with its negation of [*], (~FP)'s consequent.

(4) / S S1	/ animal snake
(5) **:** S1 Q	**:** snake slither
(**~FP**) (**:** S Q or **:** S ~Q)	The **UnFree-Predicate Condition**
(6) ~* S1 {Q ~Q }	~* snake {slither walk swim fly …}.

We're **not free to link** ^S1^/^snake^ to ^self-moving^'s range of concepts, if, per (5), ^S1^ is bonded to ^slither^ in that range. So, (6) is a valid conclusion. Also, in that case, we're **not free** to sooth it to any concept in the range, which I prove later. The (~FP) entailment above, transposed and then DeMorganed, is the equivalent (~FP'),

(~FP') * S {Q ~Q} --} (~: S Q & ~: S ~Q).

Here's another example of (~FP)'s reach

> If ^S^ is bonded to a concept in a range, as ^emerald(gem)^ is to ^green^, then we're not free to link ^emerald(gem)^ to that range of colors. Nor can it be soothed coherently to *any* color concept in that range. This includes ^green^; thus, ^ **:** emerald green^ --} ^ ~**.** emerald green^.[62]

E. Zalta's [Encode] somewhat resembles my [Conger]; ^emerald(gem)^'s congery includes ^green^. He writes, "We propose that Leibnizian concepts (both the concepts of individuals and the concepts of properties) are *abstract* objects and *encode* properties.The Leibnizian concept (of) *F* will be identified as the abstract object that encodes all and only the properties necessarily implied by *F*. Thus, *the concept person* will encode the property of being rational, assuming that the property of being rational is necessarily implied by the property of being a person".[63]

I don't subscribe to Zalta's project of outfitting us with 'abstract ideas' in a concrete nominalistic heard-seen-felt universe of particulars. 'Abstract ideas' smacks more of a factor in an explanation of learning concepts than of the lived reality in which children learn; youngsters master lexical systems by hearing, watching, imitating, without recourse to inert 'abstract objects'. Kids aren't outfitted as leibnizian monads. Also, Zalta's leibnizian theory of concepts uses a parsimonious selection of copula/functors. He relies solely on the [Bond] copula to the neglect of six other lexical functors. And in his account of intensional relations between concepts, like Bolzano, he uses extensional relations such as addition, inclusion, and containment. To his credit, Zalta does address the central issue of concept identity (p. 145).

In that same issue of the journal, C. Garcia notes that in a reply to Gassendi, Descartes remarks on the relation (my [Conger]) between ideas and essences: "An idea represents the essence of a thing (*rei essentiam*); and if anything is added to or taken away from the essence, then the idea automatically becomes the idea of something else."[64] He's right about that. Bravo Descartes!, who apparently thought of ontological essences as a congery of bonded properties. I propose, instead, that we think of the relation between a substantive and its essence as a [Conger] functor, an interpretation of a copula that specifies enjoined routes from a substantive concept to its bonded property concepts

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[62] ^ **:** S Q^'s coherence entails the incoherence of ^ **.** S Q^ and ^ **.** S ~ Q^, which differs from the alethic modal formula, <Np –} Mp>, accepted as 'true' by many alethic modal logicians. This shows that replacing [**N**ecessary] with my [Bonded/ Enjoined] and [**M**oeglich/Possible] with my [Sooth/Allowed] enjoins us to reject this controversial alethic modal formula. Because ^ **:** emerald green^ is modal [Enjoined] coherent, and because ^ ***** S {P ~P}^ --} ^^ **.** S P^ & ^ **.** S ~P^^, (proven later), ^ **.** emerald green/~green^ is incoherent per (~FP). No incoherent sooth 'statement' is true or false; hence, it's not a factual statement. Factual statements' copulas are [Sooth, **.**] predications. Both < **.** S P> and < **.** S ~P> are allowed coherent, which is why both contradictory factual statements have truth value, although not the same one. But if ^S^ is bonded to ^P^, we're enjoined not to link it to {P ~P}^ nor to sooth ^S^ to ^P^ or ^~P.^. This makes both ^ **.** S P^ and ^ **.** S ~P^ incoherent; hence, neither < **.** Emerald green/~green> has truth value ; so, it's not a 'possible' factual predication. See p. 54f.

[63] Edward N. Zalta, "A (Leibnizian) Theory of Concepts", Section 2, and Appendix I; *Logical Analysis and History of Philosophy*, Vol. 3, Paderborn, Germany, Mentis, 2000. ^Person^ is a substantive concept that needs [Encoded], congered, property concepts to idenfify the concept ^person^.

[63] *Ibid.*, Garcia, Claudia Lorenz, "Descartes: Ideas and the Mark of the Mental", p. 42.

in lexical space. Garcia astutely promotes via attiva lexical moves, "is added to or taken away"from a cartesian ^idea^ and its effect on the identity of a substantive's concept.[65]

We may use the Link Walk Inference, and, as I will show, its extended **Pelwalk** argument (p. 84ff), to identify predicate ranges linkable to a subject, which we can use to answer Wittgenstein's *Tractatus* question: What can we say (link and sooth) and not say (not link and not sooth) coherently? [66]

Russell conferred on his "types" "*range*(s) *of significance*". In his maturing truth logic, they were restrictions on the range of values for the subject's variable, (x), in propositional functions, F(x).[67] By contrast, I'm using "range" to cover *predicate* ranges that take pride of place over subject ranges. Russell's adumbration is closer to my **Soothwalk** (p. 86f) and its **Selwalk** extension (p. 87ff).

PRELIMINARIES TO THE SOOTH WALK

The following inference formalizes and illustrates (~FP)'s power of link negation by modus ponens:

(~FP) (**:** S Q or **:** S ~Q) --} **~*** S {Q ~Q}
: S Q or **:** S ~Q ^**:** square four-sided or ~four-sided^

~* S {Q ~Q} ^**~*** square {four-sided ~four-sided}^ by Modus ponens

From the valid conclusion of this inference, and with form (**SL5**),

(**SL5**) ~* S {Q ~Q} --} **~.** S Q & **~.** S ~Q,[68]

of the **Sooth/Link Walk** conditional, listed among the "Five Forms" in the next section, we may infer that if ^S^ can't be linked coherently to a range, neither can it be soothed coherently to any concept in that range: Here's an example of (SL5): If ^book^ can't be linked coherently to the range ^{hungry ~hungry}^, it can't be soothed coherently to ^hungry^ nor to ^~hungry^. That is, those tropes can't coherently be soothed/predicated of books. (SL5) bars sooth/predication walks from ^S^ to both ^Q^ and to ^~Q^, (^ **~.** S Q^ & ^ **~.** S ~Q^).

Before hiking to the next crest, here are five forms of the logical relations between the [Link, *****] and [Sooth, **.**] functors, which I label (**SL1 - 5**). (SL2 – 5) are easily deducible from (SL1). Don't confuse the Sooth Walk inference form, coming up on p. 81 with any of the following link/sooth entailments.

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[65] Russell, B., *Logic and Knowledge*, pp. 72 - 73, (Ed.) R. C. Marsh; London, George Allen & Unwin, 1956.
[66] *Tractatus Logico-Philosophicus*, 4.114 - 4.115.
[67] Russell, B., *Logic and Knowledge*, pp. 72 - 73, (Ed.) R. C. Marsh; London, George Allen & Unwin, 1956.
[68] This is part of why I reject <Np --} Mp> as sketched in footnote 61 on p. 75.

Five Forms of the Sooth/Link Walk Entailment, (**SL**)

(SL1) ***** S {Q ~Q} {--} (**.** S Q & **.** S ~Q) Biconditional (proved p. 78)
(SL2) ***** S {Q ~Q} --} (**.** S Q & **.** S ~Q) From (SL1) by Equiv.
(SL3) (**~.** S Q or **~.** S ~Q) --} **~*** S {Q ~Q} By Transp. & DeM on (SL2)
(SL4) (**.** S Q & **.** S ~Q) --} ***** S {Q ~Q} From (SL1) by Equiv.
(SL5) **~*** S (Q ~Q} --} (**~.** S Q or **~.** S ~Q) By Transp. & DeM on (SL4)[69]

It's worth dwelling briefly on another example of a Sooth Walk inference, Tom. I'll use (SL3) to help you understand the sooth functor's interface role between truth and coherence values. Suppose we coherently emplace, S+, a book entitled *War and Peace* in the subject of /*War and Peace* is hungry/:

Ewar-and-peace-bookE @ /*War and Peace*/.

We can't, however, coherently emplace any of the book's properties, such as ElongE or EplottedE, into /hungry/. ^E(war-and-peace-book)longE @ /hungry/^ is an incoherent emplacement. The book carries no physical or mental tropes that may be emplaced coherently in the physiological /hungry/, since^book^ and ^organism^ are incompatible concepts, ^ **!** book organism^; they have incompatible congeries. Thus, the emplacement profile of /*War and Peace* is hungry/ will always be S+P~ regardless of which of a book's properties we emplace in /hungry/. /*War and Peace* is hungry/ has no coherent literal interpretation; nor does /*War and Peace* is full/~hungry/, because /hungry/, P-.and /~hungry/, ~P-. This is why ^**~*** *War and* Peace {hungry ~hungry}^ is coherent.

Further, without coherent emplacements in the predicates of /*War and Peace* is hungry/ and /*War and Peace* is full/~hungry/, these sentences can't be used to make sooth statements;. Neither < **.** *War and Peace* hungry> nor < **.** *War and Peace* full/~hungry> can be true or false. I will prove the important (SL1) biconditional, p. 78, after introducing you to the Waltzers and their entailment intimacies. I call them Waltzers, because conceptual logic dancers "are too much in love to say 'Good night'".

THE WALTZERS

The **Waltzers**, **(W)**, are [Sooth] propositions with disjunctive and conjunctive dance cards. I abbreviate them for ease of eyeballed comprehension. They are the most radical departure of coherence from truth value logic. Truth logic doesn't sanction an inference from the truth of a disjunctive to a true conjunctive statement; <p **v** q> does *not imply* <p **&** q>, but coherence logic does sanction inferences from the coherence of a disjunctive to the coherence of a conjunctive proposition per Waltzer (W1) and (W5).

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[69] The following inferences are for coherence, not alethic logic. Get used to their logical differences, Tom. The consequent of (SL5) entails (~**.** S Q **&** ~**.** S ~Q), which is Waltzer (W3), next page. You get this result by Transp. and DeMorgan of Walzer (W1), (**.** S Q or **.** S ~Q --} (**.** S Q & **.** S ~Q), next page. (W2) ~(**.** S Q & **.** S ~Q) --} ~(**.** S Q or **.** S ~Q), is the Transp. of (W1). (W3), (~**.** S Q or ~**.** S ~Q) --} (~**.** S Q & ~**.** S ~Q), is the Transp. and DeMorgan of (W2). Read (W3), next page, as: If either ^ **.** S Q^ or ^ **.** S ~Q^ is incoherent, both ^ **.** S Q^ and ^ **.** S ~Q^ are incoherent. That I substituted /Q/ for the usual /P/ in the schemas is of no import.

WALTZERS

(W1) (**.** S P **or** **.** S ~P) --} (**.** S P **&** **.** S ~P)
If either, then both

(W2) ~(**.** S P **&** **.** S ~P) --} ~(**.** S P **or** **.** S ~P)
If not both, then not either; (W1), Transposition

(W3) (~**.** S P **or** ~**.** S ~P --} (~**.** S P **&** ~**.** S ~P)
If either not, then neither; (W2), De Morgan

(W4) (**.** S P **&** **.** S ~P) --} (**.** S P **or** **.** S ~P)
If both, then either; weaker than (W1)

(W5) (**.** S P **or** **.** S ~P) {--} (**.** S P **&** **.** S ~P)
If either, then both, (W1) and (W4), Hypothetical Syllogism

(W6) ~(**.** S P **or** **.** S ~P) --} ~(**.** S P **&** **.** S ~P)
If not either, then not both; (W4), Transposition

Using some Waltzer's steps and (SL) premises, I prove by the following transformations that they jointly support the coherence of the (SL1) biconditional, *****S {Q ~Q} {--} (**.** S Q & **.** S ~Q), as promised on p. 77 at (SL1).

(1) *****S {Q ~Q} --} (**.** S Q & **.** S ~Q) (SL2), p. 77
(2) ~*****S {Q ~Q} --} (~**.** S Q & ~**.** S Q) (SL5), p. 77
(3) (**.** S Q or **.** S ~Q) --} *S {Q ~Q} (2) Transp. & DeMorgan
(4) (**.** S Q & **.** S ~Q) --} (**.** S Q or **.** S ~Q) Waltzer (W4)
(5) (**.** S Q & **.** S ~Q) --} *S {Q ~Q} (4) & (3); Hypo. Syllog.
(6) ***** S {Q ~Q} {--} (**.** S Q & **.** S ~Q) (1) & (5); Biconditional

Contradictory, allowed [Sooth. **.**] statements, < **.** Cherry red> < **.** Cherry -red>, may both be coherent (W1). This is not an option for via passive statements with such enjoined functors as [**:**] and [/]. One of a pair of via passive contradictory/contrary statements with an enjoined functor, <[**:**] Square^ ^linear^> < **:** ^Square^ ^~linear^> will be incoherent, and also for via passive [/] statements, because one of their bestowing propositions is incoherent as shown by the following valid inferences.

^ **:** square linear^ ^ **:** S P^ | ^ **/** rectangular square^ ^ **/** P1 P2
^ **!** linear ~linear/curved^ ^ **!** P ~P^ | ^ **!** rectangular ~square/oval ^ **!** P1 ~P2

---

^ **~:** square curved^ | ^ **~:** S ~P ^ | **~/** rectangular oval ^ **~/** P1 P2

These inferences' conclusions show ^ **:** S ~P^ and ^ **/** P1 P2^ are incoherent. Since these via attiva propositions bestow their incoherence value on their correlative via passive statements, < **:** ^square^ ^curved^> and < **/** ^rectangular^ ^oval^> are incoherent. Thus, they have no truth value; hence, they can't contradict or contrast < **:** ^square^ ^curved^> nor < **/** ^rectangular^ ^oval^>.

In conclusion, both allowed sooth statements that are contradictory or contrary may be coherent. Enjoined via passive statements, < **:** ^square^ ^linear^> < **:** ^square^

^curved^>, with their enjoined [Bond, **:**] functor appear contrary on their face, but are not. That's because the second is incoherent and, so, has no truth value. This marks the great divide between the allowed functor [Sooth, **.**] and enjoined functors, and sweeps away customarily, simplistically made distinctions between a posteriori and a priori statements.[70]

Coherence logic is the gatekeeper, alethic logic its suppliant, except for true de facto sooth statements that entail their employed propositions' coherence:

<< **.** dot black> is true> --} <^ **.** dot black^ is coherent>.

This entailment is another good reason why logicians need to augment alethic with coherence logic and to replace alethic with leutic modal logic. It helps the wily recognize that truth/meaning relations aren't as simple as positivists' thought.[71] Refinements havcn't healed the original wound, even if they're disguised as 'truth conditions' balm.

The recognition that alethic sooth contradiction cannot show a statement is incoherent was impeded by rationalists' theories of predication that concentrated on 'a priori truths'; they relied doggedly on interpreting the copula as enjoined functors and neglected or rejected its allowed [Sooth] interpretation touted by the empiricists. However, all via passive statements about leutically *enjoined* relations in lexical systems have de dicto truth only, and aren't a priori; they are truth value reports verified by sensory observations of speakers/writers' via attiva customary lexical travels between lexical tokens.[72] They are not certified by 'a priori intuitions' about 'third realm truths' as such latter day rationalists as Frege and Goedel would have it. Their 'intuitional' affirmations apply to propositions' unexceptional coherence value, not to statements' truth value. The via passive truth value 'results' of such 'intuitions' are limited to the range specified by the Correlative relation in conceptual logic:

> **Correlative**: A coherent via attiva proposition ^[F] C1 C2^ --} a via passive statement <[F] ^C1^ ^C2^> is true. An incoherent via attiva proposition ^[~F] C1 C2^ --} a via passive statement <[~F] ^C1^ ^C2^> is incoherent, hence, is neither true nor false.

The correlative restricts "true" to what so-called 'intuited'--actually, learned--coherence evaluations can confer on via passiva statements about our via attiva lexical habits. It does not extend to sooth statements whose truth entitlements can be determined only with coherent substantive and trope emplacements that 'intuition' can't supply. Thus, the coherent antecedent of this entailment,

^ / tool saw^ --} < / ^Tool^ ^saw^>,

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[70] Tom, the larger, most important, and controversial, implication of the points made here are that the logic of mathematics is conceptual c rather than alethiclogi. Failure to recognize this has led to intractable, gearless controversies on the ontology of mathematics and logic. Replacing alien truth claims made by both both with coherence evaluations cleanses much dross left on the barren field of battle by the many clueless, hapless contenders. See Fn. 53, p. 54.

[71] See footnote 61, p. 75, for a variant formulation of this argument against the alethic Necessary p → Possible p.

[72] See my comment on Zalta's leibnizian theory of concepts, p. 62, p. 65, and fn. 54 on p. 58.

bestows via passive truth on its consequent, but does not bestow truth on sooth statements achieved by coherent emplacements, as in

^[.] EtoolE @ /tool/ & Eheavy @ /heavy/^ --} <[.] Tool heavy>.

The incoherent proposition ^ / tool kidney^, entails its via passive correlative, < / ^Tool^ ^kidney^>, is false. ^^Tool^ subsumes ^kidney^^ Most of us don't talk funny that way!

Via attiva coherence entails via passive truth and via attiva incoherence entails via passive falsity but neither entail anything nigh the truth value of statements about physical states or events. Functor interpreted copulas draw boundaries around what can be said coherently; the truth value of [Sooth] statements lies within those bounds. Rationalist accounts of truth value leap heedlessly from the de dicto coherence of propositions with enjoined functors to de facto truth value as if coherent relations between concepts guaranteed parallel coherent emplacements in token sentences, and as if the coherence value of propositions were identical to the truth value of sooth statements about physical objects and events and their properties. This doomed leap may appear 'rational' to someone who has faith that a rational diety guarantees the anticipated results. That's Descartes' redoubt against his radical doubt and it underwrites Leibniz's cheery belief that monads' sealed consciousness is consonant with the world's states and events and is coordinate with others' consciousness and judgments of the same. But since you're not a faith-based rationalist, Tom, I advise you to adopt my distinction between coherence and truth and my account of their logical relations. Locke took on the Rationalists, but because his arguments were based on psychologized epistemology, they didn't undermine Rationalists' logical and theological grounds. He was jousting in a different tournament from the Rationalist masters of logic and mathematics; each acquired partisans who did-not realize that Locke and Leibniz were jousting in disjoint tournaments. Coherence logic does the job Locke's psychological epistemology couldn't do.

As to (W3) in the Waltzer inferences, p. 78, and fn. 68, p. 77, if either of its antecedent's propositions, ^ **.** S Q^ or ^ **.** S ~Q^, is incoherent, ^ **~.** S Q or ^ ~**.** S ~Q^, then both are, (**~.** S Q & **~.** S ~Q). What Strauss' waltz hath sundered, let no one join together. (W3) may seem counter-intuitive if you've forgotten that the property concepts in its antecedent are housed in ranges, and that we perform different acts with the negation functors [~] and [-]. We use [~] to negate concepts and propositions only, never statements, while we use [-] to negate only statements, never concepts or propositions.

(a) < **.** S P>, < **.** *War and Peace* is short>

is not rendered false by a true statement containing just any *complementary* predicate in place of ^short^, as traditional truth logic would have it. The complement of a predicate "P" embraces too much since it includes all predicates other than "P". ^Thirsty^ is complementary to ^short^, but ^long/~short^, is contrary. ^Short^ and ^long^ are contrary, because they belong to the same predicate range, {short ~short/long}, both being subsumed by ^(text)length^. The truth of (b) makes (a) false:

(b) < **.** S ~P>, < **.** *War and Peace* is ~short/long>.

^Short^'s unrestricted complements, however, such as ^thirsty^, can't make < **.** *War and Peace* short> false, because ^thirsty^ is not in the 'text' range ^{short ~short/long}^. This also restricts Plato's Anti-Parmenidean account of statement falsity; not all complementary concepts of properties can be used to refute Parmendies. You can't use ^thirsty^.

<. *War and Peace* is thirsty> is incoherent! Books don't carry zoological states into /short/ or /long/. Although ^thirsty^ is a complement of ^short^ according to some variations of truth logic, it's neither contradictory nor contrary to it. Frege was egregiously wrong. Check the Square of Opposition in our "On Emplacement" conversations for the contrary of < **.** *War and Peace* is short> (p. 77). Its **E**-statement uses conceptual negation, [~], which limits E-statements' contrariety to a range of predicates rather than to shamelessly libertine complements. Coherence logic reins in truth logic's thoughtless, youthful exhuberance.

THE SOOTH WALK INFERENCE FORM

Once we may coherently *link* a substantive concept to a range of trope concepts, this Sooth Walk inference warrants soothing the subject to any predicate in that range. The Sooth Walk inference form is the Link Walk augmented with (SL2) as a premise in the second inference.

SOOTH WALK INFERENCE

(1) **:** S P
(2) / P {Q ~Q}
(A) Assume (FP) (See p. 74.)

_____

(3) ***** S {Q ~Q} Link Walk inference
(SL2) * S {Q ~Q} --} (**.** S Q & **.** S ~Q)

_____

(4) (**.** S Q & **.** S ~Q) From (3) and (SL2) by Modus ponens

Read (SL2) as: If ^S^ is coherently linked to a range, premise (3), it's coherently soothable to any predicate in that range, conclusion (4); note (A)'s "assuming (FP). For example, the coherence of ^* person {angry ~angry/joyous ecstatic fervent ...}^ entails the coherence of the sooth propositions, ^ **.** person angry^, ^ **.** person ~angry^, ^ **.** person joyous^, ^ **.** person ecstatic^, ^ **.** person fervent^, ^...^, per the Sooth Walk inference form above.

HOW LINK AND SOOTH PREDICATION DIFFER AND WHY THAT'S IMPORTANT

Link is a 'collective' and sooth an 'individual' copula. That difference has important consequences. We can adequately answer Wittgenstein's question about what may be said, what is 'predicable', only if we distinguish between them. His question is about the coherence of linkage propositions. Logical positivists, mistakenly believing he was ask-

ing about sooth sayability only, gave us a near century of shortfall in accounts of ^meaning^, ^truth value^, and ^scientific theory^. Many corrective results follow if we attend to the interface between sooth and linkage coherence. That interface is the exchange bureau for coherence and truth values, for lexical systems, for unsystematic (common sense), and for systematic (scientific) knowledge claims. Locating this interface precisely and elaborating the relation between coherence and truth values illuminates the deficiencies in Quine's and Carnap's dispute about analyticity.[73]

With ^rigid designation^ and ^natural kinds^, Kripke and Putnam (1975), made stabs at understanding this interface. They correctly looked for 'external' factors for ^meaning^, but didn't treat reference as coherent, subsumptive emplacement into subjects and predicates of sentences. Thus, Putnam failed to characterize logically the interface between a lexical system and its 'external' sooth factors. He failed because his thinking, having no operative conceptual logic, was hedged within the confines of truth logic.[74]

Coherent linkage is the birthplace of contingent truth value claims; they're contingent on existing and non-existing states of affairs. It fits Aristotle's notion of contingency, *endech'menon*, the negation of necessity. The concepts of properties in a range, assuming the Free-Predicate condition, are not bonded to a substantive's concept. Being unbonded, free, nothing prevents us from coherently soothing ^S^ to ^P^ nor to ^~P^. A coherent link proposition entails that both sooth propositions, ^ **.** S P^ and ^ **.** S ~P^, are coherent; and they bestow coherence on both < **.** S P> and < **.** S ~P>.[75]

Hume, too, embraced linkage. "From the first appearance of an object, we never can conjecture what effect will result from it". We can't "by mere dint of thought and reasoning" "pronounce with certainty concerning it."[76] "A stone or piece of metal raised in the air, and left without any support, immediately falls: but to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward, rather than an upward, or any other motion, in the stone or metal?"—^{downward upward sideways …}^.[77] Hume, we can and you did so beget, because ^downward^ is a concept in a ^directional-movement^ range, and because that range also contains such contraries as ^upward^ and ^sideways^. What Hume probably meant was that we could not a priori choose which emplaced direction of that range would make true < **.** (unsupported)stone moves/down?up?sideways?…?>. Yet, each sooth statement is coherent.

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[73] For a clear review and sorting of that dispute, see Alexander George's "On Washing the Fur without Wetting it: Quine, Carnap, and Analyticity", *Mind*, Vol 109, No. 433, Jan. 2000. See, also, M. Friedman, who hands the palm to Carnap in this controversy; Presidential Address to the Central Division of the American Philosophical Association, *Proceedings and Addresses of the APA*, 71:2, 1996.

[74] On Putnam, see *Le theorie del significato*, pp, 84-85, Eva Picardi, Roma-Bari, Laterza, 1999.

[75] Aristotle, *On Interpretation, 22b 14-24*.

[76] *Enquiry Concerning the Human Understanding*, Sect. VII, Part I, p. 63, L. A. Selby-Bigge, Second Edition; Oxford, Oxford University Press, 1946 Impression.

[77] Ibid, p. 29.

[77] Ibid, p. 29.

Link and Sooth Walks in Lexical Space: The Long View

Longer link and sooth treks in lexical space are possible, because substantive and property concepts are remotely as well as immediately subsumed, extending the number of coherent contingent statements. In older terminology, the pair "proximate" and "remote" *genera* were used in place of my "immediate" and "remote" *subsumptions*. "The genus next above any species is called the proximate genus; any genus above that, is a remote genus of that species. Thus *quadruped* is the proximate, and *animal* a remote genus of *horse*."[78] Of course, we can move downward, too, from remote to proximate genera. I elaborate on this in the Extended Link Walks section where I explain how we can fit the Link and Sooth Walks into more and more 'proximate levels on subsumption pathways until we reach final proximates, which are emplacements.

To derive coherent link and sooth forms from a lexical system, I employ the seven binary functors, [**:**, **:+**, /, **E**…**E, !**, =, *****]. I call these seven functors the **Seven Princes**. They draw enjoined coherence boundaries for the [Sooth] functor, which is their **Vassal**, their foot-soldier copula, thought's infantry 'grunt'.[79]

PRINCES

[Bond]	[Conger]	[Subsume]	[Counter]	[Identify]	[Link]
bondage	congery	subsumption	incompatible	identity	linkage
[**:**]	[**:+**]	[/]	[**!**]	[=]	[*****]

|

[Emplacement]
[E…E] @ /…/
(The lowest subsumption level)

|

VASSAL

[Sooth]
predication
[**.**]

As you saw in the Link Walk argument, it's premises explicitly use two functors, [**:** and /]. It also implicitly uses two other functors, [**!** and =].

[**!**] is used implicitly, because conceptual negation, [~], creates ranges of concepts, {P ~P}, {S ~S}, that contain and entail incompatible concepts:

{P ~P} --} **!** P ~P, and

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[78] Levi Hedged, (Professor of Natural Religion, Moral Philosophy, and Civil Polity in Harvard University), *Elements of Logick*, p. 38; Boston, Hilliard, Gray, Little, and Wilkins, Sterotype Edition, 1827.

[79] Proofs showing the Princes have enjoined modality begin on p. 140ff, this Appendix.

{S ~S} --} **!** S ~S.

Incompatible concepts may be contradictories, ^ **!** married ~married/single^, or contraries, ^ **!** red, blue, green, ...^. Logically, we could dispense with [Incompatible, **!**], but it will be useful as an explicit relation, particularly when it's used with propositions. Read ^ [**!**] ^ **:** figure square^ & ^ **:** figure ~square^^ as "not both enjoined propositions are coherent" or as "these propositions are incompatible". Recall they're incompatible because both [**!**] and [**:**] have enjoined modalities unlike [**.**], which has an allowed modality. This distinction is important, because both of these allowed propositions, ^ [**.**] figure large^ and ^ [**.**] figure ~large^, *are* compatible in that both are conceptually coherent although alethically incompatible.

The second implicit functor is [Identity, =]. It's shy; it's needful presences in inferences is seldom noted, although it's present in every valid argument: :Inferences' tokens of the same type must be interpreted and must garner emplacements in *identical* ways if the inferences's purveyor is to avoid the fallacy of equivocation. [=] becomes explicit if a critic cries, "Foul! You have equivocated, Sire, when you argue, 'I am a nobody; nobody is perfect; hence, I am perfect'."[80]

OPTIONAL SECTION FOLLOWS

You're forgiven, Tom, if you skip to p.96. What lies in between are extensions of the Sooth and Link Walks. They report inferences that reach to deeper regions of lexical space. While they show a greater reach and power of coherence logic than I've explained so far, they stall my introductory flow. If you don't mind, don't skip.

EXTENDED LINK WALKS: *PELWALKS AND SELWALKS*

Longer predication junkets are warranted by **Extended Link Walk** inferences, of which there are two kinds. **PELWALK** (**P**redicate-**E**xtended-**L**ink-**WALK**) incorporates descending *property* concept's subsumptions. **SELWALK** (**S**ubject-**E**xtended-**L**ink-**WALK**) incorporates descending *substantive* concepts' subsumptions. These walks differ, because each level of substantive concepts' SELWALK pathway is subject to the Free-Predicate (FP) and Not-Free Predicate (~FP) conditions, as I explained above. Substantive concepts' identities are slaves to their (~FP) property congeries.

PELWALK

This a description of a Pelwalk that is symbolized below. A substantive concept S bonded to a property concept P, ^ **:** S P^, may be linked coherently to any predicate range subsumed by P, assuming (FP). For example, ^body^ is bonded to ^corporeal^,

[80] The copula is equivocated. The first premise's functor is [Subsumption] ("**a** nobody"), the second's and the conclusion's is [Sooth]. This is an interesting equivocation, Tom. Try sorting out all the errors to test your grasp of conceptual logic.

which subsumes ^[size shape color density ...]^;[81] each of which subsumes a range, as ^color^, for example, subsumes ^{red yellow blue ...}^. So, ^body^ is coherently linkable to ^colored^'s remotely subsumed range, ^{red yellow ...}^, to ^shaped^'s {round square …}, and to the whole cascade of ^corporeal^'s remotely subsumed ranges. Truth happens remotely when substantives and tropes are coherently emplaced, respectively, in a sentence token's subject and predicate tokens.

```
        : S  P                    : body  corporeal                    <-- [Bond]
                                                |
|       :+ S  [A1  A2…]           [size  shaped  colored  density  ...]  <-- [Conger]
                                                |
        / An  Q                   / colored    {red  blue  yellow  ...}  <-- [Subsume]
        / Q   R                                          /
        * {T  ~T}                 * body  {indigo  cobalt  azure … }     <-- / & [*, Link]
                                          |          |
                  Etom's shirtE @ /shirt/            |                   <-- Emplace substantive
                  E(tom's-shirt)indigoE @ /indigo/                       <-- Emplace trope
```

Subsumption of adjectives and adverb concepts frees us from admitting second order properties to ontologies. Cobalt, azure, indigo are not second order properties of blue any more than red and blue are properties of color; they're diverse subsumptives, concepts subsumed by ^blue^ and ^colored^. Similarly, ^opportunistic^ is a subsumed concept, ^ / character-trait opportunistic^, not a second order property of any character-trait. Think of subsumed concepts invested with burgeoning opportunities for coherent emplacement as we descend subsumption pathways—as from ^colored^ to ^blue^ to ^indigo^--into each of which one and the same trope may be coherently emplaced. Thus, a single trope, say the indigo of your shirt, may be coherently emplaced in /corporeal/, /colored/, /blue/, /indigo/, interpreted as above. This indigo trope is a property of a substantive, such as your shirt, never of a property. "As the subsumptions of a congery's attributes increase while descending on their subsumptive pathways, so do the coherent emplacements at its lower depths decrease", is my variation of the venerable tag "As inten-

---

[81] This 'range' of corporeal properties is a **congery**, since all their concepts are *bonded* to ^body^. Congered concepts are compatible, because they're **disparate**, disparate because, rather than being bonded to ^body^. they're bonded to the concepts of *different aspects* or *different body parts* of an object. ^Color^ and ^vocalize^ are concepts of different trope aspects of a canary. Thus, we may claim coherently and consistently, < **.** canary(color-aspect) yellow> and < **.** canary (vocalize-aspect) sings>. The subject of these propositions is no longer just ^canary^ but ^canary-color-aspect^ and the sentence's subject token is no longer /canary/ but /canary-color-aspect/ . With different subjects, statements have different coherent emplacements, hence, different truth conditions. In Plato's example. ^Top-axis-part^ and ^top-peripheral-part^ disparate subjects, because they're concepts of different parts of a top, rather than ^top^ simpliciter, as are his statements' disparate subjects. < **.** Top-axis-part at rest> is consistent and coherent with < **.** Top-peripheral-part in motion>. Having disparate subjects; they have diverse coherent emplacements and truth conditions. See p. 82ff **????** for more on this topic.

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sion increases, extension decreases". /Indigo/ has fewer coherent emplacements than /blue/.

We can incorporate Pelwalks into the Link Walk argument form by replacing the "Q"'s in its ^ [/] P {Q ~Q}^ premise with the variable "Qv". This rewrite gives us

^ / P {Qv ~Qv}^.

The "**v**" **v**ariable indicates that any immediately subsumed range, ^{Q ~Q}^, and any remotely subsumed ranges of it, ^{T ~T}^, ^{U ~U}^, ^{...}^, may be substituted for the predicate concepts in^{Q ~Q}^ without loss of coherence value. This rewrite gives us a single inference form, the **Pelwalk**, which we may use to ascertain the coherence value of tendered Link and Pelwalks in lexical space.

PELWALK: PREDICATE EXTENDED LINK WALK

: S P
/ P {Qv ~Qv} /Qv/ replaces /Q/
(FP) **~:** S Qv & **~:** S ~Qv Free-Predicate Condition

_____
***** S {Qv ~Qv}

PESWALK: PREDICATE EXTENDED SOOTH WALK

Pelwalks entail **Peswalk**s, **p**redicate **e**xtended **s**ooth walks, if we use Pelwalk's "Qv" in place of "Q". This moves us from

(SL1) ***** S {Q ~Q} {--} (**.** S Q & **.** S ~Q), to
(SL1*) ***** S {Qv ~Qv} {--} (**.** S Qv & **.** S ~Qv)

In inferences, I'll identify each variant form of the Sooth/Link Entailments, (SL)s, with its numerical identity, "(SL1, 2,…)". See p. 85 for the list of (SL)s.

By using the "Qv" variable in (SL)s, I shorten the argument form of extended sooth walks. Compare the Long Soothwalk's, Seven+-Step, versus the Short Soothwalk's Four-step inference forms. Notice that if I hadn't used the rewritten (SL1*) in (6) below, we'd need even more steps to reach (7), because we'd have to use (4), (5), … to infer each conjunct of (7).

LONG SOOTHWALK

(1) **:** S P
(2) **/** P {Q ~Q}

_____
(3) ***** S {Q ~Q}
(4) **/** Q {T ~T}

(5) **/** ~T {U ~U}

SHORT SOOTHWALK

(1) **:** S P
(2) **/** P {Qv ~Qv} Assume (FP)

_____
(3) ***** S {Qv ~Qv}
(SL1*) ***** S {Qv ~Qv} --} (**.** S Qv &
. S ~Qv)

_____
(4) (**.** S Qv & **.** S ~Qv) (Modus ponens,
End of Short Sooth Walk

_____

(6) * S {T ~T} & * S {U ~U} & …
(SL1*) *S {Qv ~Qv} --} (. S Qv & . S ~Qv)

---

(7) (. S Q & . S ~Q) & (. S T & . S ~T) & (. S U & . S ~U) …
From (SL1*) and (3) and each conjunct of (6) by Modus ponens. End of the lonnng Soothwalk.

Tom, I learned to love variables when I realized that logic is a generalization of our resolute inferring habits. We generalize by replacing constant terms with variables. In language as in coherence logic, sentence tokens and copulas are constants. Some of their combinatorial regimens in sentences are widely shared and as difficult to dislodge as sentence the combinatorial regimens in the Barbara syllogism and Modus ponens are. We can use these generalized regimens to build valid inference forms to aid us in settling our doubts and disagreements about tokens and functors of whose combinatorial coherence we are less sure or that aren't widely shared. These regimens, however, are provisional. We may have to alter our lexical system under sooth truth pressures. Carmap and Reichenbach were right about this and Kant was wrong according to Michael Friedman.[82] But, without conceptual logic, Carnap couldn't adequately formulate his insight with his under-funded "meaning postulates" that were tied to an out-worn view about definition based on a part-whole theory of 'analyzable' concepts, from whence came 'analytic' versus 'synthetic'. The wide diffusion of this mistaken notion of concepts and the 'containment' account of definition, still regnant even in today's most technically accomplished theories, may be garnered from the fact that the dominant 20th century Anglo philosophical movement, cribbed from the Britannic coloninizing of N. America, is called "analytic" philosophy. Consider the righteous journal names, *Analysis* (English) and *Logical Analysis and History of Philosophy* (German). And then there's the capper, the *European Society for Analytic Philosophy*. Ecco!

SELWALK

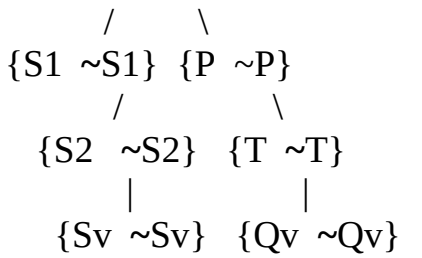
I showed that extended Pelwalks' cascade down pyramids' free-predicate property ranges. There are also **Subject Extended Link Walks**, **Selwalks**, for *substantive* concepts that spill down *subject* pyramids that we may link up with extended property ranges. Remember, Tom, that in my conceptual logic, property concepts hold reign over substantive concepts, as they did for Leibniz. Congeries of property concepts individuate substantive kind concepts, not vice versa. Suppose the following proposition forms have coherent substituents.

Again, I use "**v**" as a variable in ^S**v**^ to match ^Pv^'s variable subsutition powers.

:+ S [A1 A2 …] Bonded congery attribute concepts

---

[82] Friedman, M., "Philosophical Naturalism", op cite, 1996, for his arguments for this judgment.



S subsumes {S1 ~S1}; A1 subsumes {P ~P}
~S1 subsumes {S2 ~S2}; ~P subsumes {T ~T}
Subsumptions spill downward

May we link ^Sv^ coherently to the ranges, ^{Qv ~Qv}^, remotely subsumed by ^A1^,

^ ***** Sv {Qv ~Qv}^?

Yes, *provided* ^Sv^ is not bonded to a concept in {Pv ~Pv} all the way down the pyramid. If Sv were bonded to either ^Qv^ or ^~Qv^, etc. it would arouse the drowsing Cyclops, the (**~FP**) **Not-Free Predicate** condition,

(~FP) (**:** S P or **:** S ~P) --} **~*** S {P ~P},

and slay all subsumed link ranges. Coherent [Link, *****] propositions are tethered to the (FP) Free Predicate condition that I explained in Preliminaries to the Sooth Walk, p. 76ff:

(FP) (**~:** S P & **~:** S ~ P) --} * S {P ~P}.[83]

Without the coherence of the Free-Predicate (FP)'s antecedent, at any level, there's no coherent link, ^ * S1 {Pv ~Pv}^ at that level, per (~BP) above; nor are there coherent sooth paths from ^Sv^ to ^ Pv^ or to ^~Pv ^ at that level. Thus, to take a coherent Selwalk, you need to assume, (FP), by which you affirm that ^Sv^ isn't bonded to any predicate in a range nor in any subsumed range to which you tender a link, as in the Selwalk argument form below. Selwalks are blocked typically by substantives' property congeries that individuate concepts of *kinds* of substantives and place limits on coherent emplacements in their terms. For example, animals have diverse ways of feeding their young: Mammals nurse, birds do it beak-to-beak, ^ / nourish {nurse beak-to-beak …}^. Because ^mammal^ includes ^nurse^ in its congery, ^**:+** mammal [nurse warm-blooded …]^, ^mammal^ is bonded to ^nurse^; hence, ^beak-to-beak^ is not a free predicate; so, ^ ***** mammal {nurse beak-to-beak …}^ is incoherent, as is ^ **.** mammal beak-to-beak^.

^{ Sv ~Sv}^ symbolizes substantive variable ranges and as in premise (3) on the next page. Here are partial examples of subsumption constants that flesh out substantive variable concepts. ^{Sedan coupe pick-up …}^ are contrary constants for ^{Sv ~Sv}^.

^ / auto {sedan coupe pick-up …}^

^* sedan {two-door four-door …}^

^ ***** pick-up {½-ton 1-ton …}^

^Sedan^ and ^pick-up^ are not bonded to any concept in their linked property ranges; so, they're free predicates. That's why ^***** sedan {two-door one-door …}^ and ^* pick-up {1/2 ton 1- ton …}^ are coherent.

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[83] The occurrence of ^P^ in these equivalencies instead of ^Q^ is of no logical import. It's just convenient symbolism.

In the following inference example, conceptual property variables, ^{Qv ~Qv}^, include ^sedan^'s {two-door four-door …} and ^pick-up^'s {1/2ton 1-ton …} .[84]

SELWALK: *S*UBJECT *E*XTENDED *L*INK WALK

Propositional Forms	Emplacement Constants
(1) **:** S P	**:** auto shaped
(2) **/** P {Qv ~Qv} & {Rv ~Rv}	**/** shaped {2-door …} & {1/2-ton …}
(3) **/** S {Sv1 Sv2}	**/** auto {sedan pick-up}

(FP) ^**~:** Sv1 Qv or ~Qv^ & ^**~:** Sv2 Rv or ~Rv^

---

(4) ***** Sv1 {Qv ~Qv} & ***** Sv2 {Rv ~Rv}
^***** Sv1 {2-door 4-door}^ & ^***** Sv2 {1/2-ton 1-ton}^

Free predications may not hold unrestrictedly; congeries may hinder freely predicated descents. Because, ^pick-up^ is congery-bonded to ^open-cargo-space^ while ^sedan^ is congery-bonded to ^trunk-space^, neither kind of space concept is a free predicate. So, ^sedan^ can't be coherently linked nor soothed to ^open- cargo-space^ nor can ^pick-up^ be linked or soothed to ^trunk-space^. These ^shaped^ concepts are incompatible; thus, ^ **.** sedan open-cargo-space^ and ^ **.** Pick-up trunk space^ are incoherent predications.

Below are two other sample inferences that nix these selwalk freedoms. Premise (5) violates the first conjunct of (4)/(FP). The conclusions of such arguments don't follow validly from the Selwalk. They're vetoed Selwalks.

The (~FP) Selwalk Violator (Bad)

(1) **:** stone colored
(2) **/** stone {ruby emerald diamond …}
(3) **/** colored {red green blue …}
(4) (FP) **~:** ruby red & **~:** ruby ~red
(5) **:** ruby red This negates (FP)'s first conjunct in (4)

---

(6) **~*** ruby(stone) {red green blue …}
(7) **~.** ruby green & **~.** ruby blue & … Per (6) and (SL5), p. 59

Since by (5) ^ruby^ is bonded to ^red^, it's not linkable to the range, nor soothable to any ^**:** Ruby red^ also precludes linking and soothing ^ruby(stone)^ to a range of red shades, and to soothing ^emerald(stone)^ to ^green^ shades. Let your trusted, local jeweler be your guide; she's sensitive to the subsumed ranges of shade emplacements. No, Tom, I'm not hinting for a gift jewel!

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[84] A substantive concept can be bonded to but one property concept in a range, (**:** S P --} ~**:** S ~ P), and (**:** S ~ P --} ~**:** S P).

For brevity, I shan't always warn that a possible violation of free predication looms. We won't have to worry ourselves about (FP) and (~FP) if we consolidate our /v/, variable, generalization of property and substantive concepts as either:

(FP) ~**:** Sv Pv & ~**:** Sv ~Pv, Bonded to neither and, by DeMorgan,
(FP) ~(**:** Sv Pv or **:** Sv ~Pv). Not bonded to either

More musket fire, Tom! ^Ruby^ is also not coherently *soothable* to ^red^, because of (5)'s bonding, (~FP) ~Free-Predicate premise. It's as incoherent to *sooth* ^ruby^ to ^red^ as it is to *sooth* ^ it to ^green^. The status of the alethic modality axiom, <Necessary <S>> --} <Possible <S>>, is nullified by its leutic modality replacements (p. 74ff). Here's the proof.

(1) [Enjoined] **:** S P --} [Enjoined not] **:** S ~P Don't bond incompatible Ps
(2) [Enjoined not] **:** S ~P = [~Allowed] **.** S ~P Modal transformation

---

(3) [Enjoined] **:** S P --} [~Allowed] **.** S ~P Hyp. Syl. from (1) and (2)
(4) ^[~Allowed] **.** S ~P^ {--} <[~Possible] **.** S ~P> Leutic ^…^ replaces alethic <…> modality
^

---

(5) ^[Enjoined] **:** S P^ {--} <[~Possible] **.** S ~P> Hyp. Syl from (3) and (4)
(6) <[Necessary] **.** S P> {--} ^[Enjoined] **:** S P^ Alethic replaces leutic modal

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(7) <[Necessary] **.** S P> --} <[~Possible] **.** S ~P> From (5) and (6) and modal shift between alethic to leutic modals
(8) <[Necessary] **.** S P> --} <[Possible] < **.** S P> Alethic modal claim for <N<S> --} M<S> as an axiom
(9) ^[Enjoined] **:** S P^ --} ^[~Allowed] **.** S P & [~Allowed] **.** S ~P^
(9)'s antecedent replaces (8)'s antecedent, which gives us (9)'s consequent rather than (8)'s consequent, thereby ridding ourselves of the disputed axiom, < N<S> --} M<S>.[85]

This argument gives us reason to turn away from sole reliance on alethic logic. Please welcome the addition of coherence logic, Tom. (8), the alethic modal *statement* form, is rewritten as (9), a conceptual/coherence *proposition* form. Exclusive reliance on truth logic restricts its practitioners. Their only choice is to stick modal necessity onto (8)'s single predication form, < **.** S P>. (9), however, uses coherence value, conceptual logic's contribution to our logical canon. This logic's rich array of copula functors/interpretations captures more of 'ordinary language''s logic than truth logic by itself does. With coherence logic we can leave a priori *statements* to historians of philosophy and

[85] In the proof of (7), [~] applies to modalities, which differs from when it applies to functors, [~**.**] and [~**:**], and also from when it applies to concepts, ^~P^, and ^~S^. Different scopes dash different hopes.

arm forward looking logicians with the modally enjoined copulas of *propositions* in place of a priori *statements,* and puts allowed sooth *propositions* in place of a posteriori *statements*. Kant's way of distinguishing a priori statements (the predicate concept is contained in the subject concept) from the a posteriori (not so contained) is rough and ready, unfit for refined work, especially with its crude whole/part theory of concepts and their 'definitions'. Tom, please don't dirty your hands with definitions ever again..

Coherent (7) and (9) show (8) is incoherent, and, so, settles the dispute about (8)'s status; (7)'s [~Possible] contradicts (8)'s [Possible]. The presence of ^~P^ in (7) and its absence in (8)'s ^P^, doesn't invalidate the proof, because by (W1), p. 78,

(W1) (**.** S P **or .** S ~P) --} (**.** S P **&** **.** S ~P),

if the antecedent is coherent, so is its consequent. I've just shown that (7), with ^~P^ in its consequent is valid, hence, by (W1) it's also valid with ^P^:

(7**'**) <[Necessary] **.** S P> --} <[~Possible] **.** S P>.

If a lexical act of traveling from ^S^ to ^P^ is enjoined, it's incoherent for it to be allowed, as expressed by (9). We can prove this, using another Walzer, (W3), p. 78,

(W3) (~**.** S P **or** ~**.** S ~P --} (~**.** S P **&** ~**.** S ~P).

(7**'**c) ^ **:** S P ^ --} ^[~Allowed] **.** S P^ Conceptual rewrite of (7**'**).

(**:**) ^ **:** S P Hypothesis

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(&) (~**.** S P & ~**.** S ~P). Modus p., (W3) & (**:**)

Tom, I'm agent oriented in logical and lexical investigations. I regard leutic modalities as tendered advice about the restrictions and freedoms accorded lexical/conceptual acts for whomever prizes the Lexical Imperative.

> *Different copula functors advise different lexical acts; each comes attached to its advised leutic modality—enjoined to, enjoined not to=not allowed to, or allowed to travel from one concept to another*.[86]

If I'm enjoined to bond ^S^ to ^P^, ^ **:** S P^, I'm [~Allowed] to travel on a sooth trail from ^S^ to ^P^ nor to ^~P^, ^[~Allowed] **.** S P/~P^. These advisory via attivas are leutically incompatible. I say more about this in an optional section, below.

I contrast new coherence and old truth talk

Tom, it may help you if I summarize the contrast between my new way of reasoning about propositions' coherence values and their leutic modalities to the customary way your were taught to reason about statements' truth values and their alethic modalities.

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[86] If we take I. Kant's Categorical Imperative as a coherence rather than an alethic requirement for constructing a moral universe, or than as a praxis visa requiring that everyone could *do* a maxim's proposed act, we approach a conceptual moral universe, one in which our moral value judgments and maxims have coherence rather than truth value. This move frustrates the favorite denial of moral judgments' alethic objectivity. <^ **.** S is P^ is coherent> is objective within a lexical system. Coherence logic is a ready canon for intersubjectively validating claims to coherence value for Kantian maxims. And if there are different coherence values between lexical systems, we have a coherence canon to try to reason to an agreement, on the basis of justified de jure changes in lexical systems. See Bierman & Assali, Part IV, for an initial treatment of this project.

The leutic ^[Enjoined to] **:** S Q^ replaces the alethic <[Necessary] < **.** S Q>>.
The leutic ^[Enjoined not to] ~**:** S Q^ replaces the alethic <[Impossible] < **.** S Q>>.
The leutic ^[Allowed to] **.** S Q^ and ^[Allowed to] **.** S ~Q^ replaces the alethic <[Possible] < **.** S Q> & [Possible] < **.** S ~Q>>.[87]

These contrasts reflect a via attiva versus a via passive account of language and logic. [Enjoined to], [Enjoined not to], and [Allowed to] are via attiva modalities for hypothetical, proposed trips through lexical space. They are via attiva, practical modalities like Kant's [Obligatory], [Forbidden], and [Permitted] modalities are for his moral act maxims. Via passive proponents rely on ad hoc definitions, essential properties, and analysis of concepts in place of [**:**], ad hoc because they lie outside a conceptual logic. Via attiva logic sports a [Bond, **:**] and other functors with their leutic modalities while via passive alethic logic sports only the [Sooth, **.**] functor for its modalities. Alethic logicians suffer a poverty of copula interpretations. "It's all one", said Sir Toby Belch, sunk into his nightly ethanol oblivion. No, Tom, I don't think all alethic logicians are alcoholics. Far from it!

With my leutic modal stand on the relation between enjoined and allowed propositions, (C) below, I show that two proposed axioms of statements' alethic modal relations, (D) and (M), are incoherent.

(C) **:** S Q --} (**~.** S Q & **~.** S ~Q), (Le), p. 94, leutic relation between [**:**] and [**.**]
(D) <Necessary < **.** S Q>> --} <Possible < **.** S Q>>,
(M) <Necessary < **.** S Q>> --} < **.** S Q >.[88]

If [Enjoined, **:**] replaces [Necessary, **.**] and [Allowed, **.**] replaces [Possible, **.**], it follows that if (C) is coherent, then (D) and (M)'s consequents are incoherent.

(D)'s consequent is incoherent, because both <Possible < **.** S Q>> and <Possible < **.** S ~Q>> are coherent. But (C)'s antecedent, ^ **:** S Q^, shows we aren't free, (~FP), to link ^S^ to ^{Q ~Q}^ nor, therefore, to sooth it to ^Q^ or ^~Q^, and that we should reject the suspect axiomatic alethic modal entailments, (D) and (M). If you're not allowed to predicate a property of a substantive, such a statement is incoherent, and, so, is neither true nor false; hence, a fortiori, it's 'impossible' for <S> and <~S> to have truth value. In short, because both of (C)'s consequent conjuncts are incoherent, they sentence alethic logic's (D) consequent to incoherence, and, as I show below, (M)'s consequent as well. Taking the via attiva settles the hash of the via passives (D) and (M).

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[87] My fuller discussion of coherence modalities begins on Part VI, p. 134.

[88] Notice that the alethic [Necessary] in (D) and (M) requires that the copula be interpreted as [Sooth]; otherwise, we would not have predication truth. Proponents of alethic modalities start off on the wrong foot. Their account of the copula is too spare. Where are the princely, via attiva lexical functors? The [Bond], [Subsume], [Link], … interpretations of [To be/To have]? The champions of alethic modalities begin by relying solely on a [Sooth] interpretation of [Necessary] statements' copulas, a strange error for the many who limit necessary truth to 'linguistic' grounds.

After noting "It may be questioned whether the proposition 'it may be' follows from the proposition 'it is necessary that it should be", Aristotle was, perhaps, the first to conclude that (D) may be incoherent. "…That which is necessary is also possible, though not in every sense in which the word [possible] may be used."[89] It's incoherent if [Possible] is used in the "sense" of [possibly true] as in (D) and (M). Coherence logic's leutic (C) trumps alethic logic's (D) and (M), which becomes evident when we substitute leutic for alethic modalities.

This is such an important contrast between conceptual logic's leutic and statement logic's alethic modalities that it justifies the following alternative formulation addressed first to (D) then to (M).

(D)

(D) <Necessary < **.** S Q>> --} <Possible < **.** S Q>>

Substituting the via attiva ^[Enjoined] ^ **:** S Q^^ for the via passiva <[Necessary] < **.** S P>> and substituting ^[Allowed] ^ **.** S Q^^ for <[Possible] < **.** S P>> in (D), we have (**L'**):

(L**'**) ^[Enjoined] ^ **:** S Q^^ --} ^[Allowed] ^ **.** S Q^^.

(L**'**), however, isn't coherent by (C), because its antecedent, courtesy of (~SP), the Not Free Predicate condition, entails the incoherence of both ^ **.** S Q^ and ^ **.** S ~Q^; neither are [Allowed], which entails, a fortiori, that neither <[Possible] < **.** S P>> nor <[Possible] <-< **.** S P>>> are true. (L**'**)'s incoherent consequent strips (D)'s consequent of coherence, hence strips it of truth value and, so, of any truth value modality. But substituted propositions for the following (**L**) form are coherent:

(**L**) ^**:** S P^ --} ^**~.** S P^

per the arguments in (D) and (M), p. A coherent bonded proposition entails the ~Allowed sooth proposition, with the same subjects and predicates, is coherent. Further, since by (W1), if either, then both,

(W1) (**.** S P **or** **.** S ~P) --} (**.** S P **&** **.** S ~P) (p. 78),

we have an expanded (L), (**Le**), namely,

(**Le**) ^**:** S P^ --} (^**~.** S P^ **&** ^**~.** S P^). By (L) and (W1), if either, then both, we have (Le).

Tom, choose a pragmatic, via attiva orientation toward your study of language, its conceptual logic, and its modalities over the derivative, via passiva alethic option that sucks whatever blood it has from our via attiva life. Maybe this argument will help.

A possibly true statement is also possibly false; possibles are compossibles; <M <S>> and <M<-S>> are not contradictory. Isn't that the point of Old-speak [Possible]? Otherwise, it wouldn't differ from the exclusionary <[Necessary] <S>> that doesn't allow <S> to be false, nor from the exclusionary [Impossible] that doesn't allow <S> to be true. Thus, if (D) were true, the compossibility of <Possible <S>> and <Possible <-

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[89] *On Interpretation*, 22b 28-29 and 23a 15-16, trans. E. M. Edgill.

S>> would be violated. That's why <Necessary <S >> cannot entail <Possible <-S>>. If there were such an entailment, <S> couldn't be necessary, since a necessarily true statement, <[N] <S>>, entails <-S> isn't possibly true, <-[M] <-S>>. <[N] <S>> and <[M] <-S>> are incompatible; one or the other is incoherent. In short, <S> can't be both [N] and [M]. Enough incoherence is breaking out for you to fold and admit that betting on an alethic-modality hand is a sucker's option. Unless you're a bluffer in denial?

(M)

(M) <Necessary < **.** S Q>> --} < **.** S Q>

(M)'s consequent, unqualified by [Possible], appears to differ from (D). An unwary person might suppose (D)'s problem doesn't stick to (M). (M) may be read as the seemingly obvious: If <S> is necessarily true, <S> is true, as if [N] played no logical role in distinguishing <[N]<S> from <S>. But think of the extreme Rationalists' who subscribe to: (R) If <<S> is true> --} <<S> is necessarily true>. Although there's no explicit modal qualification on (M)'s <S>, it's not unqualified. Hume's empiricism has it that a "matter of fact" truth is contingent, because its contingent companion, <-S>, could be true. Without this contingency, doubt and skepticism would have no teeth, to rationalists' delight per (R). By Hume, <S> is qualified by *contingency*; so, (M)'s consequent should be read as <S> is contingently true. The attribution of necessary truth to a *sooth* statement, as (M)'s antecedent does, invites <S>'s contingent qualification to come in. Both [Contingent] and [Possible] qualify the sooth copula, because <[Contingent] <S>> is epistemologically indistinguishable from <[Possible] <S>>. The truth qualification—*contingent upon* a fact or event--requires that (D) and (M)'s consequents' truth value rely on their emplacements, not on their antecedents' [Necessary] alethic value Hence, (M) is incoherent for the same reasons as (D) is; just substitute [Contingent] for [Possible].

(M) bears the additional burden that it claims a necessarily true <S> entails a contingently true <S>. But, since these modalities are incompatible, ^ **!** [Necessary] [Contingent]^, there can be no conflation of [Possible] with [Contingent]. This oft claimed view is mistaken. Unawareness of conceptual logic's more capillary interpretations of the copula and their varied leutic modalities, such as the ones I've focused on here, [Enjoined] vs [Necessary] and [Allowed] vs [Possible], up-ends advocates of (D) as well as of (M), because (M) is as blaringly incoherent as (D).

The bottom line is that there are no necessarily true statements; they are replaced by coherent enjoined propositions. All statements are contingently true, including those about coherent paths in lexical space, regardless of their leutic modalities. Hence, there can be no conflation of the superannuated [Possible] with ^contingent^.

In the "Modalities" section, starting at p. 133, I'll show you how to avoid this error and retire ^a priori^ and ^analytic^ without epistemological loss. There, I also retire the alethic modalities, and explain more fully their leutic replacements, [Enjoined to], [En-

joined not to], and [Allowed to], which are *modes of advice* limiting and allowing coherent travels in lexical space. There's hope for all of us, Tom, even for friends of 'analysis'.

Old-speak about [Necessary] was bonded to ^definition^ and meaning postulates. Diego Marconi has concise remarks on Carnap's meaning postulates and its polemical setting.[90] In place of Carnap's [Necessary], supported by a definatory apparatus, I use [Bond], [Subsume], [Link], …, and, in place of his [Possible], I use [Allowed]. From Locke and Hume on up to Carnap and beyond, there has been a constant struggle to dignify the contingent truth of compossibles against most hard-line rationalists who, in their search for certainty, insist on the necessary truth of every true statement. Hume asserts: "The contrary of every matter of fact [statement] is still possible; because it can never imply a contradiction".[91] When Hume declared that both a sooth statement and its contradictory are possibly true, he pulled the rug from under epistemological utopians. Conjunctively 'contingent' sooth propositions appear in my Waltzers (p., 78) as:

If either sooth is coherent, *both* are—Waltzer (1);

If either sooth is not coherent, *neither* are—Waltzer (2).

RECAPITULATION

I used both New- and Old-speak terms above. A link proposition's predicate has a range of incompatible property concepts as components, {P ~P}. By the Sooth Walk (SW), a coherent link proposition sanctions at least two sooth coherences, ^ **.** S P^ and ^ **.** S ~P^, and bestows possible alethic value on each of < **.** S P> and < **.** S ~P>.

The necessarily true <N < **.** S P> is replaced by my ^[Enjoined] **:** S P^, which vaporizes the possibly true <M < **.** S ~P>>. My ^[Enjoined] **:** S ~P^'s coherence vaporizes ^**.** S P^'s coherence and the truth of <M < **.** S P>>. This isn't surprising, because sooths waltz together; they're Viennese Strauss Sooths.

Also, I've shown we need a Free Predicate condition, (FP) ^~**:** S P^ & ^~**:** S ~P^, in selwalk arguments to link a substantive concept to a range of property concepts. With (FP), we can take long treks on sel-walk paths. Isn't that cheering news, Tom?

A Mathematical Side Dish

This isn't the place to elaborate, but I propose that arithmetic, mathematics, and logic with their laws, axioms, and theorems are coherence rather than truth value systems. Arithmetical, mathematical, and logical 'sentences' are propositions, not statements; they have coherence but no truth value. Notables who thought otherwise were Plato, Frege, and Goedel and many contemporary logicians. What they take for necessarily true math-

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[90] *Lexical Competence*, pp. 11 -20; Cambridge (Mass.), MIT Press, 1997.

[91] *Op cite*, Sect. IV, Part I, p. 25. It's not often appreciated how the rationalist-empiricist polemic was a conflict between theocratic and secular parties for political supremacy. Leibniz frankly made clear how much of the rationalist program depended on Christian theological doctrines about the nature of God and His ongoing cognitive Creation. Leibniz supplied an epistemology for princes' standard Christian God limited, alas, by logical necessities, hence, not responsible for the evil erupting in His cosmos. God did His best, which wasn't good enough for irreverent Voltaire, his secular challenger.

ematical statements are actually enjoined, coherent propositions. Such systems are tools for organizing our alethic thinking about nature's measurable, constructable relations.

The variables in algebra's coherent formulas take numeral tokens as coherent emplacements. Numerals of measured properties and proportions are coherent emplacements into the variables of physics' coherent link formulas that entail coherent sooth propositions one of which a physicist may assert is true or false. This is 'applied' mathematics. Many have wondered how our thoughts can match nature's proportions. This mystery is happily dispelled once you give up the dualism of ^represents/represented^: We emplace selected objects and their measured tropes into our sooth sentences, which entitles us affirm the statements that comprise physics, geology, or biology. There is no 'gap' between language-thought and actuality, because our grammatical/lexical/mathematical structures are the recipients of our emplaced substantives and tropes' measurements into token formulas. We filter the world's constituents through our grammatical/lexical/mathematical systems, the mothers of all coherent thoughts about the world, of all you can ever cognize about that swarm of chaos. "Cum in, pleas. Ve vere vaiting for you", they say.

You may wonder why anyone ever thought there was a gap 'tween thought and world. If you're looking for a culprit, challenge anyone who took and still takes seriously ^representation^, inexorably dualistic, as an epistemological concept. The worst culprits, after philosophers, are the growing legions of computer 'modelers' of 'knowledge', avid for artificial intelligence. Not even self-programming supercomputers can overcome the built-in failures of Janus-faced ^represent^. They need that concept, because a computer cann't emplace anything. We can substitute one token for another on the hard drives and screens of our computers, but that differs from emplacing an object or a trope into our hard disks: ^EobjectE @ /object/^ and ^E(object)tropeE @ /trope/^. These are ground zero for sooth truths. As von Neumann theoretically projected, it's possible to build robots programmed to replicate themselves and to re-program themselves to build modified versions of themselves, but these differ from physically emplacing objects and tropes existing *outside* robots' hardware *inside* its hardware. Programmers and robot designers have to cleanse their minds of vapid, *inside the box* ^representation^ now, before that blessed day when the epistemological ^represent^'s license expires. They're still babes in the arms of ^represent^'s dualism. Not even humans can manage to turn representation into emplacement's direct realism. They may say they do, but they can't actually think it. Fagedaboutit! In daily life, when we seek after truth, we don't represent, we emplace! < **.** My socks are blue>: EmysocksE @ /socks/ & EblueE @ /(socks)blue/=T.

For propositional truth logic, Wittgenstein emplaced /T/s and /F/s into sooth sentences' /p/ and /q/ variables to make truth tables. ^Represent^ was surfeit. The omnitude determiner I introduced for the Square of Opposition in "On Emplacing" showed that quantified logic's lexical variables can take objects and tropes for their emplacements. The lexical 'constants', substantive /lobe/, and trope /soft/, like other variables don't

represent. Like /p/s and /q/s, they wait patiently to be impregnated by fecund emplacements

Frege's logicist endeavor led him to turn philosophy in a disastrous direction when he chose the mathematical function as his all-purpose copula, which produces 'extensions' instead of receiving them. It hindered him from incorporating natural languages' rich intensional coherence logic and left him with his mathematically abstract *Begriffsschrift*'s so-called 'conceptual' logic. His 'conceptual' logic did not provide for the conceptual management of material substantives and tropes. His unrequited loves, Third Realm truths' wan extensions, jilted robust visible, palpable, auditory actuality.

END OF OPTIONAL SECTION

True siring statements may entail major changes in lexical systems

True sooth statements can force us to alter our lexical systems more radically than I've allowed above. It may change not only the coherence value of sooth propositions but may also penetrate the fortress of the Seven Princes, [**:, :+, /, E…E , !, *, =**] (p. 85). Sooth statements entitled to truth value claims via emplacement can change princely propositions from coherent to incoherent and visa versa. The coherence value of vassal/sooth propositions derives from the coherence value of princely propositions, *except* when vassals rebel and true sooth statements do their radical siring work (68ff).

The Prince copulas—bond, conger, subsume, emplace, counter, link and identify--are used in pel- and sel-walk inferences to answer Ludwig W.'s question, "What may be said", which I put in my revisionary terminology as "What may and may not be coherently *soothed*"? When a true sooth statement sires a coherent sooth proposition, it may alter a proposition's coherence value. Then by Modus tollens we may alter the coherence value of the link proposition from which the sooth proposition was inferred de dicto. Following up this Modus tollens tactic, we're enjoined to alter the coherence value of one or more of the princely premises (1), (2), and/or (3) of the Pelwalk argument form below. The Free Predicate (FP) premise underwrites the coherence of the link conclusion, (4), and sooth predication, (5). Propositions (1), (2), (FP), and (4) appear in the Pelwalk inference form, p. 85ff.

PELWALK

(1) **:** S P
(2) /P {Pv ~Pv}[92]
(3) /S S1
(FP) **~:** S1 Pv & **~:** S1 ~Pv

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[92] To disinter the role of "v" following the "P"s and "Q"s, see pp. 87f.

(4) * S1 {Pv ~Pv}
(SW) * S1 {Pv ~Pv} --} **.** S1 Pv & **.** S1 ~Pv

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(5) **.** S1 Pv & **.** S1 ~Pv (5) is derived from (4), and (SW) Sooth/Link Walk, by Modus ponens

There's trouble in Pelwalk Paradise, however, if a true statement sires a coherent proposition that's incompatible with one of the Walk's sooth propositions. In that case, at least one of its enjoined propositions is incoherent, rendering the Walk unsound. (2) and (3) are the least likely suspects, leaving (1) **:** S P as the incoherent culprit.

(a) **(Le)** ^**:** S P^ --} (^**~.** S P^ **&** ^**~.** S ~P) On **(Le)**, see p. 94
(b) ^ **.** S P^ Sired coherence

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(c) ^ **~:** S P^ (a), (b), Modus tollens

Thusly, a rebellious, sired vassal fells the mighty bonded Prince ^ **:** S P^ to ignominious incoherence and all that it portends, including the fall of conclusions (4) and (5), routed for residing in an unsound inference form.

The following illustrates the devastation that a sired sooth coherence can cause. If paleontologists discovered dinosaur remnants with feather imprimts, making < **.** Dinosaurs feathered> true, it would sire the newly coherent ^ **.** dinosaur feathered^. It follows that (1) in the Pelwalk inference is incoherent, ^**~:** dinosaur scaly/~feathered^ per (a) – (c), because ^scaly^ was once a bonded component of ^dinosaur^'s congery and because ^scaly^ and ^feathered^ are incompatible concepts subsumed under ^epidermis^. With an incoherent premise, the Pelwalk inferemce form is made unsound by the sired sooth proposition (b); thus, we can't validly infer that (4) and (5) are coherent.

These results show (1) the destabilizing effect that a sired proposition, <…> --} ^…^, can have on a lexical system; (ii) that the sooth functor is the interface between truth and coherence; and (iii) that their intertwined logical dynamics force us to change our lexical system, to abandon some and to establish new concepts. Concepts are unique and their identity conditions do not tolerate 'change'.

Conceptual logic was unavailable to early and late logical positivists and their spawn. They didn't know (i) that *bestowed coherence* is a gift of the lexical system to via passive alethic reports on conceptual systems' relations; (ii) that *sired coherence* is the gift of coherently emplaced substantives and tropes into sentences'subject and predicate tokens. Substances via tropes are seen, felt, tasted, smelt, or heard entities, but remain uncognized until both are given posts in lexical/conceptual space. This was Berkeley's legacy. (Tom, if you want to, review the bestowed/sired distinction, go to p. 68ff.)

Sooth propositions mark the break of coherence logic's entailment with truth logic's material implication. In conceptual logic, if an enjoined antecedent of an entailment, such as [Link, *****], is incoherent, so is its sooth consequent. This counters material implication in which a false antecedent implies the truth of its consequent: F → T = T and F

→ F = T. MaterialiImplication was anathema to C. I. Lewis, whose dissent is seconded by coherence logic: Denial of an enjoined antecedent's coherence allows us to validly infer the inco-herence of its sooth consequents. This differs from material implication where it's a fallacy to infer from [(p → q & -p) → –q]. Lewis's quarrel is confined, however, within the borders of alethic logic, unlike my coherence logic.

Logical positivists were right. Truth conditions affect 'meaning', although more limitedly than they thought. They didn't support their claim as precisely and fully as I have here with the help ofcoherence logic; they couldn't do it with truth logic alone. They were and are playing Blindman's Bluff on the relation of truth and meaning.

I'll expand my illustration of how vassal sooth truth rebels against the Princes in their logical fortress with recent paleontological discoveries in China. I draw on Josh Fischman's news report in *Discover*.[93] I also draw from a news story by Paul McEwen.[94] Umberto Eco tells a related story about the conceptual challenge caused by the discovery of the patypus.[95] Eco judiciously notes that "the categorical [lexical, conceptual] moment and the observational [sooth sentence emplacement] moment do not oppose each other as irreconcilable ways of understanding…"; their coexistence is in an "unstable equilibrium and it is this basis on which our understanding proceeds". (p. 252) With a dinosaur/bird example, I'm taking Eco's informal treatment of the relations between truth and conceptual systems to a more detailed, formalized level via coherence logic. His "platypus" account could be similarly formalized, which would be a vast improvement over good intuitive reconstructions in contentious cases.

Some Sooth Truths about Dinosaurs and Birds

Most late 19th Century paleontologists thought dinosaurs and birds had split off from the reptile line into separate branches; some still do; the issue continues to be controversial. Their S-pyramid was simple

reptile
/ \
dinosaur bird.

Thomas Huxley astutely suggested it was too simple. Recent discoveries in China support Huxley's hunch. The sooth truths < **.** Protarchaeopteryx feathered-arms-and-tail>, shortened here to < **.** Protarch feathered>; < **.** Caudiopteryx feather-tailed>, shortened to < **.** Caudi feathered>; and < **.** Archaeoraptor feathered> made their respective sired propositions, ^ **.** protarch feathered^, ^ **.** caudi feathered^, and ^ **.** archaeoraptor feathered^ coherent. Protarchaeopteryx was so named because of its close resemblance to Archaeopteryx, nicknamed 'Archie', the oldest fossil classified as a bird (found in

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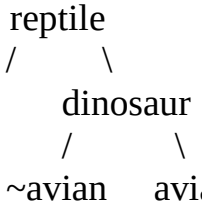
[93] "The Year in Science"; www.brittanica.com/bcom/magazine; January, 1999. Search for "dinosaur" on www.brittanica.com.)

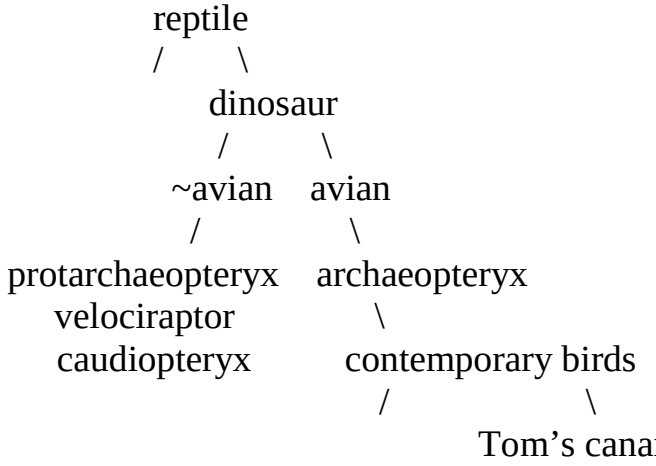
[94] *San Francisco Chronicle*, Nov, 1999.

[95] Eco, Umberto, New York, Harcourt Brace, 1997; trans. Alastair McEwen. See pp. 241 – 248, Sect. 4.5.

Germany). Paleontologists have classified Protachaeopteryx and Caudiopteryx as non-avian dinosaurs. The China sooth discoveries complicate the too-simple S-pyramid as follows:



This altered S-pyramid has birds descending from dinosaurs. Although this was hypothesized earlier, the thesis is strengthened by the discovery of feathered dinosaur remains. Birds are avian dinosaurs. Your pet canary is a dinosaur, Tom, avian as it is. Non-avian dinosaurs are extinct. Here's a relatively up-to-date (2004) S-pyramid for tonight's topic:



Another news story reports an even more startling sooth discovery that supports classifying birds as dinosaurs. The petrified heart of a South Dakota Thescelosaur has been shown by tomography to have a heart like a chick or mammal's rather than a reptile's. It had two atria, two ventricles and but one aorta; it was likely hot-blooded.[96] Hearts and feathers shuttle our birds toward the dinosaur line.

Understand, Tom, classifying these ancient animals is terrifically difficult, because they shared a myriad of anatomical features. Paleontologists have compiled a list of one hundred-fifty anatomical features shared by Archie and two-legged carnivores related to the dinosaur Deinonychus; being feathered was not one of them.

Zoologists' write their classifications as S-pyramids. The object concepts owe their location within them to the P-predicates to which they're bonded, that is, to their congeries. Conceptual P-pyramids dictate the subsumption and incompatibility relations of substatives' concepts, from which, per theLink and Sooth Walks, we may infer substantives' link and sooth relations. Bondage, the Prince of Princes, rules. My task now is to show via coherence logic how, in more detail than above, sooth truths challenge the Prince of

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[96] *la Repubblica*, 20 April, 2000.

Princes' Bondage and the other Princes thereby forging changes in objects' conceptual S-pyramids. Historically, classifiers haven't erected the predicate pyramids with explicit bondings, congeries, subsumptions, and predicate ranges formed with conceptual negations that would enable them to formalize their reasons, based on discovered sooth truths, for altering S-pyramids. They have other fish they'd druther fry.

To construct S-pyramids, zoologists have to decide, which of the myriad of available property concepts--remember the one hundred-fifty over-lapping properties of Archaeopteryx and Deinonychus--they will bond in a congery to an S-type. This requires a de jure warrant, which may override previously established de dicto warrants. De jure warrants lexical practices that appeal to our purposes and their value. If a change in purposes improved our well-being, we're justified in erasing and/or drawing new coherent travel routes and relations in lexical space. John Dewey invested heavily in this enterprise in *The Quest for Certainty* and *Reconstruction in Philosophy*. "How different the theory of knowledge, epistemology, would have been if at its beginning the qualities in question had not been called "givens" but "takens" instead..."[97]

ANOTHER OPTIONAL SECTION

You may wish to skip from here to p. 115, if you're confident I've got it right about how sired coherent propositions alter our lexical/conceptual space. If so, you can go on to the next stage. But if you're curious about the details laid out in this optional section, don't skip it. Alternatively, you can come back to it later. It proffers a more extended account of the congery functor, [Congery, **:+**], and introduces a new functor, [**Cut,** ||] that serves to distinguish a congery from a link range of property concepts. [Cut, ||] is important, but I don't want too many details to divert you from the main thrust of this introduction to coherence logic.

START OPTION

What purposes might justify classifying a feathered fossil as an avian rather than a non-avian dinosaur? And how may we use de facto and de jure conceptual arguments to alter our lexical/conceptual space? The answers to these two questions are interrelated.

The answer to the first question rests on banal facts: Avian dinosaurs flew and non-avian dinosaurs didn't. Hunters used different techniques to bag and defend themselves from avian and non-avian game. That incites an interest in using the anatomical features that facilitate flight to differentiate avian from non-avian dinosaurs, bonding these features' concepts to ^bird^, ^game on the wing^. Of course, we use other of dinosaurs' one hundred-fifty shared anatomical features to warrant ^[Subsume, /] dinosaur bird^. Practical life is served by selecting those features that enable us to predict behavior and effects of our acts that profit us most. I'm sure you agree dear, practical Tom?

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[97] John Dewey, *The Quest for Certainty*, "The Seat of Intellectual Authority".

Subsumed S-concepts have no less and at least one more bonded predicate than the concepts that subsume them. Every ^S^ passes its congery on to its subsumed concepts; and each subsumed ^Sn^ has a property concept that augments ^S^'s congery that differentiates it from its subsuming concepts. ^Rectangle^ passes ^four-sided^ on to subsumed ^square^. Because ^equal-sided^ differentiates ^square^ from ^rectangle^, this inference form's conclusion entails which order of subsumption, ^ / S S1^ or ^ / S1 S^ is coherent.

: S P **:** rectangle four-sided
: S1 P **:** square four-sided

_____
/ S S1 or / S1 S
: S1 Pd **:** square equal-sided
/ P Pd / four-sided four-*equal*-sided
! P Pd **!** four-sided four-*equal*-sided

_____
~: S Pd ~**:** rectangle four-*equal*-sided

_____
/ S S1 & ~/ S1 S / rectangle square & ~/ square rectangle

This kind of differentiation prevents you from mistakely warranting the coherence of ^ / bird dinosaur^ rather than that of ^ / dinosaur bird^, although they share many property concepts. Since we bond flight anatomy concepts to ^bird^--^hollow (bones)^, ^wish-bone^ (for anchoring wing muscles)— but not to the pre-feathered ^dinosaur^, ^bird^ has several bonded concepts that ^dinosaur^ doesn't have; so, ^/ dinosaur bird^ is coherent and ^/ bird dinosaur^ is not. In short, because zoologists have chosen flight anatomy as their concepts to differentiate birds from dinosaurs-simple, ^dinosaur^ subsumes ^bird^ rather than vice versa in their S-pyramid.

The answer to the second question, "How may we use de facto and de jure conceptual arguments to alter our lexical/conceptual space?", rests on conceptual logic to which zoologists and biologists generally conform but don't make as explicit as I do here with the conceptual arguments in which property concepts play a complex classifying role. I'll use the informal remarks in the first answer to construct the arguments for the second answer. But before I can do so, I have to thicken the functorial plot of conceptual logic by expanding my comments on the congery functor.

Congeries of property concepts

Individual substantives have many attributes. A ball may be small, round, heavy; an apple may be hard, tart, green. Archaeopteryx and Deinonychus shared one hundred-fifty properties. Others belonged to their diverse congeries. A **congery**, [**:+**], is a conjunctiion of attribute concepts *bonded* to the concept of a *kind* of substantive. A congery of a substantive's property concepts specifies the requirements for a coherent emplacement

in a substantive kind concept. ^Frog^'s congery specifies a heavy object studded with sharp nails (for anchoring flowers) for the coherent emplacement of a frog into /frog/.

Non-congery concepts may be soothed to substantive concepts, congeries' concepts may not. As betwixt the concepts in a range, ^{feathered scaly/~feathered}^, only ^feathered^ belongs to ^avian^'s congery. Sorry, Tom, but an unfeathered dinosaur isn't a bird. Old-speak for "congery" is "defining characteristics" for the genus/species kind of definition. Since the latter is tied only to [Subsumption] and [Incompatible] that is popularly deployed in "expert" systems, its use of conceptual logic is more restricted than one that also includes [Bond], [Congery], and [Link] are. Touting the primacy of genus/species definitions dates one as an aristotelian essentialist, amongst which you may count theorists who need to identify kinds of entities across possible worlds.

Individual substantives also have many relational orderings, a person may be a son of, mayor of, priest to; but, since there are no relation tropes, there are no emplacements into such relation tokens as /smaller than/, /father of/, /loftier than/.[98] They have, though, emplaceable substantive components in sentences--/*Baer* smaller than *Carnero*/, /*Joe Kennedy* father of *John Kennedy*/, /*Milano's cathedral* loftier than *San Francisco's*/. The non-existence of relation tropes entails that procedures for verifying relational ordering statements differ from those for statements with one-place predicates. Relational statements' truth value rests on (i) coherent emplacement of a relation's substantives into their terms, and (ii) a coherent *order* specified by the sentential position of the substantives' tokens.

The following substantive orderings, ^Joe is the father of Jack^ and^/Joe is the son of Jack^ entail ^Joe is the father and son of Jack^ and ^Jack is the son and father of Joe^. These orderings are incompatible, because the [Son/Father] functors are asymmetrical. But, ^Jack is the son of Joe^ and ^Jack is the father of Caroline^ are compatible, because these propositions with asymmetrical functors have different substantives Their compatibility follows the pattern of Plato's Spinning Top Principle in his *Republic*, because John is [Son of (Joe)/Father of (Caroline)] relates John to different persons as different parts of Plato's top (axis and periphery) are separately at rest and in motion in relation to the same surface. If propositions don't have the same relatents, they're logically independent of each other.

Notation is important to ease of reasoning, Tom; some notations are an aid, others are an obstacle. Leibniz's notation for calculus was superior to Newton's. Frege's notation was less accessible than Russell-Whitehead's, which prevailed, even though it lost some of Frege's program. Loyal Fregeans acknowledge his notation resists easy mastery.

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[98] It's important to note that not all sentences with 2+-place substantive tokens are purely relational orderings. In fact, most sentences that are called 'relational' have what I call **alloyed** predicates. /Hit/, as in /Jill hit Jack/, is alloyed, because it has a substantive *emplaceable act*, an observable biff, ^EhitE @ /(Jill Jack) hit/^; it slso *orders* the sentences' substantives. Order is an inextricable component of /hit/'s interpretation; the differently ordered <Jill hit Jack> versus <Jack hit Jill> weighs in on their coherence and truth requirements. I refer you to p. 26 – 31, and to footnote 32, p. 27, for brief, earlier warnings about the difference between purely ordering predicate functors and alloyed predicate functors.

This is the place to be careful about adopting a notation for sentences/propositions/ statements with 2-place substantive tokens and concepts. All suggestions are welcome from you, Tom, and from all friends and skeptics of conceptual logic. Since the order of substantives is a feature of relational and alloyed predicates, per fn. 97 below, I'm proposing a notation for 2-place relational predicates that features the divers orders of substantives prescribed by the divers coherence conditions of their functors, illustrated by these link functor options:

/[Smaller than] A B/;

<[~Smaller] A B> --} (<[Larger than] B A *or* [Equal sized] A B & B A)>;

^ ~[Smaller than] spoon Middle C^.

[~] *outside* /~[Smaller than]/'s bracketed functor indicates that proposition is incoherent, in contrast to [~]'s place *inside* the bracketed functor /[~Smaller]/, immediately above it. Being inside the brackets, [~] creates a concept incompatible--contradictory or contrary--to [Smaller].

The Polish **notation** gives functors first place in sentential strings. Note that the square bracketing, […], reflects my decision to treat (i) purely ordering relations and the (ii) ordering relations residing in alloyed predicates as functors. This use of brackets harmonizes with the notation for1-place functors I adopted earlier in this essay, [**:**], [/].

[Link, *****]'s relation ranges can be represented with this P-pyramid. The top proposition acknowledges that a substantive's size is always related to another's, my uncle's neck size compared to mine or to a measuring device's, say a tape's, numerical reading.

(a) [**:**] [Sized] A B

/ \ .

(b) [Smaller than] A B [~Smaller than] A B [Subsumed, **.**], (a)

/ \

(c) [Larger than] B A [Equal sized] A B & B A } [Subsumed, **.**], (b)

(d) **{**[Smaller than] A B [~Smaller than] A B} (a), (b), Link inference

(e) {[Larger than] B A [Equal sized] A B & B A} (a), (c), Link inference

The (a) – (c) pyramid displays the bases for link inferences (d) and (e). Notice that (a) is a premise in both inferences, because it subsumes both (b) and (c); subsumed concepts inherit all the conceptual logic of their subsuming concepts; hence, (c) is subsumed by (a). This satisfies the Link Inference form, p. 74ff.

. My notation shows that 2-place ordering functors subsume ranges just as 1-place concepts do with this difference: 1-place link propositions are written with the substantive *outside* the bracketed range, {…}, of property concepts, ^[Link, *****] *hair* {red ~red}^. But the substantive concepts, ^A^ and ^B^, for 2-place functors are *inside* link ranges' brackets, because we have to identify the substantives and register their order to

evaluate 2-place propositions coherence value. 1-place predicates don't have two substantives to put in order. But in propositions with more than one substantive, we need the ordering to evaluate their coherence value. These factors weigh against treating 2-place predicates as properties and favor treating them as functors.

At the weigh-in before Max Baer and Primo Carnero's heavyweight fight in 1933, measurements were taken. Baer was shorter, weighed less, had a lesser reach, and a smaller chest than Carnero, dubbed "the walking mountain" by journalists. Given each relevant measurement of Baer compared to Carnero's, and, given that ^EbaerE @ /Baer/^ and ^EcarneroE @ /Carnero/^ are coherent emplacements, and given the coherent order of <[Smaller than] Baer Carnero>, we can easily verify the truth of

<Baer was smaller than Carnero>,

because of the following emplacements and ordering:

^^EbaerE @ /Baer/^ & ^EcarneroE @ /Carnero^ & ^[Smaller than] Baer Carnero^ (as specified by relational measurements).

The coherent entailment proposition,

^^[Smaller than] Baer Carnero ^ --} ^[~Smaller than] Carnero Baer^^,

evinces the asymmetrical order of the antecedent's substantives' with respect to the consequent's order. Its consequent subsumes both ^[Larger than] B A^ and ^[Equal sized] A B & B A^; both dwell in the [Link] range of the bottom line, (c), of the above pyramid.

The link functor,

[*****] {[Smaller than] A B [Larger than] B A [Equal sized] A B & B A },

delivers the coherence of every variant order of substantive concepts in sooth propositions,

^[**.**] [Smaller than] A B^, ^[**.**] [Larger than] B A^, ^[**.**] [Equal sized] A B & B A^.

unless one is bonded to the functor; as in ^[**:**] [Successor of] 2 1^. This is a consequence of treating 2-place predicates as functors rather than as concepts.

This link range is almost what has been called a trichotomous relation; it differs, however, in that trichotomous' third functor is identity instead of the symmetrical [Equal sized] here. It may be argued, though, that

^[=] ^[**.**] [Equal sized] A B ^ ^[**.**] [Equal sized] B A^^,

in which case [Equal sized] is trichotomous.[99]

Of course, only one statement whose coherence is underwritten by propositions drawn from this link range will be true, because ^~[=] Coherence value truth value^ holds for 1-place and 2-place propositions and statements alike.

Tom, I will use these tentative proposals about the coherence of 2-place functor propositions to extricate myself from the conceptual crisis described below.

Resolving the Congery Crisis[100]

[99] See "relation" by Steven Wagoner, *The Cambridge Dictionary of Philosophy*, (Gen. Ed.) Robert Audi, Cambridge, Cambridge University Press, 1995.

I symbolized a substantive's congery of **A**ttributes as ^**[A1...An**]^.

Each property concept in a congery subsumes a different range; each concept in a range inherits all the congery concepts that subsume them. ^Ball^ inherits all the congered property concepts from the superior ranges resident on its subsumption pathways, as shown in the array below. We construct substantives' congeries by selecting single concepts for bonding from subsumed ranges. The property concepts selected from the ranges on ^ball^'s subsumption pathway below are in italics; descending from ^*corporeal*^ through ^*shape*^, ^*three-dimensional*^, and ^*spherical*^. They are the **complicit** concepts in ^ball^'s congery.

: body corporeal	A bond proposition
|	
:+ body [size colored dense *shape*…]	A congery selection
| |	
{one- two- *three-dimensional*}	A range
|	
{cubical *spherical* pyramidal…}	A congery selection
|	
:+ ball [spherical …][101]	A congery add-on

I had a transformative crisis the other night, Tom. I've been sleep deprived since. Here's the start of my problem. I've claimed that concepts in link property ranges are incompatible; they lodge at the head of incompatible subsumption pathways, ^red^ and ^~red^ . So, however you wish to interpret the copula of /Red is rotten/, whether as a subsumption, identity, bond, or sooth functor, there is no literal, coherent interpretation of /Red is rotten/; since ^red^ and ^rotten^ are incompatible, ^[**!**] red rotten^. This is because ^[**!**] colored odoriferous^, and because ^[/] colored red^ and ^[/] odoriferous rotten^. Also, you'd seriously question a speaker's grasp of English who thought/[Smaller than] A B/ and /[Larger than] A B/ have compatible interpretations. They, too, are incompatible:

^[**!**] ^[Smaller than] A B^ ^[Smaller than] B A^^;

^[**!**] ^[Smaller than] Baer Carnero^ ^[Smaller than] Carnero Baer^^.

But if ranges' and congeries' concepts are incompatible, why is it coherent to bond, conger, link, and sooth them to one and the same substantive?

For example, both ^[Sooth, **.**] tomato red^ and ^ [Sooth, **.**] tomato rotten^ are coherent, where both tokens of "tomato" have one and the same emplacement. Only the physiologically or conceptually deprived would confuse tactile with olfactory properties or their

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[100] In "More on Leutic Modality", my website, I add to the resolution of this crisis, pp. 5 – 6, the use of the distinction [S|aspect] versus [S|part], which is related as earliler to Plato, *Republic*, 436b, 58 - 437a.

[101] See the congery for ^body^, p. 69, and footnote 71 on p. 68 - 69.

respective concepts.[102] Yet, the congery of a corporeal object may coherently contain the incompatible ^tactile^, ^gustatory^, ^visible^ and ^odoriferous^ property concepts:

[**:+**] (corporeal) object [tactile gustatory visible odoriferous…An].

So may ^crab apple^ be linked and soothed coherently to these subsumed concepts:

[*****] crab-apple {hard tart red sharp … }.

[**.**] crab-apple hard [**.**] crab-apple tart [**.**] crab-apple red [**.**] crab-apple sharp.

Although these concepts are, by my preceding account, incompatible, these congery and link propositions are coherent. Consider, <This apple is hard>, <This (same) apple is tart>, <This (same) apple is red>, and <This (same) apple is sharp > are true. By the siring relation, they entail that these sired propositions, ^This apple is hard^, ^This (same) apple is tart^, ^This (same) apple is red^, and ^This (same) apple is sharp^ are coherent.

Do I hear your whispered doubt, Tom? "But, you haven't answered the "why" of your own (italicized) question. Why should I buy into your siring story?"

It's a challenging question, Tom, which explains why I was cramped in crisis. The coherence of my conceptual logic was at stake. And, yes, to my relief, it extorted a radically fitting answer

Some sentences appear to have one-place predicates. They may need a healing grammatical/lexical shift to 2-place predicates. Many one-place property concepts are riddled with muffled ordering functors. They're 2-place predicates grammatically and lexically degraded to 1-place predicates. Enter stage left, a winsome character who proposes we reclaim the 2-place forms from the fallen angels of 1-place forms. He reminds us that forgotten ordering functors nestle within '1- place property concepts', which, once acknowledged, recover their honor as alloyed concepts. Then he tutors us that with the aid of Plato's principle showing ^a spinning top is both at rest and in motion^ is coherent, we can banish my conundrum and crisis. You could be this winsome one, Tom,

I remind you that in his *Republic* Plato summons his Spinning Top principle to show that apparently inconsistent statements can be turned into two or more coherent ones by making conceptual distinctions. Recall that he uses his Top principle—"The same object [cannot] suffer, or be, or do opposite things at the same time, with the same part of itself in relation to the same thing"[103]—to argue that the soul has three parts.

Plato notes that we may consistently claim that a top is both at rest and in motion at the same time, although ^in motion^ and ^at rest^ are incompatible. We save ourselves from inconsistency (as Hegel man-handled contradictions) by making a distinction: The

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[102] Shakespeare's *Midsummer Night's Dream* confirms this judgment. After Bottom returns from his asinine to his human form he tells us "The eye of man hath not heard, the ear of man hath not seen, man's hand is not able to taste, his tongue to conceive, nor his heart to report what my dream was". (Act 4, Scene 1) Was Shakespeare, or the Duke of Oxford, or Bacon, on to conceptual logic? Caution! Remember synesthesia phenomena. The Italian movie director, Fellini, 'suffered' it. He saw different colors when he heard different sounds.

[103] Plato, *Republic*, 436b, 58 - 437a, 2; trans. G. Lozza from Greek to Italian, AKB from Italian to English; Milano, A. Mondadori, 1990. A top may be at rest on a surface with respect to its axis and moving with respect to its spinning edge.

spinning top's *axis* is at rest and its *perimeter* is in motion with respect to the surface on which it spins. By distinguishing a whole's parts and their relations to something else, we escape contradiction. Conceptual, philosophical, progress happens whenever a conceptual distinction frees us from the grip of a contradiction. Contradiction is the spur, consistency the success, and Hegel's conceptually soldered Absolute the goal.[104]

Plato advocates dissolving contradictions by making distinctions in S- and P- concepts: Distinguish the Ss, ^axis^ from ^perimeter^. Having different subjects, < [**.**] *axis* at rest> and < [**.**] *perimeter* moving> are logically independent and not contradictory although ^[**!**] At-rest moving^. (Tom, note that the parcel of coherence logic I'm introducing here does not provide a formal account of ^whole^ and ^part^. Hence, I'm relying on our 'daily' understanding of their conceptual relations to make my point.)

Leszeck Kolakowski is tempted to take the same tack. He acknowledges the necessity of reconciling his apparently incompatible allegiances: "I can say that I am a liberal, a socialist, and a conservative".[105] They're reconcilable if the objects of his diverse allegiances are conceptually distinct a la Plato's Top principle. One might be liberal with respect to civil rights, a socialist with respect to economics, and a conservative with respect to the Enlightenment and Christian tradition. Kolakowski notes, however, that it may be difficult to keep these departments separated. Is abortion a matter of civil rights

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[104] ^Corporeal^ and ^sensed^ might be considered as compatible categories that subsume distinct but related concepts; take ^colored^, which is subsumed under ^corporeal^ as ^wave length^ and under ^sensed^ as ^visible^. The familiar distinction between ^objective^ and ^subjective^ is pertinent here if we consider that colors are described 'objectively' in relation to an *object*/instrument, such as a spectrometer, and described 'subjectively' in relation to a s*ubject*/'instrument' such as our sensory/brain system. ^700 nanometers^ is a corporeal concept of red while ^red^ sensation is an experiential one. That these concepts are independent and compatible has long been recognized, because <His tie looks orange> and <His tie reflects wave lengths of 700 nanometers> may both be true even if 630 nanometers is the wavelength of orange. For different purposes we may use one or the other for our scientific versus aesthetic (in the wide sense) descriptions. Such descriptions will have distinct complicit concepts when they're part of corporeal versus sensed congeries. Although distinct, they're relatable concepts. Under specific conditions, reflected light whose wave length measures ~700 nanometers can appear orange to a normally or abnormally sighted person. Researchers choose 'objective' instruments over more labile 'subjective' eyeballs and brains for measureable 'accuracy'.

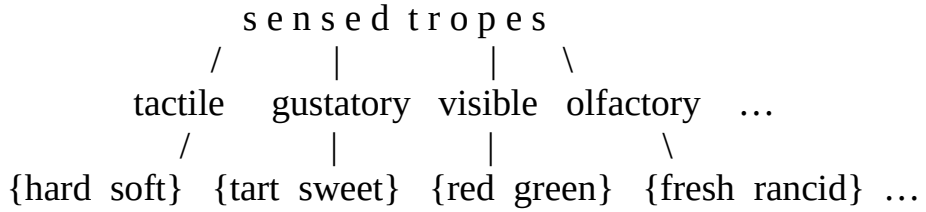
D. A. Cruse's *Lexical Semantics* for a clear, useful introduction to the part/whole issue. (Chapter 7, "Meronomies", Cambridge, Cambridge University Press, 1986). Two-place sentences whose predicates have emplaceable sensed tropes are often expressed as if they were one-place predicates--a frequent mistake. Patty says /The pillow feels soft to me/. Speakers tend to drop "to me" from this, turning a two-place sentence into the one-place /The pillow is soft/. In this way a grammatial, coherent two-place sentence is turned into a one-place sentence, and, eventually, into an incoherent one-place proposition and statement. The yen for sentential brevity tempts us to reduce a two-place sentence with sensed tropes, /The pillow feels soft to me/, into a one-place, 'objective' sentence /My pillow is soft/.

There may be one one-place functor, [Conscious of], in which a sensor and the sensed are one and the same substantive, ^[**.**] [Conscious of] sensor/sensing sensing/sensor^, rather than two as in /The sensor is conscious of an X/. This may explain why philosophers are clueless about how to interpret /conscious/ coherently, treating it as if it were a two-place concept, ^concept^. Meinong's influential notion that ^intention^ needs an object may be the culprit that deceptively expands /conscious/ to a two-place concept. Some philosophers think the 'problem of 'consciousness is a causal issue, but which they actually address as if it were some sort of 'philosophical' issue, turning the proposed solution into armchair science. It may be a conceptual/philosophical issue but it's not one with which philosophers can deal as long as they're serenely manacled to truth logic alone, which is fine for reasoning about factual but inadequate for addressing conceptual matters.

[105] *Breviario minimo*, from an excerpt printed in *la Repubblic*a; Roma, 11 May, 2000; trans. AKB.

or Christian morality? Conflicting answers may show ^civil rights^ and ^Christian tradition^ are conceptually incompatible. He may have to choose between them or descend without a kindly Virgil to guide him through the inferno of incompatible allegiances. Who/what are you, Kolakowski? Who/what are you, Tom? Who/what am I? [106]

With this in mind, I return to the dissolution of my crisis. Consider the following pyramid with ranges of '1-place', sensed trope concepts.



For whatever reason, probably for brevity, I'd guess that the once-surface functors of 2-place propositions were dropped. For example, ^[**.**] [Tastes-to-my-tongue] crab-apple tart^ was reduced to ^[**.**] crab-apple tart^. Following Plato and Shakespeare's Bottom, 2-place functors can be recovered and restored. The evicted functor [Tastes-to-my-tongue] can be restored to ^[**.**] crab-apple tart^. It's an asymmetrical ordering functor, because ^[**.**] [Tastes-to-my-tongue] tart crab-apple^ is grammatically incorrect and lexically incoherent. Objects taste so-and-so to our tongues, but flavors aren't tasted; they *are* our sensed tastes. Crab apples taste tart, but tart doesn't taste crab-apple. English grammar condemns the latter to incoherence^. ^The crab apple tastes tart to my tongue^ is coherent, whereas ^Tart tastes crab-apple to my tongue^ isn't, nor does it taste tart to my ear, per Bottom. So, ^gustatory^ and its sensed trope concepts are asymmetrical, alloyed concepts that harbor ordering functors, [Tastes-to-my-tongue], [Sounds-to-my-ears]…. We may, of course, infer from a particular tart taste that this apple I'm eating is a crab apple. But that's another story, told well by early John Dewey.

To review, I'm proposing that we think of 1-place property concepts, ^tart^, ^red^, ^harsh^, as alloyed, with ordering functors nesting within them. [Tart-to-my-tongue], [Red-to-my-eye(s)], [Harsh-to-my-ears], but not vice versa, and so forth. This locates incompatible concepts of sensed tropes within the scope of Plato's Top principle. Sensed tropes are ordered to different 'parts' of our sensory apparatus—tongue, eyes, ears … . The concepts of these parts of our bodies are distinct substantive concepts as ^axis^ and ^periphery^ are in Plato's example. We can understand why ^[**.**] crab-apple tart^, ^[**.**] crab-apple red^, ^[**.**] crab-apple hard^ are concurrently coherent despite the incompatibility of ^tart^, ^red^, and ^hard^ once their predicates' covert 2-place functors are recognized and restored.

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[106] For the reciprocal connection between the construction of yourself as a person conceived as a relational entity and the construction of your culture, see Bierman, *The Philosophy of Urban Existence*, Chapters 6 – 9; Athens, Ohio, Ohio University Press, 1973.

The alloyed concept of ^cause^ is pertinent here, because it harbors the ordering functor ^[Cause of] C E^. We conceive of [Cause of] as at least an asymmetrical energy transfer from one substantive to another—from the Cause-substantive to the Effect-substantive. The energy of an object's reflected light enters our eyes and via our optic nerve is transferred to our brains' vision center that transforms it into image energy, but not visa versa per the ordering direction of this energy transfer. The sensed result of this causal ordering is a subjective, sensed trope that's emplaceable into, for example, the token /red/. I propose the causal order subsumes the redeemed 2-place functors of sensed tropes' ranges, {tart sweet …}, {fresh rancid…}, and so forth.

An energy transfer also takes place between reflected light and a spectrometer, an instrument designed to measure wave length energy. The spectrometer replaces our eyeballs as the Effect-substantive.[107] Here the energy transfer effect in the receiving apparatus is a numerical calibration instead of trope energy. A spectrometer measures the wave length energy transferred to it in nanometers. For example, it may register 700 hundred nanometers when aimed at a sunset, which, given 'normal' conditions, is registered as red by persons with 'normal eyesight' ^[**.**] [Appears-to-my-eyeballs] sunset red^ and ^[**.**] [Registers-on-spectrometer] sunset 700 nanometers^. [Caused by] subsumes both of these ordering functors. Their effects, a red trope and a 700 nanometer register, are, respectively, subjective and objective energy exchanges with different effects that we coordinate because a person is looking at the same place at which the spectrometer is aimed. When push comes to shove, 'scientific' calibrators, and most of the rest of us, favor emplacing the spectrometer/objective register over the eyeball/subjective sensed trope to decide on the sunset's 'real' color. A painter looking at the sunset may declare it of an orange color, but the spectrometer doesn't register 670 nanometers, so the painter is 'objectively' mistaken. Yet, he may not be 'subjectively/aesthetically off base. Besides, who wants to carry a spectrometer around to check out 'objective' colors?

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[107] A note on my choice of how to symbolize alloyed propositions. Square brackets, […], indicate functors, which I've used to specify acts of linguistic agents. I've distinguished them from concepts, which I enclose in carets, ^…^; concepts' identities are fixed by tokens' locations in lexical space. Alloyed concepts are a combination of acts and happenings (was hit) and ordering functors. So, Tom, I have to decide which is the best way to combine them symbolically.

I distinguish between two kinds of functors. The first are **copula functors**, interpretations of the copula, such as [Bond], [Subsume], [Sooth]; the others are pure **ordering functors** and **alloyed functors**. I'll expand on later. I've symbolized alloyed propositions above by giving pride of place to copula functors and second place to ordering functors. I've placed ordering ordering and alloyed functors within propositions; the latter will contain concepts of acts (hit) and happenings (was hit) to indicate that such propositions have both ordering and substantive concepts of acts and happenings. For example, this gives us

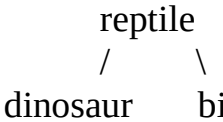
^[**.**] [Tastes-to-my-tongue] crab-apple tart^, ^[**:**] [Looks-to-my-eyes] ruby red^.

^Taste^ and ^looks^ are concepts alloyed with hidden ordering functors recovered from conventional 1-place English sentences, respectively, <This crab apple is tart> and <Rubies are perforce red>.

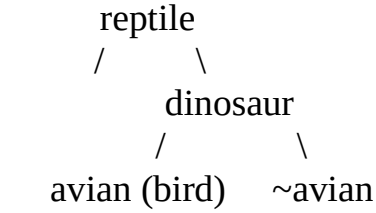
Since the energy transfer is from light to sensed and registered effects, and not vice versa, [Cause of] is an asymmetric functor, whether subjective (eyeballs tropes) or objective (spectrometers calibrations).[108]

Coherence Logic and Cladestic Detectives[109]

Meanwhile, since the China sooth discoveries, paleo detectives have been ruminating on potential congeries of morphological concepts, such as ^number of tail vertebrae", ^oviparous^, ^feathered^, ^hollow bones^, ^breastbone^, ^(dermal) scaled^, ^four-chambered (heart)^, that they could use to reconceive found imprints of once-living creatures. Out of these open-ended congeries, the detectives have to construct an S-pyramid, a **clad tree**, one more complex than and different from



The prime result will be that ^dinosaur^ subsumes ^avian^ and ^~avian^, as below.



This is a major conceptual shift for reptilian properties and their conceptual cuts. The cladogenesis is the result of paleo detectives' conceptual reasoning, which I reconstruct with coherence logic here. We don't need to replicate the reasoning about every attribute in a congery in order to understand how the linkage interface between a lexical system's seven enjoined binary functors and sooth truths work. I'll use only a few attributive concepts.

Let the link range, {A1…An}, be attributes we're entitled to sooth truly of found imprints; some may be used to classify them as dinosaur remains. This "some may be

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[108] I don't follow Segner in his tract on giving an intensional account of syllogistic logi; in this, he follows J. P. Ruesch. They explain the consistency of < [.] apple hard> and < [.] apple tart> by treating ^hard^ and ^tart^ as *coordinate* ideas, which Segner distinguishes from *opposite* ideas. I've shown ^hard^ and ^tart^ are "opposite ideas"; "coordinate ideas" is but an escape name; the correct escape is to treat them as alloyed concepts per above. They're hidden two-place functors benefit from Plato's Top principle with which we can deliver the coherence of <The crab apple is hard> and <The crab apple is tart> without resort to ^coordinate^ ideas. See M. Capozzi, 1990, pp. LXII and CV. For the relation between incompatible predicates and statement contradiction, recall our "On Emplacement" conversations, pp. 24 – 25 and p. 70, where I explained how Plato, contra Parmenides, shows why we can make false statements. See "More on Leutics" for further thoughts on congeries

[109] What follows is a somewhat detailed but simplified, account of how coherence logic may be used to reconstruct the changes paleontologists made in their lexical system centering on ^dinosaur^ and ^bird^ after the recent, remarkable discoveries of animal imprints in China. You may be impatient with the details if this topic is of little interest to you, Tom, but the point of my discussion is logic, which does interest you.. I show the superiority of coherence logic's account of classification over the spare Aristotelian genus/differentia account, an innocent account of definition.

used" is isolated by a conceptual cut, [||], to distinguish the concepts that compose ^dinosaur^'s congery from concepts merely linked/soothed to it:

[Ai…Aj] || **{**Ak…An}.

The concepts on the left side of the cut are predicate concepts the detectives have *bonded*, [:+], to ^dinosaur^ to form a *congery*, which paleontologists use to place ^dinosaur^ in an S-pyramid in lexical space; which is ordinarily thought of as classifying or sorting. The concepts on the right side of the cut are those to which ^dinosaur^ may be *linked* and *soothed*, as, for example, ^toothed^ may be if it's not bonded to ^dinosaur^. Of course, ^toothed^ may be linked/soothed to non-dinosaur concepts as well.

You've probably already discerned the burning question, Tom: Where should we make a conceptual cut among this swarm of 150+ concepts about the properties of dinosaurs and their parts? Which are to be congered, [**:+**], to ^dinosaur^ and which are to be relegated to the [Link,*] and [Sooth [**.**] copula functors?

Until the China discoveries, ^feathered^ was not included in ^dinosaur^'s congery; nor was it soothed, because, in the cladestic detectives' minds, as I'm reconstructing their reasoning, the dermal surface ^scaly/~feathered^ was bonded to dinosaur:

^ **:** dinosaur scaly/~feathered^.

Hence, they weren't free to sooth ^dinosaur^ to ^feathered^, because

(i) ^ **:** dinosaur scaly^ blocks the Free-Predicate condition, (FP) ^~**:** S P & ~**:** S ~P^, needed to render ^**.** dinosaur feathered^ coherent, and because

(ii) ^ **!** scaly ~scaly/feathered^. If ^dinosaur^ is bonded to ^scaly^, ^ **.** dinosaur feathered^ is incoherent, because ^feathered^ is not included among ^dinosaur^'s linked concepts, hence, can't be coherently soothed to it: ^ ~**.** dinosaur feathered^.[110] This incoherence is shown by the entailment proposition

^ **:** S P --} ~**.** S ~P^.[111]

The conceptual reasoning that prevailed before the China discoveries, and before the four-chambered heart discovery, is:

* dinosaur {scaly feathered} --} (~**:** dinosaur scaly & ~**:** dinosaur feathered)
: dinosaur scaly/~feathered A concept in the early congery for ^dinosaur^

~* dinosaur {scaly feathered} Modus tollens, first and second premise

If a substantive concept is linked to a range of property concepts, it can't be bonded to any concept in that range by the Free Predicate condition. But, if a substantive concept is bonded to a concept in that range (2nd premise), it's incoherent to link it to that range.

To bond a property concept to a substantive concept, you may choose but one concept from a range ^{P ~P}^ of incompatible property concepts. If you do bond one of

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[110] See p. 57f for of the Free-Predicate condition, (FP), which is the (FP) premise in the Link Walk Inference.

[111] If you're puzzled by the ^ ~**.** S P^ in the consequent, it's because you've forgotten that ^ **:** S P^ --} ^ ~**.** S P^, differing from the controversial alethic <Necessarily <S>> --} <S>.

them, it's invalid to link/sooth that substantive concept to any of the range's remaining concepts, and to any of their subsumed concepts per (FP), the Free Predicate Condition.

(a) **!** feathered scaly **!** P ~P

(b) **:** dinosaur scaly **:** S ~P A conceptual cut, [||]

(c) ~* dinosaur {feathered scaly} (a), (b), ~***** S {P ~P} per (FP)

(d) ~**.** dinosaur feathered ~**.** S P From (c) by (SW, Sooth Walk)

The China discoveries forced a revision in the paleo detectives' S-pyramid, forced them to rethink their classifications. The imprints had many attributes whose concepts they had previously bonded to ^dinosaur^, which enabled them to conceive of the imprints as dinosaur imprints. But, hey, the attributes included imprints of feathers that paleontologists could coherently emplace into the /feathered/ of the de facto sooth discovery, < **.** dinosaur feathered>; its truth entails the coherence of its sired proposition,

^ **.** dinosaur feathered^.

This sired proposition is incompatible with conclusion (d) of the above reasoning, and retires (b) to history. By Modus tollens we also negate (c), from which it follows that

^ ***** dinosaur {feathered scaly}^

is coherent. Thus, ^feathered^ becomes coherently predicable—linkable and soothable—to ^dinosaur^.

By Modus tollens, one of the two Princes, (a) [**!**] or (b) [**:**], must be negated. The paleologists must choose which to negate. I said that (b) is incoherent. Although scales may have evolved into feathers, there is a contrast between (a)'s dermal concepts ^ **!** feathered scaly^, and that hasn't changed; so, (a)'s coherence still stands. So, our bone men are justified in negating (b) rather than (a).

But accepting (a) tosses them a problem. The incompatibility of ^feathered^ and ^scaly^ makes it incoherent to include both in ^dinosaur^'s congery—unless a la Plato's Top principle, we make a distinction in the substantive concept. In my reconstruction of paleo detectives' reasoning, I have them escaping this incoherence by dividing dinosaurs into ^~avian^ and ^avian^; they do this by making different conceptual cuts in the imprints' attributes in order to fashion incompatible avian and ~avian congeries. This generates two subsumption pathways:

dinosaur

/ \

~avian avian (bird)

Paleontologists did what Plato, and Hegel following Plato, did to avoid inconsistent statements bequeathed us by a substantive concept's congery containing incompatible attributes. It's done, for example, by furnishing problematic ^dinosaur^ with a saving conceptual distinction, ^avian^/^~avian, thereby creating two subsumed concepts with compatible congeries:

[:+] [dinosaur ~feathered] --} ~avian/~bird
[:+] [dinosaur feathered] --} avian/bird.

This substantive distinction rescues us from an incompatible congerie and contradictory sooth statements, because we contsruct new subsumption pathways in lexical space.[112]

We can describe this shift as providing conceptual cuts in dinosaurs' and birds' attributes. It excludes ^feathered^ from the congery cut for ^~avian^ and puts it in the linked cut for ^dinosaur^. It puts ^breastbone^ and ^hollow bones^ in the congery cut for ^bird^. By bonding ^avian^ to these flight anatomy properties, discovered imprints that don't exhibit these bonded congeries will be ~avian dinosaurs. This Platonic tactic rescues us from the formerly incoherent (partial) congery:

^[:+] dinosaur [scaly feathered]^.

In summary, the distinction of ^~avian^ and ^avian^ allows ^dinosaur^ to be soothed to ^scaly^ and ^feathered^ without contradiction. This distinction is made possible by bonding ^avian^ to flight anatomy concepts. Further, because ^avian^ is subsumed by ^dinosaur^, it inherits all of ^dinosaur^'s bonded concepts, floating ^bird^ down its Pelwalk cascade. In old-speak, a species has all the 'bonded' traits of its genus, which is why I can coherently say your fragile canary is a dinosaur.

As Fischman said, the China discoveries led cladestic detectives to conclude "feathers [alone] don't make the bird" any more than duds alone make the man, sweetie. The China imprints do, however, exhibit mosst of ^dinosaur^'s earlier congery; hence, as I reconstruct their thinking, they claimed that the sooth truth < **.** dinosaur feathered> sired the coherence of ^ **.** dinosaur feathered^. This coherent sooth proposition entails ^ ***** dinosaur {feathered ~feathered} by (W1) and (SL4), which, in turn, entails it's incoherent to bond ^avian^ to ^feathered^ or ^~feathered^ by (FP). Here's the argument:

^ **.** dinosaur feathered^ — Sired by true < **.** dinosaur feathered>

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^ **.** dinosaur feathered^ & ^ **.** dinosaur ~feathered^ — By (W1): If either [**.**], both [**.**]; p. 78.

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^ * dinosaur {feathered ~feathered}^ — (SL4), p. 77

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^ ~[:] dinosaur feathered^ & ^~[:] dinosaur ~feathered^ — By (FP), Free Predicate

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[112] Tom, I hope you recognize that conceptual logic remedies Hegel's magic 'synthesis' wand-wave toward his triade, thesis/antithesis/synthesis. How exactly does his 'synthesis' work out, logically speaking? That mystery is solved by applying Plato's anti-synthetic distinction per above. By increasing our store of concepts via distinctions rather than by 'synthesizing' them, Plato showed how to nullify noxious contradictions. Hegel had a vague understanding of his master. He had a lot of other things to do, and maybe he was a speed-reader/writer who didn't take notes.

This sooth truth discovery supports changes in the coherence value of two Princely propositions in the established lexical system existing prior to the China discoveries. It beheads the Princely [/] and [**:**]. Die!:

(i) ^~[/] dinosaur bird^ and ^ ~[**:**] dinosaur ~feathered^; both die of incoherence.

It also succors a different [/] and [**.**]. Live!:

(ii) ^[/] dinosaur bird^ and ^ [**.**] dinosaur feathered^.

Both live by coherence, because the newly minted

^ [*****] dinosaur {feathered ~feathered}^

lives coherently.

Congeries of DNA concepts have gradually been replacing congeries of morphological traits as grounds for classification. This is a shift in the concept of biology's ^natural kind^. It occurs in every field whenever there is a scientific advance. A chemical advance led chemists to shift the 'natural kind' concept of ^water^ from ^colorless liquid^ to ^H_2O^, accepted by a growing number of speakers just as the causal relation between genetic and morophological traits is shifting some speakers concepts of 'natural kind' plants and creatures. I illustrate this shortly with ^whale^, ^hippo^, and ^whappo^.

Anyone who understands the conceptual logic involved in scientific taxonomy changes will know how to localize conceptual change, and, so, quell the specter of "incommensurable" concepts that erupted from Thomas Kuhn and Paul Feyerabend's volcanic accounts of scientific revolutions. The principal conceptual factors they shorted are the several functors we use to tender travels between substantive and property concepts: [**:**, Bond], [**:+**, Conger], [*****, Link], and [**.**, Sooth]. They also failed to appreciate how much of a lexical system survives a [Sooth] rebellion. Further, not having a conceptual logic, they didn't appreciate how it enables us to trace the continuity between outdated and updated lexical systems. (Kuhn may have been trying to understand this in his late work when he speculated about localizing conceptual change.)

Because ^paradigm shift^ is an embyronic concept, it's hard to say if favoring genetic over morphological classification is the kind of 'shift' its proponents had in mind. How much conceptual shift is a 'paradigm' shift? Is the shift from classification heavily reliant on genetic instead of morphological features such a 'revolution'? It's certainly has upset received accounts of species' evolutionary tree. Birds are dinosaurs, for heaven's sake! And whales and rhinoceroses are kissing cousins!

I suggest that by thinking about scientific 'revolutions' with the aid of coherence logic, you can see that the consequences of 'paradigm shift' are exaggerated; it doesn't doom us to global conceptual incommensurability. Those who have no such logic are doomed to be bottom-dwellers in turbid truth-logic waters. The shifts of congeries across conceptual cuts is quite containable. Plato's distinction-strategy tames alethic contradictions, preserves a lot of former congeries, and incorporates discovered sooth truths and

coherences without alienating us irreparably from our theoretical forebears. Gravity has replaced entelechies, but we still allow that objects fall earthward.[113]

I can't supply you with a full anti-incommensurability account in this Appendix. Its intended purpose is to buttress my informal gutting of the Liar and other paradoxes, and to save us from truth logic's other vexing predations—Tarski's Convention T, aristotelian accounts of natural kinds, over-simple accounts of the relation between truth and 'meaning'/coherence, the divorce of intension from extension and reference from 'meaning', and the formerly unresolvable differences about the Square of Opposition. But, if you stay with me, you will have tasted enough of the anti-incommensurable sweets to ask or seek for more. Are these apples tempting enough, Tom?

End of Option

Here's a brief elaboration of the siring relation between statements and propositions. I'm anxious to help you see the unifying role ^coherence^ plays, so you can jettison such divisive dualisms as 'meaning/reference', 'Sinn/Bedeutung', 'intension/extension'. Understanding the sooth interface is crucial to disposing of these dualisms. Without doing so, you cannot transcend present, deficient orthodoxies.

S+P+ or S+~P+ emplacements of an object and a property into < **.** S P> or < **.** S ~P>, respectively, entails the coherence of ^ **.** S P^ *and* ^ **.** S ~P^, *and* of ^ ***** S {P ~P}^.[114] From a sooth statement whose truth we're not entitled to affirm, we can infer nothing about its underlying proposition's coherence. Assure yourself of this by its converse: From the coherent ^ **.** my-shoes worn^ and ^ **.** my-shoes ~worn^, you can infer nothing about the truth value of either < **.** My shoes are worn> or < **.** My shoes are ~worn>.

The proof of this siring relationship is straightforward. A concept is a word type/token's coherent relations in lexical space, *including* its coherent emplacements. If a coherent emplacement into the subject of / **.** S P/,

EsE @ /S/,

carries a coherent emplacement into its predicate,

E(s)pE @ /P/,

yielding (S+P+), a coherent soothage has been established between ^S^ and ^P^, per the discussion of truth by emplacement in our "Emplacing" conversations. This is what I called earlier a "collocation" of an object and its property. ("Emplacement" conversations, p. 50 - 51) Thus, a true antecedent of the following entailment, sires the coherence of both its consequent's sooth propositions per Waltzer (W1), p. 78:

< **.** S P> --} (^ **.** S P^ & ^ **.** S ~P^).

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[113] Aristotle, *Physics*, 202a 12-16.

[114] I used "+" after "S", "P" and "~P" in "On Emplacing", p. 40, to indicate they have coherent emplacements; "~" after them indicates they have incoherent emplacements; "-" after them indicates they are known not to have coherent emplacements, and "?' to indicate it's not known if they do or don't have coherent emplacements.

The following argument schema, which utilizes sirings in step 3., shows we may infer from true soothage statements to coherent propositional linkage. It will help you to grasp the importance of distinguishing linkage from soothage.

THE SIRING ARGUMENT: From <…> to ^…^

1. < **.** S P> or < **.** S ~P>	Assume one of these statements is true
2. ^ **~*** S {P ~P}^ --} (^**~.** S P^ & ^**~.** S ~P^)	(SW5)-(Sooth Walk) p. 77
3. < **.** S P> --} ^ **.** S P^ & ^ **.** S ~P^ and	Siring
< **.** S ~P> --} ^ **.** S ~P^ & ^ **.** S P^	Siring
4. ^ **.** S P^ & ^ **.** S ~P^	From 1. and 3., Mod. pon.
5. ~(^ **~.** S P^ or ^ **~.** S ~P^)	From 4. by DeMor.
6. ^***** S {P ~P}^	From 2. and 5. by Modus tollens & Double Negation

For example, the truth of < **.** Hat green> sires the coherence of ^ **.** hat green^ and ^ **.** hat ~green^; so does the truth of < **.** Hat ~green>. Both sired coherent propositions in 4. entail the coherence of ^***** hat {green ~green}, as the above argument shows.

Note the 4. --} 5 DeMorgan transformation. When replacing "and" with "or" (and vice versa), I put negation *inside* proposition 5.'s careted disjuncts (or conjuncts) and to the left of their functors, **^ ~.** …^; this indicates their incoherence. Put [~] *outside* 5.'s disjunction, ^~^(^…^ or ^…^)^^ (or conjunction). Read (5) as ^the incoherence of the disjuncts (or conjuncts) is incoherent^.

Based on the Siring Argument, I'll prove that coherence logic is not reducible to truth logic. In old-speak, meaning is not reducible to truth conditions. This is important, because the independence of coherence logic corrects 'extensionalists', such as Quine and Goodman, and shows Davidson's extensionalist notion of a conceptual system is inchoate; it also shows coherence logic supplements alethic logic and replaces the hopelessly embyronic ^intension^ these tough guys justly ridiculed. Coherence logic's leutic modalities--enjoined, enjoined not, allowed--rid us of alethic modalities--necessary, impossible, and possible. They prep us for basing old-speak's contingency and 'possibility' on sooth predication, its Waltzers, and Link Walks. Another advantage of leutic modalities is that they allow us to discard possible-world semantic's epistemologically useless accounts of alethic modalities. How do you verify in real time that a statement is synthetically true in all possible worlds without a flight of angels bearing a message from Yahweh, or without Aristole's tired essentialism? Nobody goes everywhere anymore. I'll explain, Tom, how coherence logic repairs these gaffes shortly.

Here are my three dear arguments for the irreducibility of coherent to alethic logic.

First, coherent *sooth* propositions are not reducible to true sooth statements. ^ **.** S P^ is not reducible to < **.** S P>, because both ^ **.** S P^ and ^ **.** S ~P^ were shown to be coherent by the siring truth of < **.** S P> or < **.** S ~P>, only one of which may be true.

(< . S P> and < . S ~P>) -- not both may be true
(^ . S P^ and ^ . S ~P^) -- both may be coherent

To reduce one thing to another is to show they're identical, numerically one, even if spiffed up in different togs, such as ^[=] 2^2 4^ versus ^[=] (2 x 2) 4^. It's incoherent to count a statement and a proposition, as one, as numerically identical, if one has a feature the other doesn't have.[115] Since propositions don't have truth value amd statements do, they aren't identical; they're diverse. This sunders coherence and truth logic: Both contradicttory propositions are coherent; not both contradictory statements are true; ^~[=] two one^. Hence, a coherence logic of propositions can't be reduced to an alethic logic of statements.

Second, propositions in coherent link rangess are not reducible to true sooth statements. ^ * S {P ~P}^ entails ^ . S P^ and ^ . S ~P^. Both sooth propositions are coherent. We cannot, however, use [Link] to give us evidence of the truth of either's correlative statement, because it offers only alternative verifying emplacements but no actual emplacement. Since a coherent link proposition doesn't entail the truth of a sooth statement, but a true sooth statement does entail, by (SW), the coherence of a link proposition, their entailments differ. If ^ *S {P ~P}^ and < . S P> were identical, they would have identical entailments; since they don't, to say a linkage proposition and a sooth statement are identical is incoherent. This shows propositions' bestowal of coherence value on statements is not identical to true statements' siring the coherence of propositions.

Third, ^ *S {P ~P}^ is not reducible to < . S P>, because < . S ~P>> also entails ^ * S {P ~P}^'s coherence even though < . S P> and < . S ~P>> are contradictory. Different truth values of ontradictory statements are two things; the coherence of a link proposition is one thing. Since either of the two contradictories entail one and the same coherent link proposition, and since two of anything are not identical to one of anything, two sooth statements are not identical to one link proposition. Again, coherence logic is not reducible to truth logic.

All three arguments use ^[~] [=] two one^; it's incoherent to identify two entities with one entity.

With the following example, we can draw profit from the irreducibility of coherent link and sooth propositions to true sooth statements. The distinction, if observed, keeps us from confusing claims about link and sooth's propositions' coherence value—'meaningful/less'—from their siring sooth statements' truth value, which the surface grammar of English sentences usually fails to reflect. This can be brought out by contrasting the conceptual difference between two sentences with the same surface grammar:

(T) <Monkeys aren't two-cylindered!> and
(S) <Monkeys aren't sociable>.

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[115] This 'principle' is not the Identity of Indiscernibles, but the Diversity of Discernibles.

(T) may be interpreted by someone as the via passive (Ts), a statement about the sooth relation between two concepts,

(Ts) <- <^ **.** ^Monkey^ ^two-cylindered^>>.

(Ts)'s via attiva correlatives are

(Tc) < ~**.** monkey two-cylindered> and < ~**.** monkey ~two-cylindered>,

which entails by (SL3), p. 60, the via attiva Link proposition,

(T*****) ^ ~***** monkey {two-cylindered ~two-cylindered}^.

So, (T) should be interpreted in normal English as

(Ti) <Monkeys *can be* neither two- nor *can* they *be* ~two-cylindered/one-cylindered three-cylindered n-…>.

"*Can be* neither … nor" belongs here, because (Ti)'s correlative proposition is,

(T*****) ^**~*** monkey {two-cylindered ~two-cylindered^},

which we should read as ^there is no coherent path from ^monkey^ to ^two-cylindered^ nor to ^~two-cylindered^^. It's tempting to misinterpret "Can be neither…nor" as a mode of impossible truth, <[Impossible] monkeys are two-cylindered>, as if it were an alethic modal. Well then, monkeys must be one- or n-cylindered per ^~two-cylindered, right? Wrong. (T) should be interpreted as (T*****), as an incoherent link proposition via (SL) and leutic modalities.

The upshot of this heavily (T)ed discourse is, in common parlance: (T) is absurd, meaningless; you can't conceive of monkeys as cylindered, because they're animals, not machines, bless 'em. The temptation to read (T) as an alethically [Impossible] statement soon sours after the yeasty sallies of (Ts), (Tc), (T*****), and (Ti).

(S) should be interpreted as < **.** Monkey ~sociable>; it's coherent, and possibly true; if it is true, it sires the coherence of both

^ **.** monkey ~sociable^ and ^ **.** monkey sociable^.

Since < **.** Monkey ~sociable> is possibly true, so is < **.** Monkey sociable> by alethic logic; if a statement is [Possible], it's neither [Necessary] nor [Impossible]; so, either <S> or <–S> may be true, depending on their emplacement profiles. Although not both may be true, both are coherently assertible per the coherent link proposition, (Sa):

(S*****) ^ ***** monkey {sociable ~sociable}^.

(Sa) is inferable by (SL4) from ^ **.** monkey ~sociable^ or ^ **.** monkey sociable^; these coherent propositions may be sired by either < **.** Monkey ~sociable> or < **.** Monkey sociable>'s truth. The link proposition, (S*****), above, may appear in English statements as

(S*s) <Monkeys *may be* sociable and *may* be unsociable>.

There's a cleavage between (T*****)'s incoherent ^two-cylindered^ linkage and (S*****)'s coherent sociable linkage, even though (T) and (S) are grammatically similar sentences. This cleavage in coherence value is even deeper than a cleavage between alethic impos-

sibly true/false and possibly true/false would be if there were coherent alethic modalities for statements.[116]

The Siring Argument (p. 99) shows we have de facto grounds for link and sooth propositions' coherence—more on this follows shortly. Note, however, that their coherence value may be known without knowing the truth value of their siring true sooth statements, because link propositions' coherence value may be derived by coherence logic from propositions under the sway of the Lexical Princes, [**:**, **:+,** /, **!**, =]. Princely propositions' coherence may rest on de dicto grounds. If ^ **.** S P^ is coherent, we may infer de dicto to the coherence of ^ * S {P ~P}^ via the Link Walk. We may do so without knowing the de facto truth value of < **.** S P> or < **.** S ~P>. The third epistemic value ^Unknown^, included in the Substitution Chart for sooth truth (Conversations, p. 55), allows for this case. In old-speak, we may know a sentence is meaningful without know- but fatal stab at repairing the verification theory of meaning. It certainly leans on coherent emplacement, but, without the finer grained surround of a supportive coherence logic, it's like sending Little Red Riding Hood, basket on arm, sans escort, to Grandma's house. The coherence of emplacements, the status of truth conditions, is always subject to change, always subject to disruptive new truths And they turn up in unexpected places, such as remote ditches in China, bristling with impressions of feathered skeletons.

If we may truly claim < **.** apple hard/tart/green>, we thereby sire the coherence of ^ **.** apple hard^, ^ **.** apple tart^, and ^ **.** apple green^. From these sooth components of Waltzer propositions, we may infer the coherence of their link ranges by the Siring Argument (p. 99).

1.	**.** apple hard	**.** apple tart	**.** apple green	Assume
2.	**.** apple ~hard	**.** apple ~tart	**.** apple ~green	From 1. by (Waltzer 1), p. 61
3.	***** apple {h. ~h.}	***** apple {t. ~t.}	***** apple {g. ~g.}	From 1. & 2. by (SL4), p. 60

(SL4) is a summary, a generalized form for such above emplacements:

(SL4) (**.** S Q & **.** S ~Q) {--} *****S {Q ~Q}.

(SL), the Sooth/Link Walk, does not, however, allow us to reduce [Link] to [Sooth], nor vice versa, because true de facto sooth statements sire coherent propositions, but not vice versa. Here's why in more detail.

The conditions for affirming the sooth and link sides of (SL4) differ. We may derive the coherence of the link side from the lexical system via the Link Walk, and from the sooth side by coherent emplacements in / **.** S P/ or / **.** S ~P/. But there are no non-lexical emplacements for < ***** S {P ~P}> that entitles us to claim it's true; so, it can't sire

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[116] [Possible] is an offspring of [*****, Link]. ^***** S {P ~P}^ --} (^ **.** S P^ & ^ **.** S ~P^); these coherent, leutically allowed sooth propositions bestow coherence on < **.** S P> and < **.** S ~P>. Because both propositions are coherent, it's possible each of their correlative statsements *may* be true or each *may* be false, or neither *may* be true or false, depending on whether we have truth-making coherent emplacements, S+P+ or S+~P+. [Possible] may charitably be granted alethic logician's inchoate grasp of linkage and its sooth entailments. To refresh your memory of the bestowal relation, go to this Appendix's p. 44.

the coherence of ^***** S {P ~P}^. Linkage lacks referential bite, whereas ^ **.** S P^ and ^ **.** S ~P^ have truth sires: S+ P+/< **.** S P> or S+ ~P+/< **.** S ~P>s. Link propositions may be spawn of lexical systems alone. They're normative, because they invest the via attiva leutic [Allowed to] into their ranges, from which, with negation, we may derive the other leutic modal norms, [Enjoined to] and [Enjoined not to]. Lexical systems, unlike the substantive/trope part of the world, provide leutic modal norms.[117] While [Link] and [Sooth] may be used coherently in both via attiva propositions and in correlated via passive statements about *lexical states* of affairs, [Sooth], unlike [Link], may use coherent emplacements of *non-lexical states* of affairs.

The [Sooth] functor is the portal through which truths about the non-lexical world enter into and affect our lexical/conceptual systems and their coherent travel routes. This is the kernel of truth in the verification theory of meaning and its off-spring, 'truth conditions' theories of meaning.

E. N. Zalta writes, "From the fact that a property *F* implies a property *G*, it does *not* follow that *F* just is identical to the property of *being F and G*."[118] Similarly, that ^***** S {P ~P}^ and ^ **.** S P^ & ^ **.** S ~P^ entail each other doesn't show [*****] is identical to [**.**].

As I said, using my terminology, Wittgenstein sought linkage conditions so he could answer the question: What can and cannot be said coherently? Because a coherent ^***** S {P ~P}^ entails (^ **.** S P^ & ^ **.** S ~P^), it offers a choice of 'sayable'/coherent sooth statements, < **.** S P> and < **.** S ~P>, as in < **.** apple red> and < **.** apple ~red>. There is no siring statement, <***** S {P ~P}>, only a correlative via passive statement of a coherent link proposition between concepts, <***** ^S^ ^{P ~P}^>. Wittgenstein failed to distinguish [**.**] from [*****] explicitly, because he didn't descry the difference between link and sooth predications. This is the inevitable fate of anyone who doesn't segregate con-

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[117] The 'language/world' distinction tempts us to suppose language is not part of the natural world. As a nominalist I reject this dualism. The 'material' of language is physical tokens, which are part of the material world. Still, because tokens are easily reproducible artifacts, many distinguish between them and 'natural' entities. The lexical/non-lexical distinction becomes less tenable when you realize that /hand/ and your hand, left or right, have the same pronunciation. When I want to talk about this distinction without accomodating an ontological language/world dualism, I'm embarrassed by the lack of a vocabulary that respects the distinction without honoring the dualism. I've resorted to "lexical" and "non-lexical"/"object/trope", which differs from "language"/"world" dualism. The artifact/natural distinction is only superficially helpful. What I want you to think when I use "lexical/non-lexical" is that the lexical is cognitively primary, and that the non-lexical part of the world is cognitively lexical only when it's coherently emplaced in a physical token's place. I prefer emplacement as the way distinguish the language part of the world from its emplaceable part—EheartE @ /heart/. It helps to keep us from falling prey to a language/world dualism better than artifical/natural does. Lexical systems are products of communities of speakers who acquire shared norms: "No!", says the mother, warning her child not to put her hand in the fire, and not to ask for a fork by saying /spoon/. Slapping the child's hand may have the same import "No". It's hard to know if "No" or hand slapping is the more effective mode of norm instruction in all cases.

[118] Edward N. Zalta, "A (Leibnizian) Theory of Concepts", fn. 13, p. 140, *Logical Analysis and History of Phhilosophy*, 3, Paderborn, Germany, 2000. I'm not sure why Zalta thinks a property 'implies' another property. That's incoherent. [Implies] is a relation between statements and propositions, not properties, that we fund with logical coin. Perhaps he intended to write "concept" of property instead of just "property" and has something like such conceptual relations as [Subsumption, /] and [Bond, :] in mind.

ceptual from truth negation, which explains why << **.** S P> & < **.** S ~P>> is exclusive, while <^ **.** S P^ & ^ **.** S ~P^> is inclusive. Without the latter, there would be no coherent ^***** S {P ~P}^s, which natural language speakers' easily grasp. A sales-person tells a customer, "We have the same design in both red and black" (^ ***** design {red ~red/ black}^). You know you may choose one or the other, or both. This mimics the leutic [Allowed to]. Wittgenstein's and Frege's failure to distinguish [**.**] from [*****] lured the Vienna Circle to opt wholesale for the verification theory of meaning. Shadows of this choice still becloud extensionalist academicians' theorizing. The world is too much with them.

I'm tempted to think that in his pre-tractarian semantic theory, Wittgenstein came close to distinguishing [Link] from [Sooth], drawing on Gary Levvis' remarks. He writes "that in the years 1912-1914 Wittgenstein accepted a distinction between *Sinn* and *Bedeutung*: (i) the *Bedeutung* of a propositional sign is the *actual* fact or state of affairs which renders the propositional sign true or false, and (ii) the *Sinn* of a propositional sign consists of the [linked range, AKB] set of possible facts or states of affairs that *could* render the propositional sign true or false. The *Bedeutung* is but one member of this set, never its only member."[119]

WHALES, WHAPIGS, WHAPPOS, AND HIPPOS

The following example about rethinking the biological relation between whales, hippos, and pigs based on DNA discoveries, shows how a conceptual cleavage was erased and how new conceptual coherencies ensued.

The Siring Argument entails that the de facto grounded coherence value of sooth propositions may override their de dicto based coherence value. Most importantly, de facto coherence value overrides de dicto coherence value based on those Prince propositions with (**:**, **:+**, **/**, **!**, *****, **=**) functors, from which link propositions' coherence derives. All de dicto based coherences yield, via Modus tollens, to coherences sired by emplacement-generated sooth truths and untruths. The Princes bow to King truth, because if a de dicto derived sooth proposition is shown to be incoherent by a siring S+P+ or S+~P+ sooth statement, then by Modus tollens we have to negate the coherence of at least one of the de dicto premises in the link walk inference form (p. 57) from which it was derived. This is illustrated in the example below.

< **.** Whappos live in the ocean> is true, because whales do. I show this negates the former coherence values of some propositions with Princely functors.

It was recently discovered—a sooth truth—that hippopotami share gene sequences with minke and sperm whales they don't share with pigs. This shows whales are genus-related to hippos rather than to pigs. Although ^whale^ and ^pig^ formerly were subs-

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[119] Levvis, G., "Abstract", *Proceedings and Addresses of the APA*, 71:1, p. 85. "Propositional sign" should be read in my terminology as ^statement sign^. I reserve ^proposition^ for an interpretation, ^…^, of a sentence token.

umed under the same concept that I dub ^whapig^, many zoologists now think ^whale^ and ^hippo^ should be subsumed under what I dub ^whappo^.

OLD	***NEW***
whapig	whappo
/ \	/ \
whale pig	whale hippo

The old lexical system's congery relation for ^whapig^ was based on concepts of shared morphological attributes,

^ **:+** whapig [M1…Mn]^,

with a cut, [||], between other morphological attributes, ^[M2…M2i] || [M2j…M2n]^, to distinguish ^whale^, ^[M2…M2i]^, from ^pig^, ^[M2j…M2n]^. Because whales and pigs shared the morphological congery [M1…Mn]^, ^whale^ and ^pig^ were subsumed under ^whapig^. However, the new congery for ^whappo^ consists of genetic attributive concepts marking a *SeQuence*, ^[SQ1…SQn]^:

^ **:+** whappo [SQ1…SQn]^.

Since minke and sperm whales share this sequence congery with hippos, ^whale^ and ^hippo^ are subsumed under ^whappo^. Thus, ^ / whappo whale^ is newly coherent and ^ / whapig whale^ is newly incoherent, because ^whale^, ^pig^, and ^hippo^'s congeries were changed from morphological to genetic concepts. This is how new coherences and incoherences are generated from new sooth truths about genetic sequencing.

^Whale^ and ^hippo^, too, are species' differentiated by a cut, [||], which yields conceptual congeries of genetic attributes they don't share:

^ **:+** whale [SQ2…SQ2i]^ || ^ **:+** hippo [SQ2j…~SQ2n]^.

Given the sooth truth of <Whales are gray>, it's sired proposition, ^ **.** whale gray^, is coherent, and, therefore, so is ^ ***** whale {grey ~gray}^ by (SL). Also, given our new subsumption, ^ / whappo whale^, we can argue, (W), as follows:

/ whappo whale
***** whale {gray ~gray}

***** whappo {gray ~gray}.

Whatever link ranges may be coherently linked to a substantive's concept (^whale^) may be coherently linked to its subsuming concept (^whappo^). This argument's form is similar to the following one whose widely shared conceptual relations support its validity.

/ figure rectangle	/ S S1
***** rectangle {regular ~regular}	***** S1 {P ~P}
***** figure {regular ~regular}	***** S {P ~P}

This inference form, (W), isn't valid for congery ranges, because ^ **:+** whale [SQ2 … SQ2i]^ precludes the coherence of (W)'s [Link] premise. That's because ^whale^ is bonded to all complicit concepts in it's congery; hence, no concepts in ^whale^'s congery

contains an [Allowed] ^SQ2^ in its congery. So, ^whale^ isn't linkable to components of its congery (^blow hole^) as ^{gray ~gray}^ is linkable to ^whale^ in (W)'s link premise; neither ^gray^ nor ^~gray^ are complicit concepts in ^whale^'s congery. Congeries are dedicated to identifying kind concepts (^pig^, ^pine^, ^plum^) of substantives.

By getting slightly more formal, we can see sooth's infestation of a lexical system more summarily. The new sooth truth about whales' and hippos' genetic relation shifts ^whale^'s subsumption from ^whapig^ to ^whappo^, which entails the incoherence of ^ / whapig whale^. We get this result by the following conceptual inferences, (1) – (5).

(1) **:+** whale [SQ2…SQ2i]	Genetic sooth discovery
(2) **!** [M2…M2i] [SQ2…SQ2i]	These morphological and genetic congeries are incompatible
_____	
(3) ~**:+** whale [M2…M2i]	A newly incoherent congery
(4) **:+** whapig [M1…M1n]	Former morphological congery
_____	
(5) ~/ whapig whale	(4) doesn't subsume incoherent (3)

This argument is a way to prove oranges can't be apples--nor winesaps.

The sooth truth about whales' and hippos' genetic structure impels revisions in the coherence value of earlier propositional combinations of ^whale^, ^hippo^, ^pig^, and it alters the lexical Prince's de dicto relations between these concepts we formerly relied on to determine the coherence values of propositions sporting those concepts.

I haven't mentioned the identity functor [=] here. The coherence value of identify propositions also may be altered. [=] is always in play, although it's so taken for granted that it's seldom explicitly acknowledged in most of our inferences. Within the confines of inferences, we usually assume that two tokens of the same type have the same interpretation; however, if they don't, the inference may be invalid due to equivocation. This [~=] fracture could easily occur after a word has taken on a change in interpretation. The pre-genetic ^whale^ is not identical to the post-genetic ^whale^ (^ ~[=] pre-whale post-whale^); thus, ^post-whale^'s relations to other word types in our lexical system differ from ^pre-whale^'s. Some people keep up with these changes and others do not. This is a source of misunderstanding and needless contests in our lexical civil polity, which has obvious bearings also on concepts' incommensurability, which came out of Thomas Kuhn and Paul Feyerabend's reflections on conceptual change in scientific 'systems'. I won't remark on this here beyond saying that Kuhn weakened his earlier radical stance by recognizing that 'paradigm' conceptual shifts may be more local and less global than he'd originally claimed. He may have been reaching for something akin to the conceptual relations I've been tracing and illustrating.[120] Siring, bestowal, and correlate relations (p.

[120] Two helpful articles by Howard Sankey on Kuhn's and Feyerabend's incommensurability views and Kuhn's modifications are in "Incommensurability: The Current State of Play", www.hps.unimelb.edu.au/staff/howard2/htm, and "Taxonomic Incommensurability", ...howard6/htm.

47) are devices for addressing the incommensurability conundrums posed by embryonic, pre-coherence logic accounts of conceptual relations.

I'm not going beyond this now. I haven't digested Kuhn's modifications or the growing literature on it sufficiently to know how to coordinate his vaguely informal suggestions for localizing conceptual change with the more precise resources of coherence logic. Kuhn seems to have shared the widespread failure to keep link and sooth predication distinct, which is common among philosophers who matured in the shade of logical positivism's parasol.

That the concepts of gene sequences, rather than morphological characteristics, are now bonded to the concepts of biological kinds is a de jure grounded choice. Zoologists working within evolutionary theory think it better to base their conceptual classification system on genetic sooth truths, because they are a trackable, major contributing cause of creatures' morphology and, so, are a more reliable index of evolutionary development. In the same de jure spirit, botantists prefer genetic to morphological traits for classifying wine-grapes, because morphological traits of wine grapes with the same genetic structure vary widely in soils and climates as happens with Pino noir, blanc, and grigio; these genetically similar grapes have different colors. John Dewey and Charles Peirce stressed the de jure role reliable prediction of consequences play in our conceptual choices. An apple-kind that ripens to red is likely to be sweeter than a green one of the same kind. Bonding biological to genetic concepts kindles sensitivity to hitherto unnoticed morphological similarities: Whales and hippos "share several adaptations, including the lack of hair and oil-producing skin glands, and the ability to communicate and to nurse off-spring under water".[121]

The proponents of a natural kinds' version of rigid designation might consider being less metaphysically fervid and more de jure sensitive. Hello? They could afford to be so if they gave up truth modalities and possible world semantics in favor of coherence logic's leutic modalities (more on this coming up shortly).

Maurice Chevalier sings
"Thank God for little sirings"

The siring relation accounts for referents' 'extensional' contribution (sooth truth) to 'intensional meaning' (coherence requirements). It narrows an overly extensional theory of concepts like Bolzano's and hosts of others. It's typical for extensionalists to interpret <All flies are insects> as a sooth class inclusion statement, as if it were like <All flies are blue>. Note the contrast between the sooth <All flies are blue flies> and the subsuming

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[121] *San Francisco Chronicle*, 31 August, 1999; the noted adaptations are credited to David Hills, U. of Texas, from the *Proceedings of the National Academy of Science*. The wine-grape comments are from the same newspaper, 3 Sept., 1999, in an article by Carl T. Hall.

<All flies are insect flies>. The first may surprise us: I didn't know that! The second is hardly news: Of course flies are insects! These statements have a different conceptual logic. <All flies are insects> should be interpreted as < / ^insect^ ^fly^>, a true statement about conceptual subsumption in the English lexical system, rather than as its distorted offspring <The class of flies are included in the class of insects>. Interpret <All flies are blue> as < **.** fly blue>, where we're invited to emplace *any* fly in /fly/. The truth of <This fly is blue> sires the coherence of ^ **.** fly blue^; but <All flies are insects> does not sire a coherent sooth statement. Once you get used to using coherence logic functors to interpret natural language sentences, Tom, you won't make that kind of mistake, and you'll love it. And you'll thank me. I know you will. Call me.

The siring relation explains how emplacement truths contribute to conceptual systems. Davidson, even minus an account of a conceptual system, divined this contribution that sooth truth makes to interpretation. He notes that a "problem of interpretation" may arise when "your companion says, 'Look at that handsome yawl'" when a ketch is sailing by.[122] This is a straight-forward case of incoherent emplacement--EketchE @ /yawl/--into a sooth sentence, which alerts us to possible conceptual differences.

So far, so good. But Davidson oversells his principle of charity for understanding others--"we must count them right in most matters". So far as I understand his programmatic sketch, the contribution that shared beliefs about non-lexical states of affairs make to interpretation are lesser than that made by speakers' shared coherence evaluations of propositions employing the other seven functors [/, **:**, **:+**, **!**, **=**, *****, **E…E**]. He underrates the interpretive resource of via attiva lexical competence, much of which we acquire independently of reference; also, he underrates how bountifully that competence subsidizes our understanding of what others say. In fact, he relies on coherence mastery in his yawl/ketch example: ^~EketchE @ /yawl^. Here charity surrenders to lexical competence.

I surmise that Davidson's reply to my "underrates" critique might go like this: To give up the analytic-synthetic distinction "is to give up the idea that we can clearly distinguish between theory and language".[123] I do not give up. I can clearly distinguish between English's *inclusively coherent* (^ **.** S P^ and ^ **.** S ~P^) versus theory's *exclusively true* <Not both < **.** S P> & < **.** S ~P>>, which cuts the legs from under the claim that conceptual coherence is reducible to statement truth. I'm confident many will be able to do likewise after having studied this Appendix. Fortunately, excessive trust in statement-belief charity is easily supplemented by a loving embrace of lexical community.

What's right about Davidson's charity principle is that it's useful for field linguists, as all of us are within the bosom of our mother-tongue. It gets whatever value it has from the fact that 'believed' sooth statements entail their sired propositions' coherence value, and may force consequent revisions of the other relations [/, **:**, **:+**, **!**, **=**, *****] between con-

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[122] Davidson, Donald, "On the Very Idea of a Conceptual System" (1974), reprinted in *Inquiries into Truth and Interpretation*, pp. 195 - 197, Oxford, Oxford University Press, 1984.

[123] Davidson, "On the Very Idea…", p. 187.

cepts in the target lexical system. So, if a field linguist shares with a speaker of the target language a true belief correctly identified *by her interpretation* of that speaker's sentence, she has entree to the 'meanings' mapped by the target lexical system and can start to move around in it on coherent paths with the aid of coherence logic. When that happens, she acquires the lexical information needed to choose an interpretation of someone's "Gavagai" from among ^rabbit^, ^stages of rabbits^, ^integral parts of rabbits^, ^rabbit fusion^, and ^rabbithood^, because they have different lexical relations and entailments.[124]

Quine's radical translation challenges, too, are fallout from lexical-system neglect; he and Morton White wisely importuned us to abandon the crude, sinking raft of synonymity and the analytic, without, however, hauling us aboard the sturdy rescue ship of lexical systems and theories, the SS Ken A. Posteriori, a ship quite like Otto Neurath's "die ihr Schiff auf offener See umbauen mussen", which Quine approvingly quotes in his epigraph page for *Word and Object*. This Schiff, however, comes with less sail and less robust oars than Quine thought.

A charitably granted belief system about the world's substantive/trope arrangements is a reed raft for a conceptual system. Overestimation of its pith may have been induced by over reliance on Tarski's bizarre claim that natural languages are 'inconsistent' because the Liar Paradox can be grammatically constructed in them. A natural language is not a system of true beliefs, unlike a theoretical system, Tarski notwithstanding. It's a well from which its users may draw sentences to use for making statements and to propel other human commerce. It offers < **.** S P> as well as < **.** S ~P>; it's up to each of us to state what we will. Someone who says she speaks English doesn't thereby commit herself to a set of claims or beliefs, nor need she confess to paradox just because she can utter the grammatically correct /This statement is false/. Guns don't shoot people, people do; language doesn't state paradoxes, people do. Just stop it! Grammatical success does not guarantee semantic success. In fact, the Liar is our semantic failure, as I showed in our "On Emplacing" conversations.

The conceptual schemes of natural languages are not theories. Their closer kin are rules for well-formed formulae rather than axioms and theorems. Beliefs do have commerce with conceptual sysems via siring relations, as shown above (^whapig^ vs. ^whappo^), but it's not as simplistically extensional as our "mighty dead" would have us believe. Also, <This statement is false> is way off the semantic mark; it can't sire anything; it's a pseudo claim, because anyone who flourishes it doesn't get beyond hollow sayings. Bereft of emplacement candidates, it can't supply grounds entitling us to believe or disbelieve <This statement is false>. It's surface grammar promises a referent; but /This statement/ has none except itself ad infintum, lacking all emplacement; thus it can't sire the coherence of ^ **.** this statement false^. There's nothing left but the humiliating ceremony

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[124] See Quine, W. V. O., *Word and Object*, especially, p. 52; New York, John Wiley & Sons and The Technology Press of The Massachusetts Institute of Technology, 1960.

of publicly stripping the Liar of it's undeserved epaulettes, <…>. It was never a coherent statement and can never be one.

Sooth, unlike link, propositions, do tender emplacements of substantives and tropes into the subject and predicates of statements about non-lexical states of affairs. They're recruits into the ranks of truth. Historically, the two concepts of predication, ^linkage^ and ^soothage^, have been treated mistakenly as a single concept. Respecting this distinction is the first step to a satisfactory theory of predication, which enables us to avoid confusing lexical systems with scientific theories and common sense knowledge, and to give up thinking of mathematics and logic as systems of 'true' axioms and theorems instead of a lexical system with its functors, such as [+], [-]. ^[=] ^[+] 2 2^ ^4^^ is coherent and ^[=] ^[+] 2 2^ ^5^^ is not.

De facto grounds' contribution to ^meaning^ is confined to warranting coherence for sooth propositions and any backlash it occasions on Princely propositions. The structural theory of concepts and coherence logic outlined here shows de facto truth is but a partial subsidy to ^meaning^.

Part V De dicto, de facto, de jure grounds for coherence
The via fattiva versus the via consiglia

There are **de dicto** and **de facto** grounds for identifying coherent paths between concepts. There are **de jure** grounds for believing some paths once thought to be coherently travelable are not and that others once thought to be incoherent should be welcomed as new coherent routes in lexical space. These three are grounds for accepting premises as coherent in conceptual logic inferences, from which we may infer that a tendered path is warranted or unwarranted. This is the point of having a coherence logic: We can use it to chart coherent paths in lexical space, to reject proffered paths shown to be incoherent, and to chart, systematically, new coherent paths backed by discerned benefits.

De dicto grounds are true reports of combinations of concepts under the aegis of a functor that a community accepts as coherent, the customary. English speakers accept the coherence of the via attiva ^[/, Subsume] machines typewriters^; so, the correlative passive de dicto, <^Machine^ subsumes ^typewriter^> is a true report about the English lexical system. Customary via attiva lexical travels are de facto grounds for true via passiva statements about shared lexical habits in a language community. If there's a disagreement about the coherence of a lexical path, conceptual logicians are horsed and ready to ride to the aid of distressed adversaries.

Note that de facto grounds of the siring relation, are limited. They lend firm coherence only to link and sooth propositions, although they can press us to alter our lexical system, changing the coherence values of propositions with subsumptive, bond, congery, incompatible, identity, or emplacement functors, one of the six Lexical Princes. There are, however, no unchallengeable de facto grounds for settling dissent over the coherence

of any proposition whose copula is one of the Lexical Princes. That's why we need conceptual logic and de jure grounds to supplement de facto grounds for settling on propositions' coherence value. De jure grounds lend coherence to propositions on the basis of recommended alterations of lexical space's paths. The California legislature bonded ^dead^ to ^~brain-wave^ and unbonded it from ^~heart-beat^. Doctors prefer lack of brain activity as an indication of death, which is defensible if you think of ^life^ as a conceptual abridgement of biological, psychic, and quality-of-life concepts. Socrates led his interlocutors to de jure changes after trashing their de dicto and/or de facto based lexical claims.[125]

Be cautious, Tom, about declaring conceptual de jure revolutions. I know you get excited about radical change, but they may be declared by people who have but a vague idea of a conceptual system. They may and some do confuse a lexical system with a deductively organized set of sooth statements supplemented with but an extensional theory of meaning and/or full-blown paradigm theories, holdovers from the glory days of deductive-hypothetical accounts of mature scientific theories.

Travel in a lexical system

We tender via attiva propositions for travel on coherent paths in lexical space; we may also tender travel on incoherent, non-existent paths (You can't get there from here.). Paths may be coherent because they have (i) de dicto, (ii) de facto, or (iii) de jure grounds, or (iv) because they may be shown coherent/incoherent by valid conceptual logic inferences that derive their coherence from premises with those grounds. They may be incoherent because they fail to be supported by any one of those four grounds.

To put it more fully and precisely:

A proposition, and its bestowed sentence and statement (p. 54), is coherent in a community of language speakers

(a) if the travel path it tenders them is acceptable on de dicto or de facto grounds; or
(b) if it can be inferred with coherence logic schemas from arguments whose premises are accepted on de dicto or de facto grounds; or
(c) if the travel path it tenders them is acceptable on de jure grounds; or
(d) if it can be inferred with valid conceptual logic schemas from arguments at least one of whose premises is acceptable on de jure grounds and any others satisfy (a) or (b).

A proposition, and its bestowed sentence and statement, is incoherent in a community of language speakers

[125] For a more complete account of such claims see Bierman & Assali, *Handkbook*, pp. 368 – 376.

(a') if the travel path it tenders them is rejected on de dicto grounds (We wouldn't say...) or on de facto grounds (See the ^whappig/whappo^ discussion.); or

(b') if it can be inferred with valid coherence logic schemas whose premises are accepted on de dicto grounds one of which tenders an incompatibility functor and/or one of which is the negation of a coherent proposition; or

(c') if the travel path it tenders speakers can be rejected on de jure grounds (We shouldn't say...); or

(d') if it can be inferred with valid coherence logic schemas from arguments that have at least one premise that is incoherent on de jure grounds and any others that satisfy (a') or (b').

* * * *

Here's a short addendum on de facto grounds for incoherence. ^ **.** Hate armor-piercing^ is incoherent, not false; it can't be true or false; because it lacks an S+P+ *and* S+~P+ emplacement profile. Immaterial hate can't carry the material trope armor-piercing into /armor-piercing/. De facto sooth grounds can, however, support the leutic modal claims ^ [Allowed] **.** S P^ and ^ [Allowed] **.** S ~P^. Hume was partly right; we can't derive modal *statements* from factual *statements*. And partly wrong, because we can derive modal *propositions* from *factual* statements; we can derive evaluative propositions, [Allowed/~Allowed to] propositions, from 'factual'/sooth, [**.**], statements. Here's how.

If (i) we treat reference as *coherent* emplacement into sooth sentences' subjects and predicates, and (ii) grant that factual/sooth truth rests on coherent, [Allowed to], emplacements, we've coupled the factual statement functor [**.**] to the evaluative [Allowed to] modal functor. The value concept ^coherent^ is coupled with the value concept ^true^ via an interpretation of ^refer^ that recognizes referring is a human act we normatively judge a *success* or *failure*. This should be no surprise, because the evaluative terms /true/ and /false/ have to get their value character from agents'acts, such as referring. The [Allowed to] leutic modality has its site in our coherently constructed [*****, Link] propositions' ranges, ^{P ~P}^, via (SL) (p. 60). 'Normative' leutic modal *propositions* are derivable from our 'normative' coherent emplacements into token sentences with which we construct so-called 'factual' *statements*. Once again, leaving agents' ^act^ and ^judgment^ lexically unconnected to ^refer^, ^statement^, ^fact^, and ^true/false^ drain these standard semantic concepts of their normative elements. Even Hume fell for the dehumanized "matter of fact". Tom, I say stick with the pragmatists "what brung ya' to da' dance".

Hume was tied to a thin ^matter of fact^. He had no idea of the role coherent emplacement plays in determining what truth value claims we're entitled to make. He was right, however, to claim that from true and false "matter of fact" statements', the pallid, neutral [Possible] alethic modality—a released object may as well fly upward as downward—provides no grounds to support alethic [Necessary] nor [Impossible] modal evaluations of sooth statements. Contrariwise, the shared normative true/false evaluation of factual/ sooth, [**.**], statements' and their built-in normative coherent propositions show

Hume's "matter of fact" doesn't do justice to what underlies his and other British empiricist's anemic ^refer^.

Hume was the victim of the following confusions, because he didn't distinguish conceptual, [~], from statement negation, [-], and didn't have a coherence account of ^refer^. Although we have separate coherent emplacements for /hate/ and /armor-piercing/, *non-physical* hate can't coherently carry *physical* properties into a physical predicate, because of dualism's incompatible ^**!** Physical ~physical^ proposition. Both ^armor-piercing(shell)^ and ^~armor-piercing(egg)^ are subsumed by ^physical^; hence, there can be no coherent path linking and soothing non-physical ^hate^ to physical ^armor-piercing^ nor to ^~armor-piercing^. So, < **.** Hate armor-piercing> can have no coherent de facto emplacement profile S+P+ nor can < **.** Hate ~armor-piercing> have the requisite profile, S+~P+, for making them true. Thus,

^EhateE @ /hate/ & E(hate)armor-piercingE @ /armor-piercing/^

is incoherent, as is

^EhateE @ /hate/ & E(hate)~armor-piercingE @ /~armor-piercing/^.

Neither < **.** Hate armor-piercing> nor < **.** Hate ~armor-piercing> can supply de facto siring grounds, respectively, for the coherence of

^ **.** hate armor-piercing^ and ^ **.** hate ~armor-piercing^,

nor for the coherence of

^***** hate {armor-piercing ~armor-piercing}^.

artillery shells. Correct grammar leads unwary people of all stripes to fantasize they believe incoherent 'statements'; <Hate pierces armor> and <Acid melts hope> should cure such a fantasy.

Persons who claim <Hate is armor-piercing> is false, and, so, coherent, may resort to a desperate ruse of obsessed extensionalists. Frege was one; he cast incoherent statements into the False Bin. However, <Hate is armor-piercing> can't be false, because, being incoherent, it's neither true nor false. In what 'possible world' could hate pierce or not pierce armor? Can it not pierce because it's too soft, like putty? No, it's not a factual statement nor could it be, because ^statement^ is bonded to ^true or false^, not solely to ^false^ as Frege decrees for incoherent 'statements'. Here's a new fallacy for you, Tom, the **Frege Fallacy**: Throw a 'statement' that *can't be* false into the false bin.

This explains why no one *can* believe hate *could* pierce armor. No one can believe incoherent 'statements'; incoherence draws the same bounds for alethic belief and truth value. If you need a concept for the state in which someone incoherently *thinks* he believes an incoherent statement, try ^nescient^. Procurement generals can't and don't believe in the armor-piercing power of hate; they buy bazookas, grenade launchers, and 'spent' radioactive artillery shells. Correct grammar leads unwary people of all stripes to fantasize they believe incoherent 'statements'; the stark incoherence of <Hate pierces armor> and <Acid melts hope> should cure this fantasy.

Via consiglia and via fattiva

Via passive statements are entitled true, false, or unknown reports about the coherence value accorded to propostions by a language community's denizens' based on their shared, accustomed

(i) via attiva travel taken and not taken on paths in lexical space, and

(ii) on their substantive and trope emplacements in lexical tokens.

These denizens don't always agree on which paths they may travel (coherent) and those on which they may not (incoherent); similarly for emplacements. Disagreements often aren't noticed or noted until a rowdy, like Socrates, disturbs unexamined differences in denizens' maps of their idio-lexical paths. To resolve and stem the damage from their their disagreements, ^ **.** capital-punishment cruel-unusual/~cruel-unusual^, they should turn to via consiglia recommendations. Their coherence rests on de jure grounds.

We do have de dicto and de facto grounds for choosing between disputed ^accepted/unaccepted^ paths and emplacements, but this doesn't suffice for choosing between normative ^acceptable/unacceptable^ paths. ^Accepted^ is synchronic; ^acceptable^ thirsts for the diachronic. Via consiglia advocates argue for changes in lexical systems; supported on de jure grounds, which accommodates ^acceptable^. ^Accepted^ looks to current and past lexical practices; the OED managers pride themselves on fulfilling this task; ^acceptable^ invites altered, unpredictable, future practices as well. ^Accepted^ is the venue of standard dictionary entries. Lexicographers eschew the via consiglia; their task is just to report on which paths and emplacements denizens 'mainly' accept as incoherent/incoherent. 'Mainly' leaves room for the inevitable disagreements incessantly in want of the via consiglia. Rowdy promoters of coherence alterations, on the other hand, want to change what is acceptable into unacceptable and vice versa; they lean on de jure grounds. Since ^ **:** de jure normative^ and ^ **:** de facto(reports) ~normative^, and since ^ **!** Normative ~normative^, we may validly conclude that ^ **~ =** acceptable accepted^.

Unknown coherence value of propositions and disputes about them force coherence logic beyond de dicto and de facto grounds. Coherence logic is not and cannot be a value-free 'natural' science, because ignorance and disagreements force us to take the via consiglia, to take counsel about altering the coherence value of propositions from coherent to incoherent and vice versa. ^ **:** ~Heartbeat dead ^ became de jure incoherent in California after the legislature changed the interpretation of "dead", making ^ **:** ~brainwave dead^ de jure coherent. Replacing the ^~heartbeat^ substantive event with ^~brainwave^ altered California doctors' and its alert citizens' lexical system.

Tom, [{--}] is not an addition to the list of functors used to travel from one substantive or trope concept to another. It's an abbreviation of

^ [**--}**] ^ **.** Tom ~brainwave^ ^ **.** Tom dead^^ & ^ [**--}**] ^ **.** Tom ~dead^
^ **.** Tom brainwave^^,

which bestows coherence, but not truth value, on the statement,

< [**{--}**] < **.** Tom ~brainwave > < **.** Tom dead>>.

I assume these statements are true as (a) and (a') in the arguments below. [**{--}**] is a functor tendering warranted travel between consitituent propositions and statements of complex propositions and statements.

Agreeing on or legislating via consiglia coherence entails altering the truth value of some of our sooth statements. < **.** Tom ~dead> is no longer true in California if Tom has a heart beat but no brain waves.

(a) < **{--}** < Tom ~brainwave> <Tom dead>>	Tom's state + new legislation
(b) < **.** Tom ~brainwave>	Doctor avers
_____	
(c) < **.** Tom dead>	Modus ponens
(a') < **{--}** <Tom hearbeat> <Tom ~dead>>	Tom's state + old legislation
(b') < **.** Tom heartbeat>	Doctor avers
_____	
(c') < **.** Tom ~dead>	Modus ponens

Since (c) and (c') are contradictory, one of the arguments contains at least one false premise.[126] Assume that both (b) and (b') are true. In that case, either (a) or (a') is false. The equivalence functor in (a) and (a') specifies which emplacement trope to use in order to determine if Tom is dead or alive. The new legislation specifies E~brainwaveE; so, it follows that (c) is true and (a') and (c') are false--at least in California; hence, < **.** Tom dead> is the sad end to this conceptual story.

Coherence logic must incorporate the via consiglia in its project, because without it we can't intentionally, systematically modify existing lexical systems nor construct proximate Master Lexical Systems. Even if there were such an existing system, we would have to reconstruct it continually to accomodate de facto changes in our knowledge claims, as when our ability to monitor brain activity gave us new information that induced altering the official concept of death in California. Our via consiglia activities provide advisable ways to alter whatever lexical system we may possess.

Via consiglia advice may be deliberate, as when Einstein altered ^simultaneous^ in physics, which differs from alterations that spring from happy metaphors that gain elaboration and currency in daily parlance without conscious intent. "See" in "Do you see?" slipped quietly via metaphor from a strictly visual to a 'mental' interpretation.[127] The via fattiva dawns when newly observed states of affairs prod us to change our lexical

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[126] Note that the usual contradictory of < **.** Tom dead> is <- < **.** Tom is dead>>. This truth negation, [-], is the logical offspring of conceptual negation, [~]. < **.** Tom ~dead> as required by Plato's answer to Parmenides' claim that there are no false statements, p. 21 – 22 and Fn. 63, p. 72 in "On Emplacing". This is reflected in my Square of Opposition that corrects Strawson's and Russell's alteration of the traditional square. See our second conversation, pp. 64 - 66, where I introduce the Omnitude determiner to explain Row 5 on the Emplacement Chart, p. 67, also in "On Emplacing".

[127] See Schon, Donald, *Displacement of Concepts*; Ch. V, "A Theory of Understanding: Vision"; New York, Humanities Press, 1964. I highly recommend this book for accounts and explanations of conceptual changes; polishing is scratching.

systems, to update and outdate parts of them. The via fattiva provides de facto grounds for conceptual change. In our epistemological life, we go both from our con-ceptual system to our observations and in the opposite direction. Newly discovered facts about reptile fossils, such as pterodactyls, led paleontologists to reconceptualize them and birds, because they discovered new coherent emplacements for some sentences' subjects and predicates. Both

EpterodactylE @ /pterodactyl/ & E(pterodactyl)wingedE @ /winged/, and
EbirdE @ /bird/ & E(bird)wingedE @ /winged/

have via fattiva S+P+ profiles. They render both ^ / reptile pterodactyl^ and ^ / reptile bird^ coherent where before only the first was coherent. And, of course, these emplacements make both of their correlated via passive statements, <^Reptile^ subsumes ^pterodactyl^> and <^Reptile^ subsumes ^bird^>, true.

PART VI MODALITIES

In this section I keep my promise to elaborate on coherence logic modalities that I made in "I mingle coherence and old truth talk", pp. 76 – 78, this essay.

Accounts of predication have been a constant in the history of western philosophy. The focus properly falls on the interpretation of the copula "to be" in English, and sometimes with equal justice on "to have". Predication accounts go hand in hand with accounts of its modalities from the beginning of logic; think of Aristotle's remarks on the seafight tomorrow as a future contingency in his *On Interpretation*. Coherence/conceptual logic originates in a more capillary interpretation of the copula than we find in alethic logic, although the history of logic is strewn with starts, hints, intimations, and faint shadows of a richer account. This richer account of the copula lifts most of the modality burden from truth logic's bowed shoulders.

To sharpen the contrast between truth and coherence logic and to provide a fuller account of lexical functors, especially the difference between [Sooth] and the others, I propose some modalities for coherence logic. I argue that we should jettison the [Necessary] and [Impossible] alethic modalities, which I propose replacing with, respectively, the coherence logic modalities **Enjoined to** and **Enjoined not to**, which I call **symbouleutic** modalities, roughly, Greek for ^advisory^". I shorten **symbouleutic** to **leutic**. The alethic via passiva Possible is partially spared under the aegis of the via attiva leutic (**Allowed to** and **Allowed to not**), which come as a pair.

I place modality symbols, **I** and **A**, to the left of functor symbols, [I**:**] and [A**.**], to indicate the conditions, the limits and allowances, imposed on functors' advisories for coherent via attiva travel in lexical space. (Leutic modalities are included in al-Hibri's "C" of her "O(A/C)", next page.) Each functor, such as [Sooth] and [Bond], tenders different limits and allowances in functors' via attiva employment. Some [Enjoin] us to or [Enjoin] us [not] to wend from one concept to another; others [Allow] us and [Allow] us

to [not] wend between them. Leutic modalities mark limits and latitudes of our functor suggested travels; their kin are the practical deontic rather than the theoretical alethic modalities; both apply to acts and proposed acts. Discourse is a consentient hoedown qualified by modalities. Don't ask for the meaning or the use; ask for the path, and ask whether we're Enjoined to, Enjoined not to, or (Allowed to & Allowed not to) take it.

William Hanson cites 'statements' that Alvin Plantinga, following convention, believes exhibit "broadly logical (alethic) necessity":

> No one is taller than himself; Red is a color; If a thing is red, then it is colored; No numbers are human beings; No prime minister is a prime number.[128]

I add to Plantinga's list from this morning's newspaper. The editor of a China magazine, *Way*, who was threatened with its closure by government authorities, said, "As long as you're not dead, you're still alive". Such statements occur frequently in talk and print, and, to accommodate them, traditional logicians torture them into statements with althetic modalities, hoping to hush our doubt with seductive promises of all-possible-worlds' semantics and to awe us with sacred invocations of god-fortified Leibniz.

Plantinga contrasts these "broad" alethic necessary truths with "the truths of propositional and first-order logic" that are logically necessary in a "narrow sense". Wilfred Sellars called them "material inferences", Plantinga's correct to do so; however, neither he nor anyone else should attribute alethic necessity to these "broad" truths.

Leutic and deontic modalities compared

Leutic modalities are kin to the deontic, not to 'standard' alethic modalities, since they apply to our lexical *acts* just as deontic modalities (Permitted, Obligatory, Forbidden) apply to our moral *acts*.[129] Following Bas van Fraassen, Azizah al-Hibri treats deontic modality as conditional. She symbolizes conditional obligation as "O(/)", which expands to "O(A/C)". Read this as: Given condition C it ought to be the case that A.[130] Her System S, Chapter V, might serve as an initial frame for a formalized leutic logic, because the Leutic Imperative, part (a), coming up shortly, is hypothetical/conditional. The major factor in the conditional par, C, are the leutic limitations and allowances imposed on propositions' functors /copulas. However, the logic of lexical acts' modality is more complex than the logic of categorical modalities for moral acts.

I wrote "standard alethic" above, which treats "true" and "false" as if they were 'properties' of statements rather than outcomes of our emplacement verification activities. Recall our conversation about being *entitled* to make truth value claims based on our

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[128] Hanson, William H., "The Concept of Logical Consequence", *The Philosophical Review*, p. 381; Vol. 106, No. 3, July 1997. Hanson's reference is Plantinga, Alvin, *The Nature of Necessity*, pp. 1 -2, London, Oxford University Press, 1974.

[129] Tom, recall my remark on "logical pragmatism" as a tag for what I'm professing here.

[130] al-Hibri, Azizah, *Deontic Logic: A Comprehensive Appraisal and a New Proposal*, p. 72, Washington, D.C., University Press of America, 1978.

success or failure in finding coherent emplacements for the subjects and predicates in our sentences (p. 55ff, “On Emplacing”). In my critique of alethic modalities, I assume the standard version of alethic truth value, and deny that leutic modalities [Entitled to] and [Entitled not to] modify truth value claims. [Sooth] is the only lexical functor that figures in the emplacement-entitlement account for statements’ truth value. The truth value of via passiva statements about lexical relations depends upon the coherence of correlative via attiva propositions rather than emplacement; < ^Bog^ is bonded to ^wet^> is true if and only if ^ **:** bog wet^ is coherent. (See "Correlative Relation", this Appendix, pp. 49 - 50.)

Leutic and deontic modalities alike specify limits and latitudes, respectively, of our lexical and moral acts. [Enjoined] and [Obligatory] set limits; [Allowed] and [Permitted] set latitudes.

With the **Leutic Imperative** (**LI**), we can ascertain the modal value of a lexical act tendered by its functor, just as we can ascertain the modal deontic value of a maxim's tendered act with Kant's Categorical Imperative.

THE LEXICAL IMPERATIVE AND LEUTIC MODALITIES: Lego, Limits, and Latitudes

(a)

If you wish to be understood by speakers who travel within a lexical system, travel only on their coherent enjoined and allowed via attiva paths.

(b)

(i) If a coherent proposition becomes incoherent when at least one of its concepts is negated, we're *enjoined to* travel on the path it tenders and are *enjoined not* to travel on the path that the propositions with the negated concept(s) tender.

(ii) If a coherent sooth proposition derived from a link proposition by (SLW) does not become incoherent by negating either or both of its concepts, we're *allowed* to travel on the paths tendered by the propositions with any combination of negated and unnegated concepts.

Lexical Imperative (a)

The Lexical Imperative (LI) delivers conditional rather than categorical imperatives for the modalities of proposed lexical acts. We must observe enjoined limits and enjoy allowed latitudes of a lexical system, **if** we "wish to be understood".

Yours and others' tendered propositions will be understood literally by a lexical system’s (**LS**) participants only if they are enjoined or allowed coherent in LS. You're enjoined to travel on ^ **:** bog wet^'s path (coherent) and enjoined not to travel on ^ **:** bog ~wet^'s path (incoherent); but both ^ **.** Bog wide^ and ^ **.** bog ~wide^ tender allowed

paths (coherent). Sentences and statements have the same modalities as the propositions that bestow their coherence value on them: <The bog is wet> is enjoined coherent, because ^ **:** bog wet^ is enjoined coherent; <The bog is ~wet> is enjoined incoherent, because ^ **:** bog ~wet^ is enjoined incoherent. <The bog is wide> and <The bog is ~wide> are allowed coherent, because <The bog is wide> and <The bog is ~wide> are allowed coherent. Respecting LI(a) yields isomorphic paths in lexical space for all LS users, providing intersubjectivity of interpretations. Thus do we understand each other.

Tom, I'll be annoyed if you challenge this tie between understanding sentences and their coherence by saying you understood Kathleen's, my wife's, /The cars tell the story/ even though it's literally incoherent. I know ^ **.** cars talk^ is literally incoherent, but if you know enough about the situation in which she said it, you would be able to give it a literal interpretation that is coherent. Sandblasting the fourteen story building next door made a mess! Well, <The cars parked nearby tell the story>. You know how to go on refining this literal interpretation.

And another thing, Tom. Attach nothing mental to "understood" in LI(a). Understanding consists solely of being able to go on producing propositions isomorphic with other LS users' propositions—whether or not that is a mental or a physical aptitude. Isomorphism of lexical patterns is enough to have a community of speakers; never mind the "meeting of minds". "Going on" is possible only if there is a coherence logic embedded in LS that, if mastered by its users, enables them to "go on" producing isomorphic propositions. The job of coherence logicians is to excavate that logic and to exhibit its forms, not to do armchair (or) cognitive psychology.

We may use a lexical system and the Lexical Imperative to descry the leutic values [Enjoined to], [Enjoined not to], or [(Allowed to and Allowed to not)] of proposed travel in lexical space as we may use Kant's Categorical Imperative to descry the modal deontic values, [Obligatory], [Forbidden], or [Permitted[, of proposed acts in maxims.

However, the leutic and the deontic also differ. The Lexical Imperative, as I said, is hypothetical, because the leutic modality values of tendered speech acts are conditional upon a desired end (communication), unlike the deontic modality values conferred on proposed acts by Kant's Categorical Imperative. The antecedents of Kant's maxims include ends as consequentialists do, but, for Kant, the deontic modality of the proposed acts is independent of our attitudes toward their consequences; their modality depends solely on the internal conceptual coherence value of the proposed maxims.[131] Lexical systems' enjoinments and allowances are not categorical, as we should expect since they may be altered legitimately on external de facto and de jure grounds.

Tom, I suspect you'll be tempted to think the Lexical Imperative provides rules for speech acts. Disavow the Devil and all His ways. Dictionary entries are Janus-faced: They're reports of use *and* they're also rules. The same applies to lexical functors. We

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[131] See Bierman and Assali, *Handbook*, pp. 403 - 411, and 492 - 512. See, also, pp. 35 -36, this Appendix.

have backward looking via passive *reports* of shared lexical travel; but someone new to a language or a word who wants to communicate with others may take these same reports as '*rules*' for her lexical travel in order to keep in step. A person to whom /nescient/ is new will take the dictionary entry as a 'rule' for use. However, these reports taken as 'rules' aren't constitutive as games 'rules' are; they're guides for the perplexed. Neither are de jure justified lexical travels constitutive; they recommend adaptive practices. Games are closed; change one rule and you have a new game. Lexical systems are not closed; they open their arms to new substantive and property emplacements, and are thereby altered but not turned into a wholly new lexical system. Chess pawns and base hits are creatures of a closed system of rule; they are as specified and not another thing.

Because of the externally vulnerable nature of the hypothetical leutic imperative versus the internally self-sufficient nature of the categorical deontic imperative, their modalities are not reducible one to the other. Habermas' attempt to derive a version of Kantian moral theory from communication requirements is doomed from the start. Categorical and the hypothetical imperatives differ. The deontic modality of a proposed act in a kantian maxim's consequent rests on its antecedent's internal coherence, which employs coherence logic's valid inference forms. The Lexical Imperative confers coherence value on proposed lexical acts on the external, hypothetical ground that people wish to understand others and be understood by them. Habermas' view is better suited to group values, in contrast to deontic values, in consort with the Lexical Imperative.[132]

Assume an ideal LS whose enjoinments and allowances do not entail incompatible coherence values for propositions, and assume LS gives a coherence value to every proposition (universal evaluation). They entail isomorphism of all coherent propositions for all LS speakers if every one is a master of their LS, a Utopian state, just as Kant's Kingdom of Ends is. Given idiolexicality, even if we asymtotically approach intersubjectivity through constructive use of coherence logic, there will be incompatibilities in LS users' coherence value judgments and incompatibilities in each user's LS. Further, new metaphors and other fresh rhetorical tropes introduce embryonic concepts whose enjoinments and allowances are unsettled until they mature through extended use and shared regimentation. Hence, the LI conditions in the following specifications for conditional readings of the leutic modalities, following van Fraassen and al-Hibri, should be taken with the above cautions in mind.

^**Pr**^ indicates a proposition in a specified lexical system, for example, English or Italian.; "**LI**" abbreviates "Lexical Imperative", which includes the desire to communicate; I use "**I**" from "**I**njunctive" to abbreviate "Enjoined"; "**A**" abbreviates "Allowed".

Read "I(Pr/LI)" as "If you respect LI, you're *enjoined to* combine the relevant concepts to form proposition ^Pr^. This holds for propositions using the enjoined

[132] For group values, see Bierman & Assali, *Handbook*, pp. 409 - 410, and 450 - 457.

Prince functors: [[Bond, **:**]; [Conger, **:+**]; [Subsume, /]; [Counter, **!**]; [Link, *****], [Identify, **=**]; [**E**…**E**].

Read "A(Pr/LI)" as "If you respect LI, you're *allowed to* combine the relevant concepts to form proposition ^Pr^." This holds for propositions using the allowed functor, [Sooth, **.**].

Read "I~(Pr/LI)" and its equivalent "~A(Pr/LI)" as "If you respect LI, you are *e-joined not to combine/not allowed to* combine (the relevant) concepts to form proposition ^Pr^."

"Relevant" concepts include negated concepts in a proposition.

Lexical Imperative (b)

From LI (b) it follows that the seven Princes, [[Bond, **:**], [Conger, **:+**], [Subsume, /]], [Counter, !], [Identify, =], [Link, *****], and [**E**…**E** @ /…/] are enjoined functors; Vassal [Sooth, **.**] is the only allowed functor. I'll demonstrate this for each of the functors below. The effect on propositions' coherence value when conceptual negation [**~**] does its work is the key to identifying lexical functors' modalities. Because propositions' modalities depend on the modalities of their functors, functors dictate the limits and allowances of lexical acts. Functors also dictate the modalities of statements, which is but an extension of propositions bestowal of coherence values on statements, as I explained above at p. 34, pp. 50 – 51, and p. 53. Recall that [I] indicates an enjoined/injunctive functor and that it modifies functors by placing limits and allowances on the lexical space travels it tenders.

A sentence token /S/ has a functor, [F], / [**:**] bog wet/;
/S/ is interpreted as proposition ^S^ with [F] as [IF], ^ [I**:**] bog wet^;
^S^'s [IF] enjoins us to travel—our lexical act--on ^S^'s tendered path between its concepts--^bog^ and ^wet^--in lexical space;
proposition ^S^ bestows [IF]'s enjoined modality on the via passive statement report <S>, < [I**:**] ^bog^ ^wet^>.

In other words, for emphasis: Use functors' leutic modalities to determine tendered propositions' leutic modalities, and, by bestowal, on statements' leutic modalities. For example, a coherent proposition with the enjoined functor [Bond], ^[**:**] bog wet^, also does *not* allow you--enjoins you *not*--to travel on a tendered leutic [Sooth] path, ^[A**.**] bog wet^, because that's an incoherent path. I explained why it's incoherent earlier in three places: First, where I explained the Free-Predicate condition (FP), Fn 53, p. 57,

(**:** S Q or **:** S ~Q --} ~***** S {Q ~ Q};

second, where I proved the Sooth Walk bi-conditional (SL1), p. 61,

*****S {P ~P} {--} (**.** S P & **.** S ~Q};

and, third, where I proved and commented on why an enjoined (necessary) proposition is not an allowed (not possible) proposition,

: S Q --} (~**.** S Q & ~**.** S ~Q),

(See pp. 75 – 77, the section "I mingle coherence talk with old truth talk".)

Lego may be a useful analog. Its pieces, Princes' shapes, protuberances, and indentations limit what you can construct. They also allow latitudes (sooths) for your willed constructions, an airplane, a house. Don't try to lego kidneys, please; latitudes are limited. You can't make *everything* with legos. The lego analog of lexical systems' modalities could go further if we could change pieces' conformations as we make de facto and de jure grounded changes, additions, subtractions in coherent via attiva lexical paths. Such changes would modify, respectively, the limits and latitudes of lego's physical pieces and a lexical system's physical arrangement of its tokens.

* * * *

The following chart illustrates the results of applying LI(b), (i), enjoined functors, and (ii), the allowed functor (p. 129f).

VII THE LEUTIC MODAL STATUS OF PROPOSITIONAL FUNCTORS

Interpretations of "to be" used to chart diverse paths between concepts in lexical space

Enjoined

Bond	Conger	Subsume	Counter	Identify	Link
:	**:+**	**/**	**!**	**=**	*****
SP	S [Ai… An]	SS, PP	SS, PP	SS, PP	S {P ~P}

Emplace

E…**E**

EsE @ /S/ E(s)pE @ /P/

Allowed

Sooth

.

. S P

The bottom line under each functor's symbol shows the kinds of concepts with which the functor/copula is grammatically correct, where "S" is a substantive's concept, and "P" and "A" are a property/trope's concept.

APPLYING LEXICAL IMPERATIVE (b) (i) AND (ii) TO

ADJUDGE FUNCTORS' MODALITIES

[*Bond, :*] *is an enjoined functor*

[**:**] is an enjoined functor according to (b) (i), because if we negate ^wet^ in the coherent ^ **:** bog wet^, we get the incoherent ^ **:** bog dry/~wet^, that is ^ ~**:** bog dry/~wet^. This shows [**:**] is an enjoined functor, [I**:**]; thusly, ^ [I**:**]bog wet^. Also, [~**:**] is an enjoined functor; read [I~**:**] bog dry/~wet^ as ^we're enjoined not to bond, [I~**:**], ^bog^ to ^dry^^. Enjoined functors place limits on lexical travel; we're enjoined *not* to go from ^bog^ to ^dry^ via a [Bond] path. A symbolic way of showing the results of applying the Lexical Imperative to show [Bond] is an enjoined functor per above is:

: bog ~wet/dry	Apply (b)(i); incoherent, p. 117	**:** S ~P
_____	proposition	
[~**:**] bog dry/~wet	Enjoined not to bond ^bog^	~**:** S ~P
_____	to ^dry/~wet^	
[I**:**]	[**:**] is an enjoined functor	[I**:**]

You may object to my bog example, Tom, by claiming it's perfectly coherent to say <The bog's dried up>, so, <It's dry>. I reply that a bog that's dried up *was* a bog; it's a 'former', 'ex' bog, call it what you will. If it wets up in the future, you can go back to coherently saying it's a bog. The following inference is decisive here.

[**:**] bog wet	A concept of a substantive may be bonded to but one property concept in a conceptual range, ^{wet dry …}^.
! wet dry	
_____	
~**:** bog dry/~wet	

In old-speak, which I recommend we discard, alethic logicians err in picking [**.**] rather than [**:**] as the functor of /Bogs are wet/. Instead of observing that distinction, they opt for the essential/accidental-properties' distinction that does not carry the contrasting logical powers that [**:**] and [**.**] do in conceptual logic. Their error forces them to attribute, incoherently, alethic necessity and impossibility to sooth [**.**] statements:

Necessary < **.** Bog wet>> --} < Impossible < **.** Bog dry/~wet>>.

However, 'factual' sooth statements are neither necessary nor impossible. To deal with this, many philosophers took the "linguistic turn"; they rely on the linguistic-based 'analytic' as the source for alethic necessity and impossibility, leaving the factual-based 'synthetic' as the source for alethic posibility. Quine and White demolished this humean stratagem. My solution is to dispense with alethic modalities and to adopt leutic modalities. The leutic is in play on the field of coherence-valued propositions with finer grained copula/functor distinctions whereas the alethic is in play on the field of truth-valued statements where we're confined to a single copula/functor, the predicative [Sooth, **.**].

[*Conger, :+*] *is an enjoined functor*

[**:+**] is an enjoined functor according to (b) (i), because any complicit property concept in a congery is bonded to the substantive's concept; so, it's modality is, per above, the same as [Bond, **:**]'s; it's enjoined:

^ [I**:**] S Q^ --} ^ [I**:+**] S Q^.

You may wonder, Tom, how we know whether or not a concept is complicit in a congery. In a lawsuit brought by the U.S. Justice Department against Oracle's proposed takeover of PeopleSoft, the issue turned on "how broadly the business software market should be defined". Oracle claimed the government's "definition of the business software market is too narrow".[133]

The news story is skimpy and may be misleading, but, if it's not, the reported tactics of lawyers on both side's argue for the "too broad" and "too narrow" 'definitions' based on the number of choice businesses have, which is as conceptually naïve as it is hoary, as naïve and hoary as Theateatus' answer when Socrates asked him what knowledge is, and the young man gave examples instead of listing the complicit concepts in ^knowledge^'s congery. The Justice Department will call witnesses to testify that large businesses have only three software choices (narrow); Oracle will call witnesses to testify they have many more choices (broad). Numbers 'count'. How many options are available doesn't, however, help to determine whether or not a software program is a ^large business^ software. Law schools' singular, antique attachment to alethic logic and traditional broad/narrow notions of definitions, to the exclusion of coherence logic, impoverishes their graduates' and the legal profession's discourse and arguments about disputed, central interpretations/concepts in hard cases; thusly, they leave the law vague and conceptually unsettled.

The judge or jury should decide which concepts belong to ^business software^'s congery as Theaetetus should have for ^knowledge^. Per above, we can gather some clues about whether or not a property is complicit in a congery by negating it. For example, ^wheeled^ is a concept complict in ^bicycle^'s congery, because if we negate it, ^ **:** bicycle ~wheeled^, the result is an incoherent proposition. Our lexical habits militate against claiming a bicycle frame sans wheels is a bicycle; it's only *part* of a bicycle; so, it's de dicto incoherent.

By the same reasoning, ^metallic^ isn't included in ^bicycle^'s congery, because <Some bicycles are plastic/~metallic> is a true sooth statement; hence, it sires the coherent ^ **.** bicycle plastic^. So, ^{metallic plastic …}^ are in a conceptual range and ^bicycle^ is linked to that range; therefore, the modality of sooth propositions with ^bicycle^ and any concept in the property range is allowed and coherent, [A**.**], per SL2, p. 59. Hence, we're enjoined from bonding ^bicycle^ to any concept in the range, including ^metallic. De facto sired allowable propositions override their de dicto enjoined kin; so, they enjoin us not to bond ^bicycle^ to ^metallic^ nor to ^plastic^.

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[133] Laurie J. Flynn, *International Herald Tribune*, 7 June, 2004.

^ [A.] bicycle metallic^ and ^ [A.] bicycle plastic^ --} ^ [I~:] bicycle metallic/plastic …^.

Here's the argument.

(B) : S Q --} ~. S Q & ~. S ~Q, (p. 48 - 50, where I showed N<S> -|-} <S> nor M<S>. Emplace metallic in /Q/.)

. S ~Q (^ . bicycle ~metallic/plastic^ is coherent by siring, because <Some bicycles are plastic> is true.)

_____

~: S Q (^ : Bicycle metallic^ is incoherent by Modus tollens; so, too, is ^~:+ S Q^.) So, ^metallic^ is not complicit in ^bicycle^'s congery.

[*Subsumption, /*] *is an enjoined functor*

^ [/] ~animal/plant horse^ is incoherent. ^ [/] ~S1 S2^ is incoherent.

_____

[I/] is an enjoined functor By (b)(1)

So, ^ [I~/] ~animal/plant/mineral… horse^. Your'e enjoined not to subsume

Hence, ^ [I~/] ~S P^ ^horse^ under ^plant/mineral…

Per the Lexical Imperative (b) (i), the negation of one concept, ^~animal^, in a coherent subsumption, ^ / animal horse^, entails the incoherence of the resulting proposition, ^ / ~animal/plant/mineral horse^. So we're *enjoined not* to travel from ^~animal/plant/mineral^ to ^horse^ on a subsumption path. Mo horse is a shrinking violet nor any other kind of plant, nor sulfur or rock either. So, [Subsumption] is an enjoined functor and ^ / animal horse^ is enjoined travel.

Negation of the subsumed concept, ^~horse^, however, doesn't show [/] is an enjoined functor;

^ / Animal ~horse^ --} ^ / animal ~horse/cow^

is coherent. ^Animal^ coherently subsumes ^cow^, a contrary of ^horse^. That's why Lexical Imperative (b) (i) contains "negation of *at least one* of its concepts". The same reasoning is valid for predicate subsumption. Negating ^colored^ shows [Subsume] is an enjoined functor.

^ [/] ~P1 P2^ is incoherent. ^ [/] ~Colored/odiferous taupe^ is incoherent.

_____

[I~/] By LI (b)(1)

_____

[I~ /] ~P1 P2^. ^ [I~/] odiferous/~colored taupe^

^Odiferous^, subsumed by ^~colored^, does not subsume ^taupe^; the claim that it does is de dicto false, because ^ [!] colored odiferous^, both being subsumed in a range under ^property^.

However, negating the predicate ^taupe^, ^~taupe^, doesn't entail it's incoherent to subsume ^indigo^ under ^colored^:

^ / colored ~taupe^ -|-} ^ ~/ colored indigo^

^ / P1 ~P2/Pn^ -|-} ^ ~/ P1 ~Pn^.

A concept may coherently subsume incompatible concepts in a range; ^animal^ coherently subsumes ^horse^ and ^cow^; ^colored^ coherently subsumes ^taupe^ and ^indigo^. Restricting negation to the subsuming concept to show that [/] is an enjoined functor is what makes the Link Walk, Pel-, and Selwalks possible, because each of these inference forms has a premise that subsumes ranges of incompatible property concepts.

[*Counter, !*] *is an enjoined functor*

Negating, countering, either of a coherent, proposition's incompatible concepts shows that [**!**] is an enjoined functor by (b) (i). For example, by negating the first or the second substantive concept of ^ **!** shoe ~shoe^. we make it incoherent, because given identical interpretations of both /shoe/s, they're identical, hence, not incompatible,

1st ^ **!** ~Shoe ~shoe^ --} ^ **!** ~shoe ~shoe^ is incoherent, and

2nd ^ **!** shoe ~~shoe^ --} ^ **!** shoe ~~shoe/shoe^ is incoherent.

This entails the enjoined modality of [Counter], [I**~**], and, consequently, [I**!**] also.

1st ^[**!**] ~S ~S ^ & 2nd ^[**!**] S ~~S/S^ are incoherent --} [I**!**].

The consequents are incoherent, because ^~shoe^ and ^~shoe^ in the first are identical, and so are ^shoe^ and ^~~shoe^ in the second, and because its incoherent to claim one and the same concept is incompatible with itself.

[Negate/Counter, ~] is a 'monary' functor, which, when applied to a concept, creates a new concept, creates and/or augments a conceptual range. A conceptual range may have (2) contradictory or (2+) contrary concepts. Contradiction is the lower limit of contrareity.

It's important not to confuse [~] with an alethic voracious complementary interpretation of [non-] and [Not, -] that's standard in syllogistic and class logic (No dog is a non-animal, where "non-animal" may be a shutter or a cabbage) and was used uninhibitedly by Frege who relied on that interpretation to cast incoherent 'statements' into the falsity bin. (Note for Arthur/Thelma. See the section "Take Frege, please". Located in the "WPS" folder on C:; files "Frege" and "Frege2" are about Frege's account of identity. It may also be an attachment or an email to Prof. Danielle McBeth, at Swarthmore.)

[*Identify, =*] *is an enjoined functor*

What I establish here by LI (b) (i) is that [=] is an enjoined functor *on the condition* that two tokens of the same or different type in an identity sentence token, / = t^1 t^2/, are interpreted identically, ^ = ^t^ ^t^^. If they are, it's incoherent to identify the first ^t^'s negated interpretation, ^ = ~t t^, with the second ^t^; it's also incoherent to identify the first ^t^ with the second ^t^'s negated interpretation, ^ = t ~t^.

^ = ~t t^ and ^ t ~t^ are incoherent --} [I=],
by LI (b) (1). The coherent functor of a proposition with ^t^ and ^~t^ terms is [**!**] rather than [=]. These incoherent propositions, [~=], prove [I=]. You're enjoined not to combine ^t^ and ^~t^ in a proposition.

[=] allows no travel in lexical space. If the lexical tokens of an identity sentence have the same interpretation, you're enjoined to stand pat, not to move from that place in lexical space. You're becalmed. If the tokens of an identify proposition have different interpretations, you're in the absurd position of being enjoined to stay in one place in lexical space, [=], while being enjoined to travel from ^t^ to the incompatible ^~t^ place.

Recall that the interpretation of an identity sentence whose terms are proper names includes identifying their coherent emplacements, if they have any. If /Morning Star/ and /Evening Star/ have one and the same coherent emplacement, that's enough to make ^ = Morning Star Evening Star^ coherent and ^ = Morning Star ~Evening Star^ incoherent, regardless of any differing 'intensions' that the terms may have. Emplacement trumps de dicto (intension). In my symbolism, the token /=/s in the ^Estar=E^ emplacements indicate the emplaced stars are one and the same. I write this coherently emplaced identity propostion as

^ (Estar=E @ /Morning Star/) & (Estar=E @ /Evening Star/)^ --} ^ = Morning Star Evening Star^.

You may embrace this priority of coherent emplacement over intensions for proper names without committing yourself for or against the claim that <Names have intension>. Remember, Tom, we're talking about the coherence of identi*fy propositions*, not the truth of identi*ty statements*. Mistakenly thinking they are the same tempts logicians to commit the nth Deadly Sin, believing that <[=] is a *binary* relation that holds 'between' *one* entity, designated by one or more names>. You can't get much more incoherent. The discovery that the Evening Star was one and the same as the Morning verified that the two names, /Morning Star/ and /Evening Star/, have one and the same coherent emplacement. [=] is a one- ,not a two-count, binary functor. It invites us to count the number of coherent emplacements in an identifying sentence's terms. If the count is one, the identifying proposition is co-herent as ^ = Morning Star Evening Star^ is; and it makes its correlative statement, < [=] ^Morning Star^ ^Evening Star^>, true. This last via passive statement is about the identity of emplacement-oriented *concepts*, not the identity of stars.

Names do have 'intension', but not in the old definitional way. They're 'intensional' by virtue of inheriting the congeries of their subsuming concepts. ^John Stuart Mill^ inherits the bonded properties ^animal^ and ^person^. The intension of his name differs from ^Dartmouth^, which inherits the bonded properties +++^inhabited place^, ^city^. But these bonded predicates are too general to distinguish Mill from other persons and Dartmouth from other cities that inherit the same bonded predicates. John Stuart, like the rest of us, needed a little haecceity in his life. Beyond what I've said here about the conceptual identity of proper names, there's also the issue of kind concepts,

such as ^apple^, ^red^, ^travel^, that need not have one and only one emplacement, but they themselves do have unique places in lexical space. I say kind concepts have *proper* names because each concept--^red^ ^apple^--occupies one and only one place in lexical space; thus, ^apple^ is a proper name of a concept; it names the unique place in lexical space occupied by the type "apple" and any of it's token /apple/s.

Determining identity of concepts is a much more complicated story than doing so for substantives, even if they're no-longer- or not-yet-existing. By the way, Tom, did you know that the 'Platonic' dialogues were Aristotle's first writings and that Shakespeare was born in Verona, Italy? And that the next Dalai Lama may not be born in Tibet?

[*Link, **] *is an enjoined functor*

[Link, *****] is an enjoined functor according to LI (b)(i).

(***** S {P ~ P} --} ~* S ~{P ~ P}) --} [I*****]
(***** S {P ~ P} --} ***** ~S {P ~ P}) -/-} [I*****] .

The consequent of the first proposition has a negated predicate range, ^~{P ~ P}^; the second 's antecedent is negated, ^~S^. The consequent of the first is an incoherent link proposition, which entails [Link, *] is a leutic enjoined modal, [I*****]. The consequent of the second proposition isn't incoherent; so, it doesn't entail [I*****]. But, LI (b) (1) says that if only *one* of a proposition's negated concepts entails its incoherence, that's sufficient to entail its functor [F] leutically enjoins us, [IF], to travel in lexical space as [F] counsels us to do—on the condition that we wish to be understood by others.

The following partial pyramid utilizes the ^heat^ attribute of ^physical-entity^'s congery and its unmeasured and measured concepts in ^heat^'s link ranges to illustrate the conceptual conditions for ascertaining the modal status of a functor/copula.

:+ physical-entity [heat …An]
| / \
***** liquid {hot ~hot} sentient beings' felt, unmeasured tropes
| | |
* liquid {0^{o}C+ 0^{o}C-} instruments' unfelt, measured tropes
/ \
mercury water

Negating a link proposition's measured predicate range, ~{0^{o}C+ 0^{o}C-}^ and unmeasured range, ~{hot ~hot}, makes these link propositions incoherent, [~*****]:

^ ~* water ~{0^{o}C+ 0^{o}C-} and ~{hot ~hot}^ --} [I*****]
^ ~* mercury ~{0^{o}C+ 0^{o}C-} and ~{hot ~hot}^ --} [I*****].

Negating the entire range of ^heat^'s ^temperature^ concepts deprives it of all subsumptions and emplacements, empties it of all content, and nullifies its status as a congery concept. We interpret this as ^heat^ has no emplacements, which empties it of 'empirical

content'[134], and entails a major categorical shift in ^corporeal^ properties and ^physical-entity^ and in all of their subsumed concepts. These consquences apply equally to any explanation of heat, such as an object's molecular, atomic, and ionic movements.

Negating an *entire* range is unlike negating a concept *within* a range, {P ~P}. A condition for coherent linkage is that no concept in a range is bonded to a substantive's concept, which is the Free Predicate condition. A congery, [A1…An], violates this condition, because each of its concepts is bonded to a substantive's concept, as the congery of ^physical-entity^'s [A1…An]'s attributes are. But, if ^A^ attributes are stripped of their subsumed ranges and emplacements by ^~{P ~P}, they're left swinging from the gallows with nothing underfoot to save their and their bonded substantives's content. Consider this inference.

[**:**] physical-entity [heat size …]
[/] heat {hot ~hot} & [/] {0^oC+ 0^oC-}
[~] {hot ~hot} & [~] {0^oC+ 0^oC-} Applying LI (b) (i)

[~**:**] physical-entity [heat ..] Negating ^heat^'s subsumed ranges, premise three, makes the first premise incoherent per the conclusion; hence, [**:**] is an enjoined functor/copula, [I**:**].

Wiped out conceptual ranges that are replaced by new ones may be a way of understanding what proponents of /paradigm shifts want to tell us. They might be taken seriously with the use of conceptual logic's linked range erasures and their replacements. I'm speculating, Tom. Tell me if you think this is plausible enough to pursue earnestly.

Another important difference of [Ai…An] from {P ~P} is that concepts in a congery are logically *independent* of each other; ^heat^ is independent of ^size^ and ^density^. But concepts in ranges are not independent, since they're logically [Incompatible, /]. (See pp. 85 – 92, this Appendix, for an explanation of this difference.) This logical independence prevents the negation of ^heat^, ^~heat^, from begetting other attributes in a congery, [A1…An]; ^~heat^ does not beget [size shape …] as ^~red^ begets ^{blue green}^. To negate a whole range subsumed by a congery attribute is to repudiate centuries' long garnering of ^physical-entity^'s congery; it's a radical ontological shift to delete ^heat^ from it. It has such massive consequences that it may be de jure justified to opt for ^[I *****] physical-entity {0^oC+ 0^oC-}^ as an [Enjoined] proposition, because ^I **:+** physical-entity heat^ is so enjoined.

Negating the antecedent of a link proposition, as in ^***** ~S {P ~ P}^, does not show [Link] is an enjoined functor, because ^~S/~liquid^, begets the contraries ^solid^ and ^gas^, and because

^***** solid {0^oC+ 0^oC-}^ and ^ ***** gas {0^oC+ 0^oC-}^

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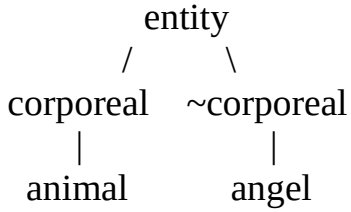
[134] Emplacements are the only denizens in lexical space that have no subsumptions.

are coherent. A solid's and gas's heat may be coherently linked to properties in ^heat^'s ranges; hence, we can't use LI (b) (ii) to prove [*****] is an enjoined modal by negating the object concept.

The primary/secondary property distinction sinks no boats here. I treat ^heat^'s qualified, {hot tepid cold}, and measured-degree concepts as subsumed contraries rather than as 'secondary' properties; the primary/secondary distinction is an embryonic attempt to formulate the conceptual [/] functor. Both subsuming and subsumed property concepts may be predicates of physical object concepts in propositions, whatsoever properties' intrinsic or relational stories may be, and regardless of the ontological category to which you assign the objects that have the properties. Of course, different lexical systems will yield different ontologies of properties and objects, as Berkeley demonstrated. Do note, however, that ^heat^'s measured range in my pyramid example are instruments' responses, not such felt responses as ^ buring hot^ or ^freezing cold^ of sensitive heat registering animals that were central to Berkeley's arguments.

To put this account of linkage in historical perspective, think about Medieval philosophers' disputes about how many angels can dance on the head of a pin. This controversy pitched those who thought angel's were corporeal, or semi-corporeal, whatever that means, against those who held they were not. Is the following subsumption pyramid defensible?



This partial pyramid shows we have another example of an empty property range. If ^angel^ is ^~corporeal^, ^angel^ isn't congered to ^heat^. Thus, angels have no healthy 98.6^{o} F. temperature nor any other. It's incoherent to think they could have, because ^~corporeal^ and ^corporeal^ are incompatible; angels share no congery attributes with ^corporeal^, including heat, just as Descartes' ^body^ and ^mind^ share none. With what attributes may we construct angels congery? May they, perhaps, be cited along with Yeats's semi-oxymoronic "shapeless mound":

When nettles wave upon a shapeless mound
And saplings root among the broken stone.[135]

Is it coherent to think that you may traipse from ^mound^ to ^shapeless^/^~shapely^, in lexical space, notwithstanding Yeats's lovely conceptual inducement? Did Yeats hear an echo of Shakespeare's "ruined choirs" (Sonnet 73) in his "shapeless mound"?

[*Emplacement, E…E*] *is an enjoined functor*

[135] "Coole Park", 1929. Note the exact grammatical parallel between these two lines (A 'grammatical rime'?)..

[E…E] is the emplacement functor that may be used with any sentence, regardless of what a sentence's binary copula/functor is; sometimes it gives birth to a coherent proposition and at other times to an incoherent one. In pp. 40 – 41, in the Correlative Chart, I listed functors and the grammatical category of their concepts and emplacements their grammar requires. If a sentence has a sooth functor, /[.] S P/, its emplacement in /S/ is a substantive and its emplacement in /P/ is a trope. If a sentence has a subsume functor, /[/] S1 S2/, its emplacements in /S1/ and /S2/ are substantives; if the sentence is /[/] P1 P2/, its emplacements are tropes.

Since emplaced entities are the end of the line in subsumption pathways, [EsE] and [EpE] subsume nothing. Because of this, neither /S/ nor /P/ in subsumption sentences have coherent emplacements. For example, while

(i) ^ [/] ^dish^ ^EsaucerE @ /saucer/^^ is coherent,[136]

(i') ^ [/] ^EsaucerE @ /saucer/^ ^dish^^ is incoherent.

(i) is compatible, because ^dish^ is more general than ^saucer^and coherently subsumes ^saucer^, ^plate^, ^cup^ into each of which we may coherently emplace, respectively, a saucer, a plate, a cup. Recall Tom, that emplacement is a form of subsumption. (i') is incoherent, because ^EsaucerE^ subsumes nothing; it lacks all generality.

The same reasoning goes for the difference between a general property subsumptio emplacement in /[/] P1 P2/. Suppose this propositional form's subject is interpreted as a property concept and its predicate is interpreted as a singular trope emplacement. For example, if /P1/ is interpreted as the property "red", whose generality rests on the interpretation ^*any* red trope may be coherently emplaced in it, and suppose /P2/ is interpreted as an emplaced, singular red trope, ^EredE @ /red/, then /P2/'s trope is subsumed by "P1"'s property if and only if the red trope is coherently emplaceable in "P1",. being one of the *any* coherent emplacements in "P1", It is, so:

^E"red"E @ /red1/ & EredE @ /red1 & red2/.

Read this as the property "red" is emplaced in the subject /red1/ & a trope @ /red2/

* * * *

The emplacement functor is leutically enjoined, because a negation of either substantive or property tokens of an emplacement render it incoherent.

Negating /S/, as in ^EsE @ /~S/^ makes it incompatible with /S/; hence, that negation entails EsE is an incoherent emplacement in /~S/: ^~EsE @ /~S/. ^EdonkeyE @ /mule/^, for example, is incoherent: ^~EdonkeyE @ /mule/^.

By similar reasoning, we can reach the conclusion that [E…E] is leutically enjoined when we negate /P/ as in ^EpE @ /~P/^. ^EstingyE @ /~stingy/generous/^ is incoherent, as in ^~EpE @ /~P/^.

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[136] ^EsaucerE @ /saucer/^ may be seen in part as a pronunciation lesson. The saucer of ^EsaucerE^ and /saucer/ have the same pronunciation. Thus, the knowledge that an emplacement in a token is coherent is no more arcane than the knowledge that you're pronouncing them correctly, that is, similarly. The dish object and the token object have the same pronunciation I said /seen in part as/, because in addition to its correct pronuciation, the /saucer/ has to be escorted by an apt interpretation.

Incoherent emplacement spreads like oil on salt water. If you've emplaced E(my)napkinE, which is dirty, in the subject of /(My)doily is dirty/, you've incoherently interpreted /doily/, which makes the misinterpreted sentence unfit for verifying or disverifying <My doily is dirty>. That sentence invites you to check your doilies, not your napkins for signs of hygienic neglect. What can I believe about my doily's state of cleanliness from the truth or falsity of <My napkin is dirty>? See Unknown in row 9 (S~ P+ U) in the Substitution Chart, p. 63, "On Emplacing".

Instead of concurring that rigid designation entails there are 'necessary synthetic' statements, I conclude that giving primacy to emplacement over the intensions of proper names, however narrowly or widely we conceive ^intension^, frees us from inconclusive, repetitive controversies tied to outworn notions of ^reference^, ^intension^, ^synthetic^, ^analytic^, ^a priori^, ^a posteriori^, [Necessary], ^verification (correspondence vs. alethic coherence)^, ^alethic modality^, ^concept^, and ^negation^, including, among others, ^necessary synthetic^. Grow the list, Tom.

[*Sooth, .*] *is an allowed functor*

We may coherently sooth/predicate contradictory or contrary property concepts of the same subject; for example, both ^Madeline is bright^ and ^Madeline is dull/~bright^ are coherent. Emplacements of one and the same substantive in both /S/s and of contradictory or contrary tropes in ^ **.** S P^ and ^ **.** S ~P^ provides us with coherent propositions. Negating the predicate of the proposition form ^ **.** S ~P^ as in ^ **.** S ~~P^ gives us coherent forms (by Double Negation). So, by LI (b) (ii), [Sooth, **.**] is an allowed functor.

Negating the subject of a sooth proposition, LI (b) (ii) gives us the same result; hence, [Sooth, **.**] is an allowed functor. For example, ^headcover^ subsumes ^hat^ and ^cap^, which are incompatible, ^ ! hat cap^. By negating ^hat^, ^~hat^, we get ^[Link, *****] {cap beret…}^. Both ^ **.** ~hat/cap green^ and ^ **.** ~hat/beret green^ are coherent; so, again by LI (b) (ii), [**.**] is an allowed functor. Symbolically, this double application of LI(b) (ii) is:

^ **.** S ~Q^ & ^ **.** ~S Q.

Coherent emplacements in both propositional forms yield coherent propositions, if emplacement conditions of /S/s and /P's are as explained above. The allowed sooth functor gives us latitude in our lexical travels between concepts of substantives and tropes. Of course, such pairs of statements aren't both true, marking the logical difference between ^truth value^ and ^coherence value^.

This modal result for sooth/predication agrees with Kant's alarm clock, David Hume, from whom he learnt that there are no necessary a priori truths "about matters of fact". "All reasonings concerning matter of fact seem to be based on the relation of Cause and Effect...I shall venture to affirm...that the knowledge of this relation is not, in any instance, attained by reasonings a priori..."[137] Hume denied there are necessary a priori premises from which we may infer that a ball released from our hand must fall downward; prior to our experience we may as reasonably infer it will fly upward. The sooth connect between subject (released ball) and predicates (fly upward, fall downward) must await confirmation from experience. He urged us to reject necessary (analytic) a priori grounds for the (synthetic) truth of "matters of fact", to reject:

<[N, Necessary-true-a-priori] < **.** S P> --} <[Emplacement-true] < **.** S P>>.

The only antecedent that allows us to infer the truth of < **.** S P> is an observational, a posteriori verified statement about a sequence of events:

<<**S**/Release the ball --} **P**/Ball falls> True>.

Notice, Tom, that Hume's substantives here are events, release and fall, rather than objects simpliciter. This choice may reflect Hume's remarks at the beginning of his *Treatise* where he says he will use Newton's method in doing philosophy. In the face of

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[137] Hume, David, *An Enquiry Concerning Human Understanding*, Second Edition, ed. L. A. Selby-Bigge, Sect. IV, Part I, p. 26, 27; Oxford, Oxford Univversity Press.

Hume's critique, Kant's conceptual/modal table left him but one choice for repairing rationalism: Some statements are 'necessary-a-posteriori/synthetically' true.

Hume urged us to reject as 'absurd' the view that we may infer a conclusion about matter of fact truths from analytic a priori modal premises. This argument stripped continental rationalism of its first refuge. We may put Hume's rejection as a conceptual *Reductio ad absurdum* argument:

<[N] <S is P>> --} [M] <S is P> >	Necessary truth entails truth, a rationalist's premise; still held by some alethic modalists, circa 2000+.
<[M] <S is P>> {--} <[M] -<S is P>>	<S> is possibly true {--} <-S> is possibly true. If <S> isn't possibly, true, it's either necessarily or impossibly true.
_____	
<[N] <S is P>> --} <[M] -<S is P>>	Hypothetical Syllogism
<[N] <S is P>>	assume
_____	
<[M] -<S is P>>	Modus ponens, reductio of the first premise's conseqent
_____	
<[M] <S is ~P>>	[~] P replaces [-] <…> per Plato's Anti-Parmenides argument.

This inference's last three lines show that if <[N] <S is P>, then <[M] -<S is P>>, and, equivalently, <[M] <S is ~P>>, that is, <S is P> is possibly false, an alethic absurdity.

Turning to partisans of <[N] <S is P>> --} <S is P>, dropping the [M] from the consequent, they may fail to appreciate that such modally unmodified consequents as <S is P> have two-valued truth conditions, True/False, while modally modified statements have three: [-M-]/[-M]/([M]. & [M-]), and the third sports two possibilities. This disconnect between non-modal two-valued contradiction, and three-valued modal contrariety, may explain why any one even entertains the idea that necessary truth entails nude or possible truth, as in the first premise of Hume's Reductio argument above.

There's another reason for this disconnect: Traditional modal logicians interpret the copula for *both* necessary and possible proposition as [Sooth, **.**]. Their paucity of copula interpretations contrasts with the copula pluralism of conceptual logic. In my logic, the copulas of [N] statements' modals are interpreted as [Enjoined to]-modals while [M] statements' are interpreted as [Allowed to]-modals. If the first premise of the Reductio argument were symbolized as

<[I] <S is P>> --} <[A] <S is P>>,

this issue wouldn't even arise. This consequent's copula is [Sooth, **.**] whereas the antecedent's has several interpretations, [**:**, **:+**, **/**, **E…E**, **!**, **=**], as demonstrated above via the Lexical Imperative. Traditionalist's barren copula interpretation, restricted to [**.**], also

restricts their account of the truth relations between their simplified [N] < **.** S P>, [M] < **.** S P>, and < **.** S P>.

Rationalists' views per the Reductio argument are logically invalid. The following *Definition Argument*, so called because it uses the 'definition' of [Necessary, N] as [-Possible-, -M-], proves that the conclusion of Hume's Reductio, <[M] -<S is P>>/<[M] <S is ~P>>, is not only invalidly inferred but is also false. Hume rules.

<<N<S is P>> {--} <<-M-<S is P>> Definition of [N]
<-M-<S is P>> {--} <-M <S is ~P>> Replace [M]'s [-], [M-], with ^~P^; per Plato's Anti-Parmenides move.

_____

<N<S is P>> {--} <-M <S is ~P>> Hypothetical Syllogism
<N<S is P>> Assume

_____

<-M <S is ~P>> Modus ponens

This conclusion falsifies Hume's Reductio conclusion against the rationalists, <[Possible] <S is ~P> is true>; this shows that rationalists views are both invalid and unsound. To defend themselves, they have to reject one of Hume's Reductio premises to ward off invalidity and falsity. Kant wisely rejected the rationalists' first premise in the Reductio, which is still taken by some logicians as an acceptable axiom in alethic modal logic. As fer me, Tohm, oim stickin' wi' Daivey.

Here's another way of justifying Hume's rejection of

<[N-a-priori-true] <S is P>> --} <[Sooth-true] <S is P>> .

Treating alethic modals as operators on statements, the truth values of <[M] <S is P>> and <S is P> may differ. <Possibly Fido is hungry> is true although <Fido is hungry> is false, because <Possibly Fido is ~hungry. Also, <[M] <Fido is ~ hungry>> may be true even though by similar reasoning <Fido is ~hungry> is false. >. The truths of <<Possibly Fido is hungry> and <Possibly Fido is ~hungry>> are logically independent of the truth values of <Fido is hungry> and <Fido is ~hungry>. See my remarks on the previous page about amodal statements' two-valued truth conditions and modal statements' three-valued truth conditions. <[Modal] <S>>` is three-valued, <S> is two-valued. Never the twain shall meet. (Oscar Wilde about Mark Twain? Mark Twain? S'peare?)

Because neither rigid designation of names nor natural kinds' properties provide necessary identity conditions, identity claims about concepts, objects, and tropes are contingent; hence, a true identity claim doesn't provide access to all possible worlds. That's why, on a universal quantifier interpretation of modals, Brouwer's entailment

<<S is P> --} <[N]<[M]<S is P>>>

is invalid.[138] I explain why identity claims are contingent in the section on [=] (pp. 42 - 45 and p. 126f, where I extricated us from Frege's confusions about identity. More on

[138] See James D. McCawley, *Everything that Linguists Have Always Wanted to Know about Logic*, 11.2.5 and its discussion, p. 377f, 2nd Ed.,; Chicago, The University of Chicago Press; 1993.

identify is forthcoming. (How many 'forthcomings' can you promise when you're 85?) Anticipating and oversimplifying, identity claims are count claims. <A = A> and <A = B> claim that on an interpretations of the left /A/ and right /A/ in the first case, and of /A/ and /B/ in the second case, there is one and only one coherent emplacement for the tokens in the respective sentence forms, /A = A/ and /A = B/. Identify propositions' coherence value, whether of the first or second form, are contingent on interpretations; hence, via passive claims about their correlative identity statements can never be necessary truth claims. If there is one and the same coherent emplacement on interpretations of both terms, ^A = A^ and ^A = B^ are coherent; if there are *two* different coherent emplacements, because of different interpretations of these terms, the propositions are incoherent. The identify functor [Identify, =] enjoins us to emplace one and the same object in both of its terms. If you think [=] is used as a necessary *truth claim* about self-identity, that an entity is identical to itself, then you're confusing a coherent ^A = A^ with its correlative truth < = ^A^ ^A^>. We use correlative statements to claim that terms have one and the same interpretation, which includes having one and the same emplacement.

Note that in Hume's second premise of my Reductio argument above,

<[M] <S is P> {--} <[M] -<S is P>>,

I use [{--}] rather than [&], because a biconditional will be true when both its statements are false; if <[M] S is P> is false so is <[M] -<S is P>>, and vice versa. If <[M] <Marge is tired> is false, then <[M] <-<Marge is tired>> is false, and vice versa. The point of [Possible] is that both <M<S>> and <M-<S>> may be true and both may be false even though not both contradictories, <S> and <-<S>> are true.[139] That's because if [Necessary] knocks out one pos-sibility it knocks out the other as well. The truth of <[N] S is ~P> knocks out <[M] S is P>, as well as <[M] S is ~P>>; this may be shown by the same reasoning that showed <[N] S is P> knocks out <[M] S is P> and [M] S is ~P>, and also knocks out <S is P> and <-<S is ~P>>, which I've done over and over, alas.

If you've understood why sooth predication is an allowed functor, you'll recognize why it captures alethically [Possible]. I abbreviate the leutic [Allowed] as A:

Rewrite <M<S is P>> as ^A [**.**] S P^, and

rewrite <M-<S is P>> as ^A [**.**] S ~P^.

This is why [Sooth, **.**] is a de facto interface between lexical coherence and alethic truth. Both <M<S>> and <M-<S>> may be true independently of <S>'s truth value, just as both Waltzers', ^ ^ . S P^ and ^ **.** S ~P^, may be jointly coherent; both are allowed:

^A **.** S P^ and ^A **.** S ~P^.

This gives us two coherent emplacement possibilities into the sooth/emplacement propositions:

^ **.** EsE @ /S/ & E(s)pE @ /P/^ (S+ P+), and

^**.** EsE @ /S/ & E(s)~pE @ /~P/^ (S+ ~P+).

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[139] This alethic modal [M] conformation is captured by my leutic modal [Link, *****], but without its incoherent faults.

No a priori necessary truth entails which of these states of affairs actually obtains, although only one may, because ^P^ and ^~P^ are incompatible. Depending on which one of the following coherent emplacements obtains, we're entitled to make one of the following truth claims:

If S+P+, then < . S P> and <-< . S ~P>>, or
if S+~P+, then < . S ~P> and <-< . S P>>.

This holds whether ^~P^ and ^P^ are contradictories or contraries; in either case, we're entitled to claim that not both may be true.

One of my aims, as I said at the beginning of this appendix, is to heal the self-inflicted rupture between 'meaning' and 'reference', so beloved of Quine. Given the embyronic state of ^meaning^ he was assuming, he was right. Here, I am providing a mature ^meaning^ to heal the rupture. Recall my discussion of the correlative relation between a coherent via attiva proposition and a true via passiva statement. For example, if ^ / S1 S2^ is coherent, <^S1^ subsumes ^S2^> is true. This relation enters into [Sooth]'s interface role also with coherent via attiva emplacement propositions. The coherent sooth/ emplacement proposition,

^ . EsE @ /S/ & E(s)p @ /P/^, S+P+,

has a true correlative sooth statement,

< . S P>.

Via attiva emplacing entitles us to claim via passiva correlative statements are extensional truths underwritten by 'intensional' truths, which, if interpreted under the influence of outdated conceptual habits, seems like a throw-back to the mindset of rationalist philosophers pre-dating Hume's critique. Of course, it's not so provocative if "intension" is interpreted as ^coherent travel^ in a lexical system and "extension" is interpreted as ^coherent emplacement^. The mature ^lexical coherence^ replaces the embyronic ^intensional truth^ just as the mature ^coherent emplacements^ replaces ^extensional truth^.

Once more, just for fun, Tom, I put this argument against <N<S is P>> --} <S is P> in coherence logic terms:

If ^ : S P^ is coherent, ^ . S ~P^ can't be.
^ . S ~P^ can't be coherent because ^S^ is bonded to ^P^. (See the (~B), Not-Bonded, condition, and p. 50 for my “Recapitulation” of this alethic gaff.)
If ^ . S ~P^ isn’t coherent, neither is ^ . S P^. That’s because they’re Waltzers, which is to say [Sooth] is an allowed functor : ^A . S P^ {--} ^A . S ~P^. Waltzers’ coherence values wax and wane in tandem.

The lessons to learn are patent: The alethic entailments, <N<S>> --} <S> and <N<S>> --} <M<S>>, are untenable. This Humean wake-up call propelled Kant into his critical glory. Kant learned a priori metaphysics must give way to transcendental arguments that rely on our conceptual presuppositions, which I have been calling our lexical system. Such systems are altered under the pressure of sooth truths. Hegel

systems change under pressure of contradictions, induced by what I have depicted as de facto coherence that challenges de dicto lexical coherence. < . Dinosaur feathered>'s truth entails the coherence of ^ . dinosaur feathered^, which butts up against the de dicto lexical incoherence of ^ ~. dinosaur feathered^. Because de facto coherence calls the shots, it forces us to redraw the routes in lexical space between ^dinosaur^ and ^feathered^.

But not all is lost if we displace [Necessary] with [Enjoined to], and [Impossible] with [Enjoined not to], because leutic modalities provide much of what alethic epistemologists thought they wanted without having to jerry-rig a modal logic for truth logic. There is not, however, any comfort for alethic metaphysicians who want necessary de re statements.

Last Word

"The notion of the perfect whole, the ultimate solution in which all good things coexist seems to me not merely unobtainable—that is a truism—but *conceptually incoherent*. Some among the great goods canot live together. That is a *conceptual truth*." (My emphases. THELMA.)

--Isaiah Berlin

(Fom the dust jacket of *The Legacy of Isaiah Berlin*, ed. Ronald Dworkin, Mark Lilla, Robert B. Silvers)