A PRECIS OF CONCEPTUAL LOGIC 3.0 1
01/28/13 – A. K. Bieman

Conceptual logic is the ur logic that underwrites alethic logic and truth value, and is a supplement to it. Coherence values, coherent and incoherent, are the terms I use to evaluate propositions, which are interpretations of sentences, whereas we use truth value terms, true and false, to evaluate statements. Both logics include the entitlement value unknown for judgments of truth and coherence values.

Any expression between slash quotation marks, /sentence/ and /word/, is a physical token—inscribed, spoken, signed, ... . Any expression between caret marks (^...^) is an interpretation, a token rewrite, of another token. Statements reside between angles, <...>; they are tokens carrying truth status claims.

/Sentence/ → ^proposition^ → <statement> are distinct, ordered token expressions.

Since /hot/ has several interpretations/rewrites (hot/boiling, hot/stolen, hot/ fast...), we may have to rewrite /The car is hot/ to identify the proposition we intend—^The car is stolen^. We can make statements only with coherent companion propositions. Incoherent propositions deprive their companion statements of truth value: ^The blueberries are dreaming^ deprives <The blueberries are dreaming> of truth value. This is one reason why I claim conceptual logic is ur to alethic logic. ^Conceptual logic^ is the study of valid inferences between propositions as ^alethic logic^ is of valid inferences between statements.

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1 Wherever there is a difference in symbolism or claims between those in this essay and earlier ones, take this essay as canonical. I call this essay a “Precis” because it contains less than meets the eye in The Logical structure of Conceptual Coherence 3.0 that earlier I called “Conceptual Logic and Coherence 3.0” that preceded this essay. Substitute the first, new name for the second name wherever the latter occurs in this “Precis”. Reading this “Precis” will prepare you for reading 3.0, although you may not fully understand parts of this shortened version of it without help from Appendix III at the end of this essay, pp. 51 – 60. You may start to orient yourself to this new logic. In 3.0 I also provide technical details that are central to this logic and its theories of coherence and truth. The speed of uptake depends on readers’ philosophical backgrounds and their logical skills. I give you explanations and examples that put you at the same level as accomplished alethic logicians who may be as much, or more at sea, as you on first encountering the first new logic since Aristotle (except for brief flares that revealed slanted, deep seated reluctance to subscribe to alethic logic exclusively). Who enters here need not despair. ’Tis Paradiso, not l’Inferno. Inquiries and proposed corrections are welcome. My website address is: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman; easier access is: sfsu arthur bierman.

Appendix I, a Table of Contents, is on p.49, at the end of this essay. It lists paginated sections where this essay’s diverse topics, technical terms, and explanations are located.

Appendix II contains the Entitlement Chart from “On Emplacing”, p. 43; there I proved, pp. 55 – 86, that the chart fully explains the relations between coherence and truth value entitlements that govern epistemological judgments.

Appendix III, pp. 51 – 60, replicates pages 1 – 9 of in The Logical structure of Conceptual Coherence 3.0, formerly “Conceptual Logic 3.0”. Substitute herein the former wherever the latter occurs. There brief historical notes cite works supportive of this enterprise, which I gratefully acknowledge. I thank the banyan tree at the University of Hawaii, Honolulu, for the benevolent insight I received under its generous branches. I hope it still flourishes to the benefit of others.
Plato’s *Sophist* [218 - 234] contains an early part of coherence logic, which logic is the more fit for philosophy. See his model exploration of the conceptual subsumption structure for the concept ‘angler’ that he used to identify the concept ‘sophist’, akin to what are now called ‘expert systems’. Plato was a conceptual logician. His splendid beginning was smothered in the crib by Aristotle, who favored science and truth value and gave precedence to alethic syllogistic inference schemas over Plato’s coherence inference schemas. Aristotle deviated; he had other fish to desity. He fostered the contemporary alethic pursuit of axiom systems for logic suitable for sciences, but of scant use to philosophers who want to comprehend the coherent relations between concepts and propositions rather than the ‘truth’ relations between ‘statements’. Alethic logic is of minor use for conceptual investigators, and conceptual logic has deep correctives for alethic investigators, regardless of their formidable logical skills. Frege, Russell and Whitehead, and their kin led us astray. \(<1 + 1 = 2>\) is not a statement with alethic value. It’s a proposition \(^{1 + 1 = 2}\) with coherence value. Aristotle alone is not at fault; the guilty make a very long line-up at philosophical check points, including the perennially admired Russell and Frege, Goedel and Tarski, Quine and Curry.

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This is a précis of conceptual logic’s well-formed expressions with variable terms and valid inference forms introduced in *Conceptual Logic 3.0*. For each of my eight functor interpretations of the English copula that serve lexical/conceptual purposes, I supply at least one valid inference for \(m\) whose conclusion features each of the functors, negated or not. See p. 22ff, this Precis.

**FUNCTORS**

[Subsume, /]  [Bond, :]  [Conger, :+]  [Assign/Emplace, \(E...E @ /.../
[Identify, =]  [Link, *]  [Sooth, .]  [Counter/Incompatible, !]

These functors are act *advisories*; we use them to advise each other on the routes to take if we want to travel coherently with others on the same paths between concepts in lexical/conceptual space, and if we want to construct coherent propositions in tandem with fellow travelers.

When we speak, listen, or read, we travel in conceptual/lexical space, we *use* language in the *via attiva* mode. Each of these eight functors also furnishes different but complementary ways to converge on and identify a concept’s unique place in conceptual space. On the other hand, when we talk and think *about* them, *report* our travels, we’re in the *via passive* mode. This is a major distinction; it dissolves ancient, fruitless controversies--the validity of oblique discourse is an example--many of which arise from logicians speaking in the via passive tongue.

Functors are syncategorematic; with them we advise each other on which of our eight functors’ routes we propose they may coherently travel between substant-
ives/substantives, tropes/tropes, and substantives/tropes in lexical space. I prefer the metaphor of travelling in lexical space as the way to combine these different kinds of concepts into coherent, unary propositions vs. the chemical composition metaphor favored by the prevailing analytic schools. Travel is more apt for our via attiva conceptual activity than being told sentences’ meaning is composed of its terms’ meanings; the composing metaphor is a Haggis theory of sentence meaning. Concepts and coherent routes between them are relatively stable in lexical space but none are exempt from erasure and replacement. We add new concepts and assign each to its own unique place all the time, deliberately as well as unconsciously. This requires altering our advisories for coherent travel in lexical space. Think of the classification changes in biology since the discovery and mapping of DNA, which superseded morphologically based travel paths between concepts.

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I distinguish sentence tokens from proposition tokens; the latter are rewrite tokens, ‘in-other-words’ tokens. Rewrite tokens are more familiar to Italian and French speakers than to English speakers. When they ask for the ‘meaning’ of an expression, they often use the equivalent of our in-other-words: Volere dire, in Italian, vouloir dire, in French: /What do you want to say/. These auditors’ expressions tell the speaker to say what she wants to say in other words; they want rewrites, not ‘meanings’. Tokens rule.

Proposition rewrites may be similar or different from the sentences of which they are rewrites. ^My horse is dead^ is a similar rewrite token of /My horse is dead/. ^My car is fast^ is a different rewrite token of /My car is hot/. Because most sentences have several interpretations, we need propositions to identify the one intended in order to avoid ambiguity and misunderstandings. Sentences and propositions are grammatical or ungrammatical. Propositions are coherent or incoherent, because with them we commit to a specified walk in lexical space. In case an auditor doesn’t ask for the ‘meaning’, she implicitly grants that any rewrite would be similar to the original sentence, or she knows from the context of discourse which rewrite is intended. A rewrite informs her which path in lexical space the speaker wanted her to take.

I distinguish sentences from propositions and propositions from statements. Statements manifest a proposition + a via attiva claim about her commitment to a statement’s true, false, or unknown truth value. Frege signaled a via passive true/false claim with the turnstile symbol, [|--], in his Begriffsschrift. I use the angle bracket quotation device, <…>, to signal the via attiva true/false/unknown claim.

Neither coherence nor truth value are reducible one to the other. Coherence value is ur. Without a coherent ur rewrite of a sentence, you can’t make an alethic value claim; <Cryptography is angry> has no literal, alethic value.

I’m sparing in my use of examples and illustrations here, with a couple exceptions, because you may have read “On Emplacing” and/or Conceptual Logic 3.0, or my account
of conventional natural-kind concepts, or will at least scan one or the other if needed for relevant applications. See http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.

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The valid inference forms I provide are also in Conceptual Logic 3.0. I use /coherence logic/ and /conceptual logic/ interchangeably. I regard an axiomatic formulation of this logic that champions the via attiva versus the via passive as needless, barren work. I’m outfitting a new ^coherence^ concept to add to our philosophical tools; it’s logically independent of alethic logic’s ^consistent^. ^Coherence/ is a conceptual logic term that should not be interpreted/rewritten as alethic logic’s ^consistent^. ^Consistent^ holds between statements, ^coherent/ between concepts in and between propositions.

In these essays on conceptual logic, I most want to give a precise, full, clear, useable concept of ^coherence^; it’s the fulcrum of conceptual logic with its ^coherent/ incoherent^ proposition values versus traditional alethic logic with its ^true/false^ statement values. I’m using recent decades of linguistic work to provide a different and more useful logic for philosophy that we may employ to address its conceptual tangles and disputes. To roughly orient yourself to the pair ^coherent/incoherent^, think of earlier approximations: ^meaningful/absurd^, ^makes sense/is nonsense^. There are other vague variations on this theme. See my introduction to Conceptual Logic 3.0, included here as Appendix I.

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A via attiva construction of a conceptual inference differs from a via passive report of an inference made. It has at least one
propositional premise and a propositional conclusion,
each of whose copulas is one of the eight lexical functors,
whose constituent concepts may be located implicitly or explicitly, within
the lexical structure of a language, and
whose conclusion is evaluated as coherent or incoherent.
Think of these conditions as a congery, [+], for ^conceptual inference^.

Both conceptual and alethic inferences are considered valid if they have the same form as inferences informed native speakers judge valid. Most ‘native’ speakers have no grasp of ^valid^; their acquiescence to claims of an inference’s validity are usually manifested by silence in deference to a doughty rhetorician; or their challenges to its validity betray their logical ignorance. Yet, logic rests finally on shared acceptance of at least one or more inferences. Aristotle’s logic rests on a shared judgment that the Barbara syllogism and several immediate inferences are valid, whether their acceptance is explicitly or implicitly expressed or goes silently unchallenged. Do not search outside linguistic communities for grounds of validity; stick judiciously with those inference forms that are widely accepted or unchallenged by native speakers. Going anywhere outside judicious, shared validity judgments leaves contesting parties without common logical grounds for reaching rational agreement.
If contending parties don’t share validity judgments, they can’t *reason* to the same conclusions, although they may be persuaded or cowed into agreeing about propositions’ coherence or statements’ truth value. But, neither of these popular modes of getting others to agree with us is reasoning to an agreement. This shared requirement applies also to a system’s axioms. Axiomatic systems are linear; their theorems’ proofs go back eventually to the axiom(s), which are the end of the inferential line. You can’t ‘prove’ axioms as you do theorems drawn from them. If you could, such so-called axioms wouldn’t be axioms, they’d be theorems. Because ‘theorem’ and ‘axiom’ are conceptually incompatible (theorems are ‘derived by inference’, axioms are ‘not~ so derived’); hence, it’s incoherent to claim axioms have logical proof as theorems do.

Where do we go from here? Well, unless you hug intuition as Goedel did, there are no alternative grounds for acceptance of an axiom or the validity of an inference outside shared consent to them. Get used to the communal via attiva logical world. This doesn’t entail you can’t reason about ‘valid’ inferences and ‘true’ axioms. For example, if a conceptual inference is claimed to be valid, but entails incoherent conclusions from coherent premises, that’s a good reason to reject a claim that such a conceptual argument is a valid form. Recognizing ‘incoherent conclusions’ is just knowing the conceptual-lexical structure of a language. That’s the bottom line, folks.

As to axioms, we’ve been witness to an enormous, frustrating literature on the grounds of their ‘truth’. What a waste. Wittgenstein, too, lost his way on truth in his ‘pure’ *Tractatus*. He held that tautologies have truth value—“a tautology is true unconditionally” (4.461)—although tautologies “say nothing” (4.461). “Tautologies and contradictions are not pictures of reality. They present no possible facts” (4.462). One of these two allegations is incoherent. Statements can’t have truth value without being ‘satisfied’ by ‘facts’ or ‘states of affair’s’. ‘True’ tautologies and ‘false’ contradictions are subject to this ‘fact’ mandate. Yet, Wittgenstein tells us they say nothing, that they’re unrelated to “reality”, to ‘facts’ and ‘states of affairs’. He was incoherent when he said tautologies and contradictories have truth value.

He should have said they have coherence rather than truth value, as I suggested in *Conceptual Logic 3.0*. They, and other logical ‘a priori’ expressions, are propositions rather than statements; so, their inferential and evaluational home is in conceptual, not alethic, logic. I explain the difference here.

* * * *

\[(CO) \; ^\wedge[Sooth, \; .] \; S \; ^P^ \; [\&] \; ^{[Sooth, \; .]} \; S \; {^\sim P}^{\wedge}.\]

Pairs of contradictory or contrary propositions, as in the (CO) form, are coherent if both incompatible trope concepts, ^P^ and ^\sim P^, are in the same link range. Being free, both may be coherently soothed of the same substantive concept, as in

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3 (CO) is short for the [Counter] functor, listed on p. 2. A concept ^C^ is via attiva countered by conceptually negating it, ^\sim C^, that makes the concepts via passive [Incompatible]. The results are the similar when we counter propositions.
(COc) '^[Sooth, ] cherry bitter^[&] ^[Sooth, ] cherry ~bitter/sweet'.

Each proposition in this conjunction is coherent. Neither is bonded to ^cherry^; so both ^bitter^ and ^sweet^ are free; hence, both may be coherently soothed of ^cherry^.

This entails the conjunction (COc), too, is coherent. Although ^red^ and ^green^ are in the same link range, {red green yellow ...}, ^green^ and ^yellow^ are not free to be soothed of ^ruby (stone)^, because ^red^ is bonded to ^ruby^. The [Bond, :] functor blocks the freedom of coherently soothing ^green^ and ^yellow^ of ^(stone)ruby^.

When we take such statement tautologies and contraditories as

(COo) <=[Sooth, ] cherry bitter> [Or] <=[Sooth, ] cherry ~bitter/sweet>>,

(COa) <=[Sooth, ] cherry bitter> [&] <=[Sooth, ] cherry ~bitter/sweet>>,

out of alethic logic’s domain and transfer them to conceptual logic as I did in (COc), necessarily true tautologies’ and impossibly true contraditories’ are no longer an endlessly contentious issue. Also, in conceptual logic’s domain, Leibniz’s ‘possible worlds’ are detheologized. That alone is worth the price of admission to Conceptual Logic 3.0.

The coherence of

(L) ^[Link, *] cherry {bitter sweet salty sour ..}’s

is needed to entail the coherence of (COc). Down the road in my exposition of valid conceptual inferences, I provide a valid inference that shows [Link]’s role in this entailment.4

Both conjunct propositions in (COc) are coherent under the free condition, unlike alethic contradictory statements, (COa), in which not both of its conjuncts are true. This proves ^coherent^ is not reducible to ^true^.

With (COc), we’re in the domain of concepts and propositions; we sooth a trope concept of a substantive concept. We’re heading toward the determination of propositions’ coherence value. This differs from the domain of statements and assignments/emplacements. In this domain, if we assign/emplace substantives into token sentences’ subjects and tropes into their predicates, we’re heading toward a determination of statements’ truth value. With statements, we predicate/sooth emplaced tropes of their emplaced statements’ substantive porters.

It seems marvelous yet mysterious to some that our physical and chemical formulas ‘fit reality’. The mystery is now solved. If the assignments/emplacements are coherent, the world ‘fits’ our conceptual/lexical scheme, not vice versa. In this process, via our conceptual-propositional schemas, we construct the ‘facts’ that determine the truth value

4 I believe that no concepts, {odd even}, in coherent link arithmetical/mathematical ranges are free, because all are bonded coherently to a substantive: [(Bond) 1 odd] and [(Bond) 2 even]. These bondings could be the implicit conceptual source of the conviction that mathematical ‘statements’ are necessarily true, unlike empirical statements. This opens the gate for the a priori Trojan Horse, because realism about numbers and other mathematical substantives is fantastical in comparison with assigned/emplaced empirical substantives and tropes. Alice feels alien in a priori Wonderland. Numbers as substantives pass muster more plausibly then ^odd^ and ^even^ tropes/properties. If there were no free tropes in logic or mathematics, there would be no reason for despair, because we would see their token expressions wearing the raiment of regal coherence instead of the tat-tered rags of truth.
of statements. Facts aren’t pre-packaged entities; the non-linguistic world has no logic; outside of our languages, it has no negation. Facts come into being only after we’ve established propositional coherence. <This cherry is sweet> is coherent and true if you coherently emplace a cherry in /cherry/ and if that cherry coherently carries a sweet trope into /sweet/; then you can boast: <I’ve made this sweet cherry fact>. If, instead, the cherry carries a sour taste into /sweet/, <This cherry is sweet> is false. You have not constructed a ‘sweet cherry’ fact.

Following Plato, I’ve shown elsewhere(s) that a statement’s falsity is inferred from an incompatible statement’s truth.

\[
<\text{This cherry is sour}> \quad \text{True} \\
\land [!] \quad \text{sour} \quad \text{Conceptually incompatible} \\
\sim\text{sour/sweet}^\uparrow
\]

\[
<<\text{This cherry is sweet}>> \quad \text{False}
\]

<This cherry is sweet> is false because \(\text{sweet}'\) and \(\sim\text{sour/sweet}\) are incompatible; and its falsity can be validly inferred from the truth of the incompatible <This cherry is sour/>.

No negative facts, please; just inferences. And happily bid farewell to adroit Parmenides who is said to have said we can’t make false statements. Plato was the first to have shown in his Sophist that false statements can be inferred from true ones via the “other”/[\~].

Although they differ, [Sooth] and [Predicate] are peculiarly related: Coherent [Sooth] assignments/emplacements are the truth makers for statements. Coherent assignments/emplacements of substantives and tropes turn into concepts just as marks on paper or stone does; sounds riding the air become concepts because they’re given a place in lexical space. This is what gives languages’ tokens of any kind their status as concept-freighted words. This is one of the most important consequences of a structuralist account of concepts, which is why I said “peculiarly related” above. It’s difficult for the well-trained philosopher to grasp that the emplaced substantive \(\text{EroosterE} @ /rooster/\) is a concept as is the trope \(\text{ErredE} @ /red/\). Alethic value has no standing outside the coherence values I described above, including coherent assignments/emplacements of substantives and tropes. Accounts of statements’ truth value based on their representation of or correspondence to pre-packaged facts or states of affairs sail on windless seas.

My account of [Predicate] versus [Sooth] distinguishes them. We commonly say “we predicate a property of a subject “. But now, inn newe speake, we say “we sooth a trope of a substantive”. This is possible because assigned/emplaced substantives and tropes are given a place in lexical space, which transforms them into nominal concepts. This is a consequence of treating ‘meaning’/^concept^ as a structural phenomenon. That’s why I’ve symbolized predicative statements with a [Sooth] (In soothe, Sire) functor in earlier essays. Substantives in sooth propositions and statements ‘carry’ a trope into predicate places: \(\text{E(\cdot)blackE} @ /black/\). Substantives make two appearances

in sooth propositions and statements, once in the subject and again in the predicate as a porter of EblackE:

`[^Sooth,.] E.E @ /dot/ [&] E(0)blackE @ /black/^.`

This modest proposition circumvents centuries of puzzlement about the copula’s role in ‘gluing’ subjects and predicates together to make a unified proposition/statement. No mental, sticky copula is needed. We distinguish substantives from tropes; treat tropes conceptually as tropes of a substantive. They may be roommates travelling in tandem in lexical space. If the substantive carries a black trope into a proposition’s /black/, the proposition is coherent, which entails `<The dot is black>` is true>. There’s no truth value without coherence value, with it there is truth value. [Sooth] statements’ truth values sail under the flag of coherence.

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In *Conceptual Logic 3.0*, I treated concepts nominalistically: Concepts are lexical tokens that occupy unique places in lexical space in relation to other tokens. By traveling on functor paths in lexical space from one concept to another, we strew propositions in our wake, whether coherent or incoherent. If enjoined or allowed functor paths between a proposition’s concepts exist, the proposition is coherent; if there are missing enjoined paths, it’s incoherent. /Pigs are birds/ has no coherent interpretation, because there’s no coherent [Subsume] functor path between /pig/ and /bird/; so, `[^Subsume] pig bird^` is incoherent, whereas `[^Subsume] animal pig^` is coherent. Valid conceptual inference forms chart paths we should take to map coherent travel propositions in conceptual space. The concepts ‘coherent/incoherent’ are now a more mature pair than such embryonic pairs as ‘meaningful/meaningless’, ‘sensical/nonsensical’.

I reject a compositional account of ‘meaning’: Word-1 meaning + word-2 meaning = 1 sentence meaning. I’m surprised at its long life, given its implausibility. Perhaps these composition folks cling to it, because they cite from a narrow selection of the very large number of different kinds of definitions in Saint Webster’s book of definitions. The *Oxford Dictionary* confirms this. It’s probably time to look carefully at your semantic saint’s book to discover that other forms of definitions exist outside the confines of the hoary “Bachelor” means “unmarried” and “male”. These folks have a lot to answer for.

Do meanings meld together so that Two word meanings = One sentence’s meaning? How is it logically possible that Two word meanings = One sentence meaning? Tell me in detail. How can Two become One? Are we in a “Jesus-Meaning Superstar” musical? Do different functors differ in how they meld words’ meanings into sentences’ meaning? If they do, how do they do it differently? Does `[^Subsume,/] plant hibiscus^` meld differently from `[^Sooth,/] hibiscus blooming^`? Or does one of them not meld? Which one and why?

Some theorists have claimed words get their meaning in the context of sentences in which they appear. Frege was an early advocate. Should we prefer a ‘decomposition’
account? Do we decompose|analyze propositions’ meanings into their component words’ meanings? No, that’s bad, too. The same problem pops up: We can no more go from One proposition meaning = Two words’ meanings than we could to from Two words meanings = One proposition meaning. Both melding and demelding suffer from the logical ^Two^ =|= ^One^ obstacle.

The deeper trouble here is deficient ontology. ‘Meaning’ is treated as a substantive whose existence is disjoint from its tokens’. What God hath put asunder, man cannot reyoke. De- and composition theorists start on the wrong foot as Augustine did, which Wittgenstein rightly lampooned at the beginning of his *Investigations*. Augustine may very well be the stand-in for W. himself trying to shake the shame of having once been equally guilty of a *Bedeutung* account of ‘meaning’ in his *Tractatus*. (2.01231ff).

I prefer the metaphor of authorized journeys between concepts and coherent propositions in lexical space via functor paths over the Haggis composition metaphor. No melding needed, just coherent via attiva travel between spoken and written lexical tokens rather than marveling at mysterious meldings of two in-the-head concepts into a one in-the-head proposition. It’s clear, we must continue to bear arms with Frege against psychologism in logic, but without succumbing to his view that objective unthought thoughts underwrite accounts of shared ‘sense’, inferential systems, and truth evaluations. We often disappoint Gottlob, because often we frequently travel between concepts in conceptual space on incompatible [Sooth] functor paths. I intend and hope that conceptual logic, one of civic virtue’s tools, will help us resolve our conceptual conflictual differences and reach agreement on the structure of conceptual/lexical space. We can more easily construct freely, rationally a peaceful human community, if we share a corrective conceptual logic and exercise it. Alethic logic isn’t up to this task.

The time has come for conceptual logic to replace alethic logic as the first to be taught in philosophy’s curriculum.

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Because concepts are tokens within the structure of lexical space, call mine a structuralist account of concepts. In the following quotation, I substitute /concepts/ for /mathematical objects/.

“The idea behind the ‘structuralist view’ of (mathematical objects/concepts) is that (such objects/concepts) have no more of a ‘nature’ than is given by the basic relations of a structure to which they belong.”

*C*onceptual/lexical space is a multi-dimensional structure we construct with functors. Each functor leutically enjoins or allows different lexical conditions for coherence. Concepts have no more ‘nature’ than what is given them by their functors.

When we travel publicly in lexical space, our speech will be heard and our script seen by others. If we travel on coherent, similar functor paths between identical categor-

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yematic concepts we end up in the same place in lexical space; if we travel on different
paths we won’t end up on the same concept in lexical space; hence, won’t understand
each other, although we often don’t know we misunderstand each other. We may not
realize this until further down the line. I say <This car is hot>. You put your hand on the
hood and reply, <Nonsense. It’s as cold as Aunt Maud toward ardent suitors.>. You
didn’t understand what I said, because you wandered off to ^temperature^ territory while
I’d hiked to the ^hot/stolen property^ county; they’re in incompatible counties in lexical
space.

It’s not helpful to use the traditional, antiquated /intensional/ to describe my con-
ceptual logic. It’s not intensional in any of its senses with which I’m acquainted, al-
though mine may seem slightly more helpful to use ^extensional^, given my nominalism.
But, really, that’s no better, because that would ring in the old, useless notion of
^representation^.

Symbols for Components of Subject-predicate
Sentences <...>, Propositions ^...^, Statements <...>

This first new logic, except for the fragment from Plato noted above, since Aris-
totle needs additional new symbols. Although they’re a barrier to being read and studied,
as my friend and co-author, Robin Assali, warned me, it’s unavoidable. A new logic dif-
ferent from any alethic logic needs new functors/new ‘logical constants’, new grammar,
new ^coherence^, new inferences, a new structure in lexical space solicit new symbols.

S    -    Substantive concepts--objects, events, processes are eligible for Ss.
P, Q    -    Trope concepts--‘properties’--are emplacement candidates into/P/ and
/Q/ tokens. ‘Relations’ are not tropes; they’re functors we use to order
the terms in 2term+ propositions.
[F]    -    Functors are interpretations of the copula; an advisory for conceptual
travel in the via attiva mode, a relation in the via passiva mode. There
is one conceptual monary functor, [Negate, ~], and eight binary func-
tors, nine if we count [Assign] and [Emplace] as two.
C    -    Categorematic concepts resident in propositions and statements; each
has a unique place in lexical space. Here, I present inferences with
but one term, but not for 2Term+ ‘relational’ sentences, propositions,
or statements as in /Gus stole hats/. I made suggestions for 2Term+
‘relational’ sentences in Conceptual Logic 3.0 and enlarge on this in
my essay, “More on Leutic Modality and ‘Relations’. See the website

Quotation Marks and What’s Between Them
A token word or sentence, a physical entity.

“…” A type word or sentence; any physical token, /hot/, coherently emplaceable into a type, “hot”.

^…^ An interpretation/rewrite. A concept is a word’s interpretation; a proposition is a sentence’s interpretation. Interpretations are similar or dissimilar token rewrites of words and sentence tokens.

<…> A truth value affirmation or denial of a statement after a sentence token has been interpreted as a proposition/rewrite.

E…E A substantive may be emplaced in a subject token; a trope may be emplaced in a predicate token: ^E…E @ /…/ ^.

[…] Braces distinguish functors from concepts, sentences, propositions, statements. [Assign] and [Emplace] are functors; so are [Subsume], [Link], and [Negate].

{C1…Cn} A link range of incompatible concepts subsumed by an adjacent concept. A subsuming concept is adjacent if it does not subsume any concepts intermediate between it and concepts in the range. ^Red^ is adjacent to ^{scarlet crimson coral …}^.


Functor Symbols

Binary functors mark off interpretations of the copula [to be/to have], [Sooth, .] is a familiar binary functor in /The tomato is red/: ^[Sooth] ^tomato^ ^red^^.

[Negate, ~] isn’t a copula functor; it’s a conceptual monary functor, a symbol for the via attiva advisory [~]: ^^[^{-}fresh^ ^fresh^^ affirms the incompatibility, [%], of the negated and unnegated concepts. Use [%] also in via passive conceptual reports about logical relations between concepts: It denies the coherence of propositions, ^~^[Subsume, /] piano spinach statements, and of statements, <^[Subsume, /] piano spinach>. Functors advise us on which paths speakers should travel in lexical space so speakers/auditors can interpret sentences in the same way. Scripters/readers use them to put the come-hither on fellow travelers to promote mutual understanding of each other’s sentences: I understand you; you know I do; and I know you know that I understand you, and vice versa.

Functor Symbols

Monary Functor

[~] Conceptually negating a proposition we alter its coherence value. ^Non^ is the closest English negation to [~]. It’s a mainstay of many expositors of
Aristotelian logic, often illustrated in the Square of Opposition to establish contariety between A and E statements’ truth value.

[-] Via attiva alethic negation of a statement is used to deny a statement’s acclaimed truth value, whether it be T or F. With <[-]<The barn is red>>, we deny <The barn is red> is true>. Compared to [-], [-]’s use is limited, because it applies only to sooth/predication statements and not to those that feature the other seven functors, except in [-]’s via passive mode.

**Binary Functors**

[/] **Subsume**] With this binary functor we subsume a substantive concept under another substantive concept; ^Crime^ subsumes ^rape^. We subsume a trope concept under another trope concept; ^hot^ subsumes ^212°^.

[@] **Assign** or **Emplace**, [@], a substantive in the place held open by an S token, or a trope in the place held open by a /P/ token. The functor [@] is a species of [Assign/Emplace]. Assigned and emplaced substantives and tropes reside at ground zero on subsumption pathways; they subsume nothing. Substantives dwelling at the bottom are their own haecceity; each bears tropes that are numerically non-identical with others’, because tropes being temporally and/or spatially individuated with their bearer, can’t be identical to another substantive’s tropes. The red trope of WC Field’s nose isn’t identical to the red of my mother’s Uncle Pitz’s. This holds because any trope, say red, that is coherently emplaceable in /red/ is coherently emplaceable into the property “red”. The property red may exist in many places at many times; it’s individuated differently from tropes and, so, doesn’t yield their bearer’s haecceity; it yields quiddity. This haecceity notion appears in a “Bizarro” cartoon. A man puts out his hand to another and says, “Hello. We’re the Hendersons. You must be the non-Hendersons.” (Dan Piraro, 07/12/2010).

All lexical token concepts have a unique place in lexical space. Substantive concepts, for example, inherit all the differentiating functor congency, [:+], relations of its subsuming concepts.

^Porky^ inherits ^pig^ and Duroc^:

^Porky is a pig^ = ^[Subsume] pig Porky^;

^Porky is a Duroc^ = ^[Subsume] Duroc Porky^.

Although Porky and Porco are from the same litter, subsumed by these same concepts, they have diverse haecceities, because each occupies its own, diverse place in lexical space as a unique this/haecceitas ground zero emplacement.

^EporkyE @ /Porky/^-^ & E(porky)/fatE @ /fat/^
may be coherent and its corresponding statement true, but Porco is still out there amongst the litter, a distinct *this/haecceitas* that we can emplace in a similar proposition. Further, Porco may coherently carry a lean trope into */lean*/. “Porky was the fat pig/Porco was the lean./While Porky waddled through the straw/Porco skipped to attest Leibniz’s law.” European royalty rulers solved *haecceitas*’ demands with numerals added to ensure we piglets each have truly proper names: Henry VII was the lean king/Number VIII the gross one. Numerical counts, Roman or Arabic, do us honor and preserve the *haecceitas* of each of us with royalty’s proper name device. Rigid designation is an over-complicated address to *haecceitas* that needlessly wopped a hornet’s nest. It had been easily solved by royal houses’ numerical solution.

[i] We [Bond] substantive (S) to trope (P) concepts. Trope concepts are complicit in the concept of a kind|sort of a substantive as [Conger, :+] requires. [Bond, :] is a leutically enjoined functor.

[++] We construct congeries of tropes to distinguish one *kind* of substantive (plant vs. insect) from another, including determinably different kinds of substantives (object vs. event). Beware: [Conger] differs from [Define]; [Define] is not a conceptual logic functor, although they have some common uses. (More below) Essentialists, ancient and current, were/are ignorant of the congergy functor. They didn’t/don’t have the accompanying, fuller via attiva functor advisories at hand that I identify here. Without them, they have no means to distinguish essential from contingent properties. How can they tell if a property will be true of a substantive in all possible worlds, particularly in an evolving world in which lexical systems are in flux? For that they rely on definitions. ‘Rigid designation’ theorists suffer from a lack of historical depth; individuation should have been discussed with haecceitas in mind, but it couldn’t be captured without a conceptual logic that *gives individual substantives and tropes conceptual status in lexical space via assignment/em-placement*. Philosophers wedded to alethic logic alone can establish only quiddity, because definitions don’t yield individuation.

[C/] [Counter]: [Counter] is a via attiva functor that makes a pair of concepts, ‘red’ versus ‘~red’, and propositions [Incompatible, !]. One of the pair of propositions below is conceptually negated and the other is not:
The enjoined [Subsume, /] supports this [Incompatible, !] result.6 

If one of a pair of countered concepts or propositions is coherent, the other is incoherent and vice versa. Contradictions are the lower limit (2) of contraries. If ^dead^ and ^alive^ have only each other as contraries, they’re contradictories, whereas ^blue^ is a contrary ^red^, since ^blue^ has many incompatible color concepts.

[=] [Identify]: To identify concepts we travel between words’ interpretations|rewrites. If a word token and its proffered interpretation|rewrite occupy the same place in lexical space, they’re identical concepts. ^Stolen^ and ^fast^ are coherent rewrites of ^hot^, but, since they’re in different counties in lexical space, they’re not identical.

I prefer /rewrite/ to /interpretation/; it’s nominalistic, physically concrete. ^Interpretation^ is tainted with psychic traits irrelevant to conceptual identity. Most words are multivocal; their tokens, /hot/, /hot/, … reside in several different places in lexical space. Rewrites block the ambiguities in discourse that interpretation causes. I addressed the identity of assigned/emplaced concepts of substantives and tropes in detail in Conceptual Logic 3.0 and in “Assignments and Varieties of Emplacements”. See the website http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.

So, both ^[.] car stolen^ and ^[.] car popular^ are non-identical coherent rewrites of /My car is hot/. Those propositions are incompatible, since ^popular^ and ^stolen^ are subsumed on different, hence, incompatible, subsumption pathways.

[Identity] holds only between concepts that are grammatically similar, subjects|S-substantive concepts, and predicates|P-trope concepts. [Identity, =] holds between propositions whose S and P concepts are, respectively, identical, whether they’re similar or different tokens.

[*] [Link, *]: A substantive concept is linked to a range, ^[*]{C1…Cn}^, of Incompatible leutically allowed to be soothed coherently to one and the same substantive concept from the range. See p. 18f of this essay for a discussion of this until now (finora) elusive functor.

[.] [Sooth, .]: [Sooth] is a via attiva propositional advisory for travelling coher-
ently between S and P concepts in lexical space. This coherence logic is via attiva oriented. We’re in the via passive mode when we make statements about results obtained via our travels in lexical space. [Sooth] is the only functor in this system that equips us to make true/false statements by coherent non-lexical emplacements, ^E…E @ /…/^, in sentences’ SP terms. This licenses us to infer validly from a true via passiva alethic statement, <Socrates died of drinking hemlock>, to the coherence of the proposition ^[.] Socrates died-of-drinking-hemlock^.

[Any] is the only determiner functor in this system. It excludes [All] and [Some] and their equivalents, the dominant quantifiers in alethic logics. This frees us from [All]’s urge to give classes and members ontological status; yet, it doesn’t deprive us of [All]’s generality. It also blocks [Some] whose role is to indicate a partial selection from classes’ members. When [All] is bereft of its class forming powers, [Some] finds no air in [All]’s vacuum. Nominalism gains the advantage over Realism by rescuing [Any] from the neglect of logicians. Russell danced with [Any] at the beginning of his Principles of Mathematics, Sections 86 – 90. They’re painful to read, because he’s still thinking of classes as substantives, gives preference to a logic of classes over a logic of concepts, fails to distinguish concepts from functors (note his search for the ‘meaning’ of determiners), ensnared in the web of via passive presentations of eternal logic rather than appreciating it as an evolving product of humans’ via attiva enterprise. He’s disappointingly via passive and ontologically realistic there. Usually, [Any] is implicitly assumed in my symbolization rather than explicitly written.

**Conceptual Logic’s Grammar**

I use via passive to present conceptual logic’s grammar. ^C/^concept^, ^S/^substantive concept^, and ^P/^trope concept^ are variables for concepts. The well-formed concepts, WFC, and propositions with their functors, WFP, and concept variables, below, are not concepts or propositions, but their forms. We get concepts when tokens have a unique location in lexical space, and when substantives, and/or tropes are coherently emplaced in those tokens within that structured space.

**Well-formed Concepts - WFC**

^C^ ^~C^  
^S^ ^~S^  
^P^ ^~P^  

**Well-formed Propositions - WFP**
When the context allows, I usually drop cares around the concepts in propositions: \(^{F} S_1 S_2^\) and \(^{F} P_1 P_2^\). \(^{F}\) is a variable for functors. \(^{F}\) holds a place for copula functors, such as \([\text{Subsume},]\) [\sim], [\text{Any}], and leutic modes, [I][\text{Enjoined to}], [I\sim] [\text{Enjoined not to}], and [A][\text{Allowed to}].

**Emplacement**

\[\text{EsE } [\@] /S/\]
\[\text{EtE } @ /P/\]
I usually drop the brackets from [\@]. Look left.

\[\text{EsE } @ /S/ \& \text{E(s)te } @ /P/\]
This is an assignment or emplacement into a sentence token; /\&/ indicates there are emplacements into both the subject and the predicate of the sentence. Assignment and emplacement are ways of subsuming objects and tropes under concepts, turning them into tokens in a language; this eliminates the intension/extension dualism in our one physical world. There are no flights of angels to lift us out of this world into a gauzy other. The /(s)/ in /E(s)te @ /P// indicates the substantive emplaced in /S/ carries a trope, EtE, into /P/ as we move the substantive, EsE, from its emplacement in /S/ to the /P/ emplacement site, which indicates it’s purportedly carrying the trope emplaced into /P/. However, an EsE may not carry a trope coherently emplaceable into /P/. Dull boys often incoherently think EboyE carries a EdullE trope into /bright/.

**Counter (propositions)**

Countering uses [\sim] to via attiva affirm or deny the coherence of a proposition or a statement (the statement is incoherent, because its resident proposition is incoherent). The denial may be contradictory or contrary. Either kind indicates the proposition is incoherent as in \[^{\sim}\text{Subsume}, /\] \text{will desire}\, ^{\sim}\text{Sooth, } \text{prayer funny}^\). As I remarked before, contradictions, \{alive \& dead\}, are contraries with the least number, two, of trope concepts within a range of incompatible concepts. (P. 13f and fn. 6, this essay) Propositions are contradictory or contrary, depending on whether their predicate concepts are one or the other of 2 or 2+ incompatibles. \[^{\text{Link, } \ast}\] sauce \{sweet salty garlicky \ldots\} has a range of 2+; so, the propositions in which they appear are contraries. \[^{\text{Allowed, } \ast}\] sauce salty is contrary to \[^{\text{Allowed, } \ast}\] sauce sweet. Discount the coherence of such a movie title’ as “Hidden Caves of the Living Dead”, incoherent on its face.

**Identity**

\[\text{In my essay on “More on Leutic Modalities”, this is expanded in the last part to propositions with 2+ terms, which are often described as ‘relational’ sentences. This essay may finished shortly after the end of 2012, if Tom helps.}\]
If two S tokens or two P tokens have one and the same interpretation, they’re identical concepts. They occupy one and the same place in lexical space. The process for determining that two similar or differing tokens have one and the same interpretation is complex; it goes beyond vaguely synonymous. The forms of valid inferences, coming later, will convey this better than any description. You cannot give an adequate account of concepts’ nor propositions’ identity without a conceptual logic. All former attempts to explain conceptual identity known to me without such a logic are hopelessly inadequate. They have no algorithm for locating them in a unique place in conceptual space, which is the only place they reside. Former attempts at an algorithm are embarrassingly repetitive, no matter how ingenious their Ptolemaic technical contortions are. They feast off the same cant. Their theories rely predominately on alethic logic’s ‘truths’ to ground their accounts of concepts’ identities rather than on coherence and conceptual logic. ‘Synonymous’ claims purport to state a relation between lexical items, but what’s wanted is an algorithm to explain why we can say they’re synonymous.

If two propositions have the same functor and if their grammatically matching concepts are identical per above, the propositions are identical.

The concepts of well-formed propositions with [], [], or [=] functors must have terms of the same grammatical category, both are Ss or both are Ps, as above. The terms of propositions’ with the following functors belong to different grammatical categories, SPs; substantive concepts are subject terms and trope concepts are predicate terms.

**Bondage**

[] S P  ^=[] S P^ is coherent if any substantive coherently emplaceable into /S/ is enjoined to carry a selected trope coherently into /P/, as in ^=[][Bond, :] whale mammalian^. A /selected/ trope is one or more chosen from a range of tropes linked to a substantive concept: ^=[*] whale {mammalian gray warm-blooded breathes-air …}^. Don’t bond all of the tropes in a range to a substantive; you have to select which ones to bond. You justify your choices on de jure grounds-- more useful, better logical connections to new information, and so forth. (The other grounds for coherence are de dicto and de facto; see Conceptual Logic 3.0, Part 5.) Bonding a trope concept to a substantive concept entails you’re enjoining any interlocutor to predicate it, say, of ^=whale^. But we’re not enjoined to bond every concept from a substantive’s link range to that substantive concept. ^=[][Bond, :] whale gray^ is incoherent, because the assumed de facto truth of ^=[][Sooth, .] Moby Dick white^ would show you’re leutically allowed to sooth white of whales, and because leutic de facto [Allowed] trumps de dicto [Enjoined]
grounds. De jure opens the gates to normative assessments of scientific classifications and any useful epistemological garnerings therefrom.

We’re also enjoined not to emplace any substantive into, say, ^bird^, if it doesn’t bear ^bird^’s congery bonded tropes.

^^EwhaleE @ /bird/^ & ^E(whale)snoutedE @ /beaked/^ is incoherent, because ^bird^’s congery includes ^beaked^ and a snout is no beak; so, a whale isn’t a bird after all. ^Wounded^ isn’t bonded to ^bird^; it’s not been chosen as a complicit concept in ^bird^’s congery. Taxonomists don’t use it as a trope to distinguish ^bird^ from other animals; it would be conceptual folly to think of wounded pigs as birds because they’re wounded. If pigs could fly, they’d be Guardian Angels. So, ^[Bond, :]^ budgie wounded^ is best proclaimed incoherent.

Many contend that the alethic claim <Every act is determined> entails <No act is freely-willed>. They do not explicitly acknowledge that this entailment owes its validity to the conceptual incompatibility of ^^freely-willed^ and ^tilde;freely-willed/determined^^, because they’re too deeply rooted in alethic ‘inconsistency’. Anyone who doesn’t distinguish between [~] and [-] negations can’t know this.

Let’s get it straight. From the link proposition, ^\([\text{Link, *]} \text{ act } \{ \text{freely-willed, determined} \}\)^, we’re not coherently free to infer

”\^[\{act\} \text{ freely-willed} \text{ if } [\text{Bond, :}] \text{ act determined} \text{ is coherent, nor may we coherently infer}\n
\^[\{act\} \text{ determined} \text{ if } [\text{Bond, :}] \text{ act freely-willed} \text{ is coherent.}\n
The first ^determined^ bonding would leutically prohibit [Allowed] soothing ^act^ with ^freely-willed^; the second ^freely-willed^ bonding would prohibit soothing ^act^ with ^determined^.

This frustrates compatibilists who think they can have it both ways. But both they and the anti-compatibilists have to show which bondings, if either, ^[Bond, :]^ act freely-determined^ or ^[Bond, :]^ act determined^ are coherent or incoherent. Tom, please give the world some conceptual inferences to show their coherence values. Big order, but you’re a big guy.

**Congery**

[^+^ S [A1 … An] ^[A1 … An] is a congery of a substantive kind’s complicit Attribution trope concepts for propositions with a [+] functor. A congery is a conjunction of trope concepts each of which is bonded to the same substantive concept. Each conjunct concept in a congery resides on a different subsumption pathway from the others; so, each complicit trope is selected from a different linked ranges of concepts. ^Wishbone^ and ^thigh^’s ranges of complicit tropes differs. Their tropes differ wildly from ^trouser^’s range, ^size 36 waist^.

Selection of tropes from linked ranges to be included in a congery of a substantive concept distinguishes kinds and
sorts of substantives, neither of which are classes or sets. The determiner functor [Any] versus [All] preserves us from that unwelcome fate.

Determinables (i) of empirical trope concepts (visible, audible, tactile, …) reign at the top of subsumption pathways; (ii) they’re incompatible with each other but may be coherently bonded to one and the same substantive concept’s parts or aspects; (iii) any determinate trope concept subsumed by a bonded determinate trope may be bonded coherently to one and the same substantive as the determinable is,

\[ \text{Canary colored} \rightarrow \text{Allowed, canary yellow}, \]

because \text{colored} and \text{yellow} are on the same subsumption pathway.

The logic of complicit concepts in a conger differs from those in a link range. Any one, but no more than one, of the linked concepts in a range may be coherently bonded of the same substantive.

Traditionally, determinable trope concepts have been used to distinguish ontologically distinct kinds of top-dog substantives, such as mind and matter; think of Descartes’ \(^{\text{extended}} \text{thinking}^{\text{extended}}\) versus \[^{\text{extended}} \text{thinking}^{\text{extended}}\] substantives, and of space versus time orderings. Traditional alethic de re logicians often confuse congeries' complicit concepts with essential properties, aping ancient natural scientists’ taxonomic groupings. \(^{\text{Essential}}\) properties is too fleeting to deserve such a tribute. Rene’ didn’t fully escape Aristotle’s limited notion of a conceptual system and neither have those who embrace ‘ontological’, ‘expert’ systems. Time to move on, isn’t it, Tom?

We use congeries to distinguish concepts of objects on subsumption pathways, such as \(^{\text{rose}}\) versus \(^{\text{orchid}}\), \(^{\text{chicken}}\) versus \(^{\text{dinosaur}}\). A conger reflects which of the many tropes every substantive carries are chosen to be bonded to it. Yes, I embrace conceptual conventionalism, but there are de jure reasons for the conventions we chose. Choices need not be random, arbitrary, nor mindless. See “Stipulating and Conceiving Natural Kind Concepts” at Arthur Bierman’s website.

\[ \text{Link} \]

\[^{\text{[*]}}\ S \{P_1... P_n\} \{P_1...P_n\} \text{ is a range of incompatible property concepts occurring in a proposition with the [Link] functor, [^*]. We use [Link] to perform the logical task of identifying coherent sooth propositions and statements. Intuitively, we use it when we recognize that }^{\text{The nail is hard}} \text{ is coherent and }^{\text{The nail is negligent}} \text{ is incoherent. }^{\text{Hard}} \text{ is in a range linked to }^{\text{nail}} \text{ via }^{\text{iron}},^{\text{negligent}} \text{ is not. [Link, [*] is an important functor that we can use to answer Wittgenstein’s Tractatus questions: “What may we say?”“, “What are the limits of language?”}}\]

In his discussion of measurement as representation, Bas Van Fraassen notes the use of what is my [Link] functor. “I submit the following generalization as the proper concept of a measurement operation: measurement is an operation that locates an item (already classified as in the domain of a given theory) in a logical space (provided by the
theory to represent a range of possible states or characteristics of such items). *The act of measurement is an act—performed in accordance with certain operational rules—of locating an item in a logical space.* Note his “logical space” and my “lexical space”, and his “range of possible states” is similar to my range of link concepts, ^{(...)}^.

**Soothage**

[.] S P  If a sentence with a sooth functor has a coherent interpretation, a propositional rewrite of it may be used to make a coherent statement. /Hemingway was hungry for fame/ may be rewritten more literally as “Hemingway wanted fame”, which lends itself to the coherent and true <Hemingway wanted fame> if a claimant or an intimate can produce an assignment/emplacement for it. Would a quotation from a Hemingway letter to someone saying that’s what he wanted above all to be be enough assignment evidence for the truth of his wanting fame? [Sooth, .] heals the wounds long suffered by the maltreatment of ‘predication’ by philosophers, grammarans, and linguists.

<table>
<thead>
<tr>
<th>Functors for Complex Propositions</th>
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<tbody>
<tr>
<td><strong>Conjunction</strong> [ &amp;)  Prop 1 [ &amp;) Prop 2</td>
</tr>
<tr>
<td><strong>Disjunction</strong> [or, v] Prop 1 [or, v] Prop 2 (Inclusive or exclusive)</td>
</tr>
</tbody>
</table>

It’s important to note that both conjuncts of sooth propositions and statements with contradictory or contrary trope concepts are coherent, whereas only one conjunct of such statements is true. Both are coherent, because they’re companions in a link range. Both propositions ^ . S P ^ & ^ . S ~P ^ and both < . S P > & < . S ~P > are coherent, but not both statements < . S P > & < . S ~P > are true. Contradictory and contrary statements aren’t incoherent; both ^[.] Hume happy ^ & ^[.] Hume ~happy ^ are coherent; but not both are true at the same time.

For brevity, I often drop the braces around the sooth functor, [ . ], as shown above.

**Entails/Infer**

[ -- ] Prop 1 Prop 2  Read [ -- ] in the via passiva as [Entails, -- ] One or more conceptual premises entail conceptual conclusions. In the via attiva mode, read [ -- ] as an advisory to ^[Infer, -- ] ^Prop 2 ^ from ^Prop 1 ^.

Persons infer, propositions entail. Keep this distinction between via attiva and via passiva in mind also in the discussion with the next functor, [Mutually Entails/Infer].

My [Entails] is closer to C. I. Lewis’s strict implication than to material implication. It differs, however, from Lewis’s, because leutic modalities, sketched immediately

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below, are modalities of practical functorial acts per the Lexical Imperative.\(^{10}\) They place different behests on our lexical acts whilst Lewis replaces via passiva material implication with strict implication and qualifies statements with via passiva alethic modalities (Necessary, Possible, Impossible). His intensional logic proffers an Alternative Extensional logic, and a compromised intensional logic just as possible-worlds’ account of alethic modalities does. He, like W. Sellars and R. Brandom, offers examples of intensional relations, but none of them has offered a logic thereof.

^Coherence value^ is conceptual logic’s prime evaluation, as ^truth value^ is the prime extensional evaluation, which emerges with the [Assign/Emplace] functor; it empowers us to bring the ‘world’s’ substantives and tropes into our lexical systems. Since neither truth nor coherence may be reduced to the other, you and I can’t surrender conceptual coherence value to alethic truth value nor vice versa. Nevertheless, conceptual logic’s coherence value is the cognitive ur value. An incoherent ‘statement’ has no truth value; any statement is coherent.

Mutually Entails/Infer

\[\{\rightarrow\}\] Prop 1 Prop 2

\[\{\rightarrow\}\] to indicate mutual entailment and inference of propositions’ coherence values, familiar to you from alethic transformations or immediate inferences:

(ME) \(\{\rightarrow\}\) \(\{\cdot\}\) Tina’s \{indifferent v unkind v hostile v abusive ... \}^\(\cdot\) she’s mean^^.

The coherence of one proposition in (ME) entails the coherence of the other, because ^mean^ is a determinable that subsumes a linked range of several incompatible determinate concepts, such as \{indifferent unkind hostile abusive, ... \}. Determinable and determinant concepts are not identical; so, coherent mutual entailments between a determinable and two different determinates don’t entail two determinate propositions are conceptually identical. For example, while both (ME’) and (ME’’),

(ME’) \(\{\rightarrow\}\) \(\{\cdot\}\) Tina’s \{hostile v ...\}^\(\cdot\) she’s mean^^

(ME’’) \(\{\rightarrow\}\) \(\{\cdot\}\) Tina’s \{abusive v ...\}^\(\cdot\) she’s mean^^,

mutually entail each other’s propositions’ coherence, they’re not coherently identical re-writes of each other, because ^hostile^ and ^abusive^ are incompatible in their range.

We’re treading now into what in common parlance falls under ^nuance^. Since ^mean^ subsumes incompatible concepts, it can’t be identical with any concept in that range. We are mean to each other in many ways. Our moral judgments of others often neglect these conceptual distinctions, which breed a lot of needless controversies that

\(^{10}\) A short version of the Lexical Imperative is: 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 in that system. *Conceptual Logic 3.0*, p. 136, on my website: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.
aren’t explicitly resolvable without gleaning ‘nuanced’ distinctions with the use of conceptual logic’s rich structure.

Another kind of nuance with which we acknowledge that mutual entailments of propositions don’t entail the identity of their interpretations/rewrites is shown by 

\[(M^*) \land \neg \equiv [\text{Sooth, } \ldots \text{ she’s } \neg \text{unkind} \ldots \text{ she’s not totally mean. We allow that not every concept in the range of concepts subsumed by } ^\wedge \text{mean} \text{ is coherently soothable of her. She may be studiously indifferent or dubiously hostile to others, but she doesn’t abuse them. Conceptual logic offers resources to help us acknowledge, explain, and respect nuances in our empirical and moral soothings and predications.}

Soothing is leutically allowed functorial travel between \(^\wedge S^\wedge\) and \(^\wedge P^\wedge\) as well as between \(^\wedge S^\wedge\) and \(^\sim P^\wedge\) concepts; predication is soothing + assigning/emplacing substantives and tropes.

**Leutic Modalities**

Leutic modalities convey lexical travel advice to agents. For conceptual logic purposes, I dispense with the via passiva alethic modalities—necessary, impossible, possible—and replace them with via attiva leutic modalities: *Enjoins us to*, *Enjoins us not to*, *Allows us to*. With them we advise our interlocutors, and they us, to travel on so and so paths between Ss and Ss, Ps and Ps, and Ss and Ps. I adopt travel in lexical space as a metaphor friendlier toward a via attiva approach to the study of language and its logics than is the compositional, part-whole metaphor. They’re different ways to limn how we make propositions out of concepts; the travel metaphor invites a role for functors to advise us how to travel coherently between concepts in lexical space in our proposition-making adventures. This is an advantage over the composition metaphor: Without via attiva speakers speaking and writing—Saussure’s *la parole*—there would be no via passive—his *la langue*—that linguistic scavengers seek in the midden of speakers’ spokens and writtens to reveal the underlying conceptual structure of a language system. For the motivation of leutic modalities, revisit the short Lexical Imperative footnote 8, p. 20. Here are your leutic modal advisories:

[I] [Enjoined to] travel from one concept to another in lexical space per this routing advice: \(^\wedge[\text{Subsume}, /]\text{ soil loam}^\wedge\).

[I~] [Enjoined not to] travel from one concept to another in lexical space per this routing advice: \(^\sim[\text{Subsume}, /]\text{ soil wind}^\wedge\).

[A] [Allowed to] travel from one concept to another per this routing advice: \(^[.]\text{ soil loam}^\wedge\& \sim[.]\text{ soil }\sim\text{loam/clay}^\wedge\).

Note that [Subsume] is the via attiva, advising an act; [Subsumes] is the via passive, reporting past acts, the past in which we can act no more.

**Leutic Transformations**
Leutic transformations are similar to standard alethic and deontic transformations, all being effected by moving negation across modal symbols. I use [~] rather than [-] in my report on leutic transformations of copula functors; similar transformations apply to both.

\[ [A] = [\sim I] \quad \text{You’re allowed to} = \text{you’re not enjoined not to} \]
\[ [A\sim] = [\sim I] \quad \text{You’re allowed not to} = \text{you’re not enjoined to} \]
\[ [\sim A] = [I\sim] \quad \text{You’re not allowed to} = \text{you’re enjoined not to} \]
\[ [\sim A\sim] = [I] \quad \text{You’re not allowed not to} = \text{you’re enjoined to} \]

### Some Inference Schemas

These inference schemas are grouped by their conclusions’ functors. In this context, I drop the square brackets around functors. I include some transformation schemas. Horizontal lines separate premises from conclusions.

It’s important to understand that the coherent routes between concepts isn’t a simple one-one route. We need an assemblage of routes, like the maps we use to travel to Detroit from Chicago have. The more assemblages of routes to Detroit there are, the more precise is it’s unique position in physical space. This is analogous to the more converging assemblages of functor routes we have, the more precise concepts’ unique positions in lexical space we have.

Look on conceptual inference forms and combinations of them as assemblages of coherent routes. This logic supplies assemblages of routes. It reveals our implicit conscious knowledge of the routes we use to travel in lexical space. We have incredibly adroit skills for constructing mostly coherent propositions. If we disagree about a proposition’s coherence, we have to trace the differences to our lexical inference assemblages.

I use functor symbols to name the different kinds of inferences we use to reason to valid conclusions with said functors. I use, for example, ![1] for Incompatible conclusions, / for Subsume conclusions etc., followed by a numeral to distinguish different ways of inferring to conclusions with the same functor. These symbols, ![1], ![2], ... may be used in lines of proofs.

### Incompatibility Inferences

\[ ![1] \quad S \quad P \quad [!] \] is produced by negating a concept, \( \sim C \); it may be either a contradictory or a contrary. Contradictory concepts are the lower limit of a contrary range, having only two rather than two+ contraries.

---

\[^{11}\text{See pp. 115 – 117, in } \textit{Conceptual Logic 3.0}, \text{for the differences between range, inherited, and congery incompatibilities. For full explanations of why propositions with a substantive subject and its congery predicates are logically independent, hence, compatible even though their attributes are incompatible, see the same essay, pp. 85 -92. Most simply, it’s because the subject is not the whole substantive, but different parts or aspects of it—different subjects, different propositions.}\]
Subsuming and subsumed concepts are compatible; that is, they’re not incompatible.
If neither of two SS or PP concepts subsumes the other, they’re incompatible.

A link range’s concepts are incompatible. A range consists of concepts subsumed by a subsumptively adjacent concept; it’s adjacent if no concept comes between the subsuming concept and the range. ^Colored^ is adjacent to {red green yellow ...}. ^Scarlet^ subsumes ^red^; so; ^colored^ isn’t adjacent to ^scarlet^; ^red^ is.

Here are some inference patterns emplaced with substantive and trope concepts.

Subsumed by ^vehicle^.

Bonded predicates singly or in congeries distinguish kinds of objects from each other. All classifications require [Bond], [Link], [~], [Subsume]. ‘Expert systems are logically too simple.

A similar inference holds also for Ss. Concepts in a subsumption relation are not incompatible.

Subsumed concepts inherit the incompatibilities of their subsuming concepts. Cs may be either Ss or Ps.

This shows the primacy of tropes’ lexical relations over substantives’ relations. Concepts of kinds of substantives are identified by their congeries of trope concepts. If S1 and S2 have incompatible trope concepts in their congeries, S1 and S2 are incompatible.
Quantified measurements provide finer grained contrary concepts for trope ranges. Because the number of contraries distinguishable with the use of thermometers, meters, lasers, and other instruments exceed our body’s discrimination capacities, they force issues about conceptual vagueness and sorites’ conundrums. How many hairs, % of them, must you have lost to be bald? What is the degree of ambient temperature for hot, for tepid? Is a male member long or not? Vagueness and attendant issues arise because we continue to use our non-numeric contraries—^bald^, ^hot^, ^long^—even though we could have adopted numeric contraries whose greater précision embarrasses our good, old, hopelessly vague contraries. Yet these old contraries serve well enough for many rough and ready distinction purposes.

If we gave up our vague concepts and used only ordained quantified ones, there need not be vagueness nor sorites problems. Jason lost 25,000, 41 %, of the hairs from his head. Tepid ranges from 105° – 140°. His member erect is six inches long. Aren’t those numbers enough? But “Honey, you’re getting bald!” challenges vanity in a way “You lost 25,000 hairs” doesn’t. “Jeez, it’s hot” is too useful an opening conversationalist gambit, to yield to mere numbers, “So, it’s 99 degrees F. today.” And as to a male member’s length, “Oooh”, he may be able to use an “average” numeric length to reassure himself or to rouse him to find some compensating qualities that will buff him up. Perhaps many, if not most, vague concepts are good enough for most purposes to justify not giving them up. Who carries measuring instruments as they go about their daily business? As to vagueness of tropes themselves, let’s just say they are what they are, and I don’t always know where their incompatibility cuts are, so I’ll just ordain them.

If we’re going to keep using anumeric contraries and wish to avoid vague concepts when something is at stake, we should be prepared to make de jure decisions about numerically refined concepts. Don’t count on de dicto and de facto grounds, because they’re the problem, not the solution. Make a cut between one numeric contrary and another in order to rid yourself and me of vagueness; be ruthless, or, at least, imperial. What’s the difference between ^tepid^ and ^hot^? It depends on what is de jure justifiable. Iron workers may decide \{0° - 1,000° F\} is tepid and \{1,401° - 3,000° F\} is hot. A chef might draw the line between ^tepid^ and ^hot^ somewhere between 100° and 212°. Parole boards assign a range of numbers to such factors as remorse, respect for rules, non-violence, ..., then add them up. Being eligible or not eligible for parole depends on the numeric score that the board members decide is the threshold for parole. If this sounds too ‘subjective’ for you, remind yourself that all conceptual decisions are. We need not run from ourselves. We’re in de jure charge.
Subsumption Inferences

/1 P1 P2 Ss have a similar inference form.
/ P2 P3
Because subsumption is transitive, we may form subsumption pathways.
/ P1 P3 / P1 P2, / P2 P3, … / Pm Pn.
We can always get a valid, negated conclusion by switching a valid inference’s premise with the conclusion and negating both, as in /2 below:

/2 P1 P2
P1 P3
The first premise indicates that P1 and P2 are on the same subsumption pathway; the second premise indicates that P1 and P3 are on different, incompatible pathways; therefore, P2 is also on a different pathway from P3. Ss have a similar inference form.

/3 ! P1 P2
If two concepts are incompatible, they’re on different subsumption paths; such diverging pathways are a visual, logical simulacrum of conceptually negating, [~], a concept. Similarly for Ss.

E...E Assignment/Emplacement Inference

The short way to understand this kind of inference is to break down my usual way of writing Assign/Emplace propositions, ^\text{EsE} \at /S/ & E(s)pE \at /P/\text{^}, into its two conjuncts, which are the first two premises below.

EI

\[ \text{Assume coherent emplacement} \]
\[ \text{“} \]
\[ ^\text{EsE} \at /S/ & E(s)pE \at /P/\text{^} \]
\[ \text{By conjunction. Evidence for a sooth proposition’s coherence and its sooth statement’s truth.} \]
\[ ^\text{. S P^} \]
\[ \text{Coherent proposition conclusion} \]
\[ <\text{. S P}> \]
\[ \text{True statement conclusion} \]

---

12 For second, third, ... thoughts and elaborations on [Emplace], see “Assignments & Varieties of Emplacement” on website: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.
What follows describes the roles these basal conceptual inferences play to prove coherence and truth, starting with E1’s coherent emplacement premises. Earlier I pointed out that coherent emplacements of substantives and tropes in sentences entail the coherence of their interpreted propositions, and entail the truth of propositions’ correlative statements about lexical states of affairs.

**Terminology**: An inference with at least one conceptual premise is a conceptual inference.

Here I turn in the other direction, inferences from truth to coherence. True or false sooth statements about non-lexical states of affairs directly sire coherent sooth propositions, and subsequently sire coherent link propositions per the following hypothetical syllogism inference form.

Suppose that either one of the disjuncts in E2 below is true.

\[
\begin{align*}
\text{E2} & \quad <. \ S \ P> \text{ or } <. \ S \ ~P> \implies \ ^\wedge \ S \ P^\wedge \ & \text{ & } \ ^\wedge \ S \ ~P^\wedge: \\
& \quad \ ^\wedge \ S \ P^\wedge \ & \text{ & } \ ^\wedge \ S \ ~P^\wedge \implies \ ^\wedge \ * \ S \ {P \ ~P}^\wedge \\
\end{align*}
\]

True sooth statements are the interface between the lexical and non-lexical parts of the world. They are what early logical positivists and purveyors of truth condition theories of meaning advocated but never sufficiently explained; theirs is but a sliver of a fuller account of semantics and cognitive communication amplified by the wide expanse of a conceptual/lexical system. They were on the right track riding that sliver, but fell short of a vaster story.

But [Assign/Emplace] is a species of subsumption, which weans us from hoary [Refers] that flits somewhere between a concept and a functor in 20th Century analytic philosophy; it’s role status in that school is unsettled. That’s because analytic philosophers tilted back and forth between a via attiva and a via passive stance toward logics, between ordinary language logic and mathematical logic’s methods, but generally favoring the latter. Peter Strawson was a prominent, partial exception to the via passive persuasion; he opened the door to presupposing humans. In his review of Dewey’s *Logic: The Theory of Inquiry* (1938), Russell disdainfully dismissed John Dewey’s via attiva uptake on logic as an aid to experimentally acquiring knowledge

Treat [Refer] as a functor; referring is something we do, just as much as when we [Assign/Emplace] substantives and tropes, hoisting them into language, conceding nothing to ‘representation’ as Wittgenstein conceived it in his *Tractatus*, 2.18.

---

“2.18 What any such picture, of any form, must have in common with reality to be capable of representing it the way it does—rightly or wrongly—is logical form, that is, the form of reality.” (Daniel Kolak’s translation.)

He didn’t realize that “logical form of reality” is incoherent; only language has a logical form. First language, then reality, rather than vice versa. Nature hosts oppositions but no negations; it hosts neither [~] nor [-]. His ‘logical form’ of reality can be engendered only by assignment/emplacement of substantives and tropes into sentence tokens, which do have logical form. He was led astray by the assumed dualism of similars in his description of ‘picturing’ (picture/language and pictured/reality) to explain the grounds of true or false statements.

That was an error of a young Austrian army officer, an ahistorical, youthful philosopher betwitched by R. Russell’s realism, who thought “reality” could have a “logical form”. It’s the same error Hegel made and that Kant overtly avoided; Hegel, and subsequent naive Marxists, confused opposition in reality (push/pull) with logical contradiction. Marx didn’t often confuse them; it was contrary economic and moral imperatives of opposed classes that led to opposition and struggle. This is best seen in Marx’s great Grundrisse, his private, conceptual prelude to his Capital. That’s for starters.

The inferential pay-off of via attiva assignments/emplacements in token sooth sentences that turn sentences into propositions, after which we turn them into statements with [Assert] or [Deny] affirmations of their truth value. Purported statements have no alethic value but what we grant them; we’re entitled to give them the alethic values that our coherent and incoherent assignment/emplacements allow. If a substantive is coherently emplaced in a sooth sentence’s /S/ and a trope carried by the substantive is coherently emplaced in its /P/, the result is a true statement that grounds the coherence of its correlative proposition, as in E3. Note: A false statement also grounds its correlative proposition’s coherence value.

E3  \[\wedge E_s E @ /S/^* & \wedge E(s)pE @ /P/^*\]  Conceptual evidence for Truth entitlement.  
\[
\begin{array}{c|c|c}
<\.> & S & P> True > \\
\hline
< \wedge .> S & P^\wedge Coherent >
\end{array}
\]

True alethic value  

Conceptual entitlement of \[\wedge [.] S P^\wedge\]’s coherence value.

Here’s an example of this inference form:

(1) \[\wedge E_{noah} E @ /Noah/^* & \wedge E(noah)prophetic E @ /prophetic/^*\] Coherent  
(2) \,<\.> Noah prophetic > is True >

(3) \,< \wedge [.] Noah prophetic > is Coherent >.

---

(1) shows coherent emplacements into the subject and predicate tokens of the sentence, /[.] Noah prophetic/, which entitles us to assert the first conclusion of E3. Having coherently emplaced into that sentence’s proper grammatical tokens, we’re entitled also to infer that the proposition (3) in E3 is coherent.15

[Assign/Emplace] replaces [Refer], which, like Peter-Pan, never grew up and can never grow up to be a logical functor-actor as ^ENoahE^ is in the first premise in E3. That we’ve successfully referred to a substantive and/or a trope by itself entails nothing about the truth value of a statement. “Yes, /Noah/ refers to the substantive Noah and /prophetic/ refers to the trope prophetic. So? [Refer] just names substantives and tropes; it doesn’t insert them into sentences’ Ss and Ps; hence, it doesn’t carry world evidence into language to support the alethic value of < [.] Noah prophetic>. A sentence’s grammatical ‘subject’ isn’t identical to a lexical substantive, nor is a sentence’s predicate identical to the lexical trope. Referring is all mind work; it doesn’t sweep the world’s substantives and tropes up into sentences. Unlike [Refer], coherent [Assignments/Emplacements] turn token Ss and Ps into embodied evidence of substantives and tropes for coherence and truth values. Reports of ‘successful’ referring has no logical consequences, because [Refer] isn’t a logical functor.

More down to earth about our test for ‘successfully’ referring: Do you intend that /dime/ refers to this coin (showing a dime)? And that /silver/ refers to this color (showing the dime again)? She replies “Yes” to both questions. What she’s done is agreed that it’s coherent to emplace ^EdimeE in /dime/^ and ^E(dime)silverE in /silver/. Agreement on coherent assignments/emplacements are the only empirical intersubjective test of mutual reference; similar intent of mental naming isn’t enough. This is a farm girl’s direct approach to [Refer] mit Logik. Back to good ol’ rural basics, Tom.

* * * *

Take care: Statements do not refer. That way lies Frege’s fixation on mathematical parsimony, which isn’t apt for natural languages. Holding that all true statements have one and the same referent, the True, is a desperate lunge for a referent. Language and mathematical systems are structurally different; they will always be asunder. There’s more logic in natural languages than Frege “dreamed of”. Philosophy of mathematics is dominated by [Necessary] modality, elbowing [Possible] aside, which has tempted scores of philosophers of mathematics to embrace the a priori, necessary truth of mathematical ‘statements’. Logicists over-reached, Tom. They led us astray. Conceptual logic rights

15 We can validly infer from a false statement to a coherent value of its correlative proposition. Both of two contradictory or several contrary sooth statements are coherent. Predicating prophetic or ~prophetic of Noah are [Allowed] per the leutic prelude of [Sooth]. Only one of a range of contrary concepts makes a sooth statement true, including contradictories, but any one of them is coherent. So, it’s logically allowed that we may infer from a false statement to a coherent correlative proposition. Any one of the contrary concepts in a linked range, [*] soaked wet moist dry …), may be coherently soothed to a substantive concept, say, “sock”, and truly or falsely soothed of a sock. But if one of those tropes is bonded to a substantive as in [\text{ desert dry} or [\text{ swamp soaked}], the other trope concepts in that range can’t be soothed to those substantive concepts: [\text{ desert soaked} and [\text{ swamp dry}] are incoherent sooth propositions.
the balance. The epoch of conceptual logic’s leutic [Enjoin] and [Allow] has arrived, the first rising sun in lexical space that sheds its light on the dimmer alethic moon.

Assignment/emplacements are at the bottom of subsumption pathways. Individual objects, dimes, are emplaced in /S/s, and its tropes, such as their silver, in /P/s. These conceptual pyramids show substantive and trope concepts subsumptive positions.

This stark skeletal form isn’t sufficient to explain the [Assign/Emplace] functor. It’s thought to be unorthodox and has aroused disagreement, even friendly ire, in its early promotions. Although it may seem bizarre at first sight, I think it will earn your respect, because it helps us avert false leads and dead ends per the essay “Stipulating and Conceiving ‘Natural’ Kind Concepts”; see http://philosophy.sfsu.edu/philosophy/page/arthur-bierman. There Bierman undertook to show what goes wrong when you philosophize with alethic logic only. Adding coherence logic to the canon is the cure. For additional reflections on emplacement, see “Assignments & Varieties of Emplacement: Regrets, Corrections, and Amplifications” on the above website.

Emplacements may be coherent or incoherent. Subsuming/emplacing a dime in ^dime^ is coherent, but emplacing a penny there is incoherent; subsuming/emplacing a silver trope under ^silver^ is coherent, but putting a copper trope there is incoherent. You’ve done this countless times in your purchase exchanges. The grocery clerk says, “$19.23, please”.

^Concept^, in my use, is not ontologically a mental entity nor an epistemological capacity; that concepts couldn’t exist without that mental capacity doesn’t entail the capacity is identical to ^C^. Conceptual capacity is suited to apprehend any concept. But, ^C^s are unique. They’re lexical tokens uniquely located in multi-dimensional lexical space we fashion from eight interpretations of copula functors attended by their leutic modality’s restraints and allowances. Each token in a unique place in lexical space is a unique concept, since it has different coherent subsumptions and/or different bondings and/or different incompatibilities and/or different identities and/or different soothes and/or being in different link or conger ranges and/or having different emplacements. This is finer grained individuation of concepts than hitherto achieved. I don’t claim we need not add to them, but it’s a fruitful start. There’s lots more industry ahead for unfettered top gun logicians.

Any creature that can act in accord with these functor and modal tenderings has conceptual knowledge; any human artifact, such as a computer running with 1/0 soft-
ware, cannot function conceptually as humans do unless it can assign/emplace. Emplace-
ments tote error, without which there is no learning; robots can’t learn as humans do, be-
cause their algorithmic calculations of 1s and 0s don’t make mistakes. Learning and
making mistakes go together; humans learn with sensory-driven assignments/emplace-
ments subject to errors, displacements, misapprehensions, bad eyesight, diminished
hearing, and so forth. There is no truth without falsity; hence, there is no knowledge
without falsity; statements are true or false; nor is there conceptual knowledge without
incoherence and the capacity to correct it via conceptual logic.

There’s many a way conceiving can go wrong when you’re installing substantives
and tropes in lexical tokens. Until computers *can autonomously assign, emplace or im-
agine emplacing present, past or future occupants of tokens*, that is, experience the world,
they cannot make a mistake, nor learn, nor conceive. Computers operating under mathe-
matical command enjoinders can never admit experiential leutic allowances. Until they
can, there can never be conceptual computers, although they can be programmed for
valid conceptual logic inference patterns, fruitful, for example, in translation programs.

* * * *

Sentence ‘meanings’, variant ways of coherently rewriting sentences, is a token-
aimed structural affair. Communication occurs when persons have isomorphic syntactic
and lexical structures: “Yes, we can go on together in coherent harmony, Tom”. The
natural numeral series is a familiar example of a structure that is widely, isomorphically
shared. We don’t need to know what /10/ or /17/ ‘mean’. “Here’s your change, Sir.
Please count it.” Computations that end up at the same place in the numeral series is all
we need for mutually satisfactory monetary exchanges: \^[=] \^[+] \^[][ 2 \^[4].

Ongoing isomorphism in our lexical structure is all we need for mutually satis-
factory cognitive communication.16 The logic of concepts and propositions supports this
social prosperity. Forget ‘mentalese’ mumbo jumbo; it confuses a strange mind’s notion
of what we do conceptually with what we actually do. First came the doing, \^[Subsume,
\[] {podocarpus evergreen-shrubs}\^, then came that mind’s notions of what we’ve done.
Enjoy, but don’t give credence to extravagant claims that our left brain has given
‘meaning’ to what the right brain can’t do for itself. Just what is this meaning from
which the right brain is excluded, is limited, he tells us, to dumbly uttering/scribing?

---

16 There are many means to communicate cognitively outside of verbal lexical exchanges. A raised eyebrow at an
extravagant claim, indicates doubt about its truth; thumbs up, thumbs down are pretty definite affirmations and denials;
throwing up both arms energetically indicates doubts about the other’s rationality or sincerity; an erect middle finger conveys
total rejection of a person who’s beyond all norms of decency, and so forth. Don’t you feel better after a firm, hearty em-
brace, a sign of solidarity and support? Once upon a time in Napoli, founded by Greeks, gestures had a grammar and lexical
significance. These gestures appear on ceramic pots and vases for food and wine; they reached a conceptual level according
to research by an Italian scholar, and still occur in Napolitano natives’ discourse. I can’t find the published, Italian source to
cite. Sorry, Tom.
If we had (1’),

\[
(1’) ^\text{E} \text{noah} \quad \text{E}@/\text{Noah/} \quad & \text{E}(\text{noah})\text{myopic} \quad \text{E}@/\text{prophetic/}
\]

instead of the E1 Noah inference, p. 29, we’d be entitled to infer that \( \langle \text{Noah prophetic} \rangle \) is false and \( \langle \text{Noah prophetic} \rangle \) is coherent. (See p. 28, fn. 15.)

On another hand, both of (3)’s propositions,

\[
(3) \quad ^\text{~prophetic/myopic/} & ^\text{prophetic/}
\]

are Incoherent, hence, neither \( \langle \text{Glue prophetic} \rangle \) nor \( \langle \text{Glue ~prophetic} \rangle \) are True or False. There’s no linkage between any concept in the subsumption pathway on which \( ^\text{glue/} \) occurs to any concept on the \( ^\text{knows/} \) pathway on which \( ^\text{prophetic/} \) or \( ^\text{~prophetic/} \) occur. The following three entailments, One, Two, Three, will help you to understand this statement.

**One**

\[
\text{creature animate} / \text{creature novelist}
\]

There are many intermediate subsumptions between these two

\[
\text{: novelist animate} \quad ^\text{Novelist/} \text{inherits} \quad ^\text{creature/}'s \text{bonding to} \quad ^\text{animate/}
\]

* animate \{prophetic \ ~prophetic/myopic\}

\[
^\text{Animate/} \text{isn’t boded to the concepts in that range.} \quad \text{There are other subsumptions and links between}
\]

\[
\text{. novelist prophetic & . novelist ~prophetic/myopic}
\]

Both soothe are coherent. This is brought out in the Sooth Inferences section below and in the \( ^\text{emerald/} \) example at the end of the next paragraph.

The conclusion tells us that the trope concepts, \( ^\text{prophetic/} \) and \( ^\text{myopic/} \) subsumed by \( ^\text{animate/} \), which is bonded to \( ^\text{novelist/} \), may be soothed to \( ^\text{novelist/} \).

There’s an important restriction on this form of entailment: if a substantive concept is bonded to one of the trope concepts in a link range, it’s incoherent to sooth it with any other trope in that range. The following example illustrates this restriction:

\[
^\text{emerald(stone) green/}; \text{this bonding doesn’t allow you to soothe} \quad ^\text{emerald(stone)/} \text{to} \quad ^\text{red/}, \quad ^\text{yellow/}, \text{nor any other concept in the range of} \quad ^\text{colored/}'s \text{adjacent subsumptions,} \quad \{\text{green red yellow magenta …}\}. \quad ^\text{emerald(stone) red/ is incoherent. This restriction doesn’t apply to the above inference form’s validity.}
\]

\[
: \text{emerald(stone) green}
\]

\[
! \text{green} \quad \{\text{red yellow magenta …}\}
\]

\[
^\text{~. emerald(stone) red & ~. emerald(stone) ~. yellow, & ….}
\]
Two  ! animate inanimate
    : glue inanimate
    ~: glue animate  A substantive concept can’t be bonded to both of
two contradictory or contrary trope concepts.

Three  * animate {prophetic ~prophetic}  The fourth proposition in One
    : glue inanimate
    ~: glue prophetic & ~. glue ~prophetic
Because ^glue^ is bonded to ^inanimate^, it’s incoherent to sooth it to trope concepts
linked to ^animate^ substantives such ^Noah^.  Thus, One, Two, and Three prove (E3),
p. 28.

These inferences retire the superannuated distinction between essential and acci-
dental properties.  They’re supplanted by the [Bond, :) functor and its exclusionary
power over [Link, *].  Sometimes supersession can be thrilling, a grand relief, Tom.

Here’s a foreshortened analogy of the above One, Two, and Three inferences
drawn from Euclidean geometry.
    : Square  straight(line)
    : circle  curved(line)  Coherent de dicto premises
    ~: circle  straight & and ^ ~. square  curved ^  Incoherent de dicto
conclusion
It has a side dish.  It supports my suggestion that the logic for mathematics is conceptual,
not aethic.  What a waste of millennial efforts, starting with Plato opting for the ‘dearer’
reality of Ideas to our personal sensory experiences in order to silence the Sophists’ via
attiva Man-is-the-Measure.  Sincere philosophers and mathematicians have wrangled ever
since about the truth status of mathematical ‘statements’.  They can relieve themselves of
this fruitless turbulence by adopting my “lexical idea” of replacing mathematical truth
with coherence value.  Mathematical and arithmetical equations’ functors exclude the
leutic [Allowed, I] functor.  Their leutic functors are [Enjoined, I] or [Enjoined not, I].

17 In the “Leslie Tharp Memorial Issue” of Synthese, Volume 81, No. 2, November, 1989, Hao Wang’s essay is entitled,
“Tharp and Conceptual Logic”.  This refers to Tharp’s philosophy of mathematical logic’s grounding.  His account is dis-
similar from my conceptual logic, although there are interesting and close similarities between them.  His views about the
source of mathematical truths rely on concepts rather than ‘objects’; I do not believe there are such truths; there are only
mathematical coherences.  He was committed to aethic evaluations of mathematical <statements> I’m committed to coher-
ence evaluations of mathematical ‘propositions’.  The scope of his theory is narrower than mine; it’s confined to the con-
ceptual logic of mathematics alone.  My scope extends over all of all languages’ conceptual orderings.

Wang writes, p. 151, “One of Tharp’s central themes is that we can operate with generalities without [referring to
the infinitely many] objects.  It is possible to infer general truths from limited and particular concepts.  For example, ‘all
whales are mammals’ involves a ‘modal quantification’ and means. ‘For any possible x, if x is a whale, then x is a mammal’.
It expresses a relation between concepts whale and mammal.”  (Continue to next page’s footnote.)
Shorthand Emplacement Propositions

I use [+] after S or P indicates a coherent Assignment and/or Emplacement [A/E]
was made;
[-] after an S or P indicates an incoherent [A/E] was made;
[?] indicates there is no known existing substantive or trope to [A/E]
coherently into a sentence’s S or P, respectively;
- [?] indicates it’s not known if coherent [A/E]'s exist for an S and/or P.

S+ indicates coherent emplacements. These shorthands give us four sample s
horthand emplacement truth value entailments, below. For the full sixteen [A/E]s, see
the Emplacement Chart in “On Emplacing”, p. 43, my website. The discussion of each
row of the Chart runs from p.55 – 86 in “On Emplacing”. The only [A/E] that entails and
entitles us to a True judgment is S+ P+. The other fifteen entitle us to either False or
Unknown judgments. The cards are stacked against Truth, Tom.

< .S+ P- > --> False EmyopicE is an incoherent emplacement in /prophetic/ as in (1’), p. 32. This [A/E] fails the S+ P+ test for true statements.
< .S- P+ > --> False Non-existent angels, S-, can’t carry innocent tropes into /innocent/. Nor can any S- carry any trope into any token place. This [A/E], too, fails.
< .S- P- > --> False in spades. [A/E] into S is incoherent and there is no EpE to [A/E] into /P/; hence, the P-. An incoherent substantive can’t carry a non-existent trope into P. ^EtomatoE @ /trigger/ & E(tomato)infiniteE @ /infinite/^ doubly fails the truth test.

With the assignment/emplacement functor, [A/E], we can explain entitlements to truth value judgments without resort to correspondence to facts or to alethic coherence. Conceptual coherence suffices. (Keep this in mind when you’re studying Susan Haack’s

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Note two items in this quotation: First, Tharpe relies on the determiner [Any] that I’ve designated as the only one needed in propositions in the five enjoined functors we use to construct conceptual/lexical space. Second, the conceptual relation Wang cites is my [Bond] functor. His account of conceptual logic, because restricted to mathematical logic, is not properly a full-blown “conceptual logic”, but he could have been trying to move toward it. Charles Chihara’s remark below shows this clearly in his essay in that “Memorial Issue”, p. 155: “…mathematical theorems are not about actually existing objects; they are modal assertions, and the quantifiers that occur in mathematical statements are modal quantifiers. For example, the existential quantifier ‘(Ex)’ is to be understood as: There could be an x ...” I interpret this existential quantifier as the leutic [Allow, .], which is the normal one. But, because [Enjoined, I] and [Enjoined not, I-] are the leutic modals that can deliver ‘Coherent’ and ‘Incoherent’ evaluations of mathematical axioms and theorems, it’s a mistake for Tharp to use the existential (Ex) in a conceptual interpretation of mathematical ‘statements’; they’re propositions, not statements. My leutic modalities save us from the a priori and the analytic a priori that Quine and White earlier dismissed because of the logical flaws of “synonymy”.
“Foundherentism” in her rewarding *Evidence and Inquiry* that alethic and conceptual coherence must be kept distinct. She does not.

After coherence/conceptual logic and the [~/-) negation distinction, truth-making correspondence dualism of statement/fact is expunged; facts don’t exist in nature; we fabricate them by coherent [A/E]s in sentences. Emplacement facts can be *handmade*: Physically move the dot into the spaces occupied by /dot/ and /black/ physical tokens; do it. Some assigned facts are *imagined* [A/E] fabrications a la Kant. Our faculty of imagination plays an intermediary role between sensory feeds and cognition. We also assign a microscope-produced visible liver cell to /cell/ of /[.] cell normal/ or to /[.] cell ~normal/. With this assignment, we make our sensory image of the cell into the sentence’s subject and promote it to cognitive status. The pathologist observes the subject cell’s tropes and pronounces it normal or ~normal. If she gives you a sufficient description or lets you look at the cell through her microscope as mine did, you can assign it to /cell/, \(^\text{E}\text{cell}\) E @ /cell/^ in either /[.] cell normal/ or /[.] cell ~normal/

I consign proponents’ of an alethic coherence account of truth to a history of conceptual confusion: “They didn’t distinguish holistic alethic \(^\text{consistency}\) from propositions and statements’ conceptual \(^\text{coherence}\)”. Forgive them, father, for in those times they had no consciously articulated distinction between coherent [~] and alethic [-] negation; for them, both were alethic /non-/s and /nots/. In constructing the Square of Opposition for logic textbooks in the late 19th Century, /non/- was for alethic contrariety and /not/ for alethic contradiction. Alethic /non-/ should have been conceptual negation, /not~/. See the essay on the Square of Opposition from a conceptual logic point of view on Bierman’s website: sfsu arthur bierman, or http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.

### Identity Inferences

\(^\text{Identity}\) of \(^\text{concepts}\) or \(^\text{entities}\) (in the plural,) as if [=] related two concepts or two entities is incoherent. [=] is a count functor that always equals, [=], *one*. \(^[=]\) Mark Twain  Samuel Clemens\(^\text{^}\) is coherent, because the coherent assignment of *one and the same* man in both /Mark Twain/ and in /Samuel Clemens/ is coherent.

\[1\]

\[^{=}E\text{marktwainE} @ /\text{Mark Twain}/ \& ^{=}E\text{marktwainE} @ /\text{Samuel Clemens}/\]

\[^{=}E\text{samuelclemensE} @ /\text{Samuel Clemens}/ \& ^{=}E\text{samuelclemensE} @ /\text{Mark Twain}/\]

\[^{=}E\text{marktwainE} \text{ EsamuelclemensE}\]

This is a one-count for the

---

See *Kant’s Transcendental Idealism*, pp. 186 – 189; Henry E. Allison, revised and enlarged edition; New Haven, Yale University Press, 2004. My view of ‘facts’ might be mislabeled Conceptual Idealism, because all the historical ‘Coherence’\(s\) and ‘Idealism’\(s\) ware irrelevant to my ‘coherence’ and my ‘concept’.
entity, hence, coherent.

=2 \(\wedge[=] \wedge\text{Mark Twain} \wedge\text{Samuel Clemens}^{\wedge}\) This is a one-count for the concept, hence, coherent.

=2 follows from =1’s conclusion, because the coherent assignment of one and the same person into the same place in lexical space via the premises turns \(\wedge\text{mark twain}^{E}\) and \(\wedge\text{samuel clemens}^{E}\) into one concept; hence, a one-count entity entails a coherent one-count concept.

Similar reasoning holds for tropes. \(^{\wedge}[=]^{\wedge}\text{partial to}^{\wedge}\text{~partial/uncommitted}^{\wedge}\) is incoherent, because a concept and its negation are incompatible. We’re enjoined to put them into two different places in lexical space. This is important for reasoning, because the identity of sentences’ interpretations/propositions, \(^{\wedge}[.]^{\wedge}\text{car hot}^{\wedge}[.]^{\wedge}\text{car stolen}^{\wedge}\), is coherent if and only if the count of the interpretations of each pair of these two sentences’ tokens, /hot/ and /stolen/ is ONE. That is, the identity claim for the propositions is coherent if and only if /stolen/ is a coherent rewrite of /hot/, and vice versa. It’s not the only rewrite, of course. The same goes for another /hot/ rewrite token, /fast/. Both sentences’ and token pairs must occupy an identical place in lexical space. TWO counts for either of the terms entails an identity claim for the sentences’ interpretations is incoherent. Double rather than singular interpretations of the sentences’ /S/ or /P/ tokens beget invalid inferences due to equivocation as when two /car/s have different rewrites, /auto car/ versus /train car/, as /hot/ has the rewrites /stolen/ and /speedy/, and have diverse \([A/E]\s) in diverse contexts in which they’re used.

Historically, most philosophers have made a mess of via passiva [Identity] due to neglect of the via attiva [Identity]. The mother of all such gaffes is treating [=] as a via passiva binary relation, which requires TWO tokens not known to have ONE coherent emplacement, such as Frege’s Evening and Morning Star. It’s incoherent to think there is a via passiva binary relation between an entity or concept and itself rather than a via attiva unary one count emplacement. This semantic malfeasance occurs when philosophers don’t distinguish a ‘binary’ pair of tokens, /Mark Twain/ and /Samuel Clemens/, from a unary count of their coherent emplacements and concepts. I illustrated this with the passage from the [Identity] of coherent emplacements that give birth to the [Identity] of concepts that entail the conclusions of =1 and =2 above. Expunge the maxim “Each entity is binarily identical to itself” from your lexical habits.

The number of interpretations of the tokens in a sentence may or may not equal the number of its tokens; it depends on whether the same or different tokens are given one or more interpretations. The [=] functor advisory enjoins us to give ONE interpretation of a sentence’s similar and/or different S|S and P|P tokens to insure the coherence of [=] propositions. Frege’s Eve tempted him by offering him TWO apples, the /Morning/ and /Evening Star/~different tokens with one emplacementTo avoid Garden of Eden embarrassment, reinterpret this maxim as “Each entity is unarily identical to itself.” This makes
[=] a ONE-count functor advisory for via attiva [Identify]. I do think binary confederates intend to treat [=] as a binary relation, because it’s usually listed in logic tracts and texts among ‘relations’, which have two or more terms being related; this slides over to thinking that [=], too, is ‘relation’ that holds between two or more terms, as if ^terms^ were identical to ^tokens^ . After that, it’s hard to cognize and admit that [=] functors enjoin unary counts. The issue for via attiva [=] propositions is: How many coherent emplacements are there in two tokens? If they have one and the same coherent emplacement, the [=] proposition is coherent, if more, it’s incoherent.

The interpretations of tokens may be similar or different, bequeathing them different conceptual counts.

(a) / [=] /hot/ /hot//        Here we have two similar tokens with one or two+ counts of interpretations/rewrites of the tokens.

(b) / [=] /hot/ /fast//        Here we have two different tokens; their concept count may be one or two. In both cases, interpretations of (a)’s and (b)’s tokens’ may yield a count of one or two concepts. Suppose we interpret (a)’s terms in the context of concepts of automobiles’ tropes.

(a’) ^[=] ^boiling^ ^boiling^        One concept, if ^high temperature^ for both--coherent.

(b’) ^^[=] ^boiling^ ^fast^        Two concepts--incoherent.

For an identify proposition to have a one count, its token terms must have
one and the same interpretation; that is,
its token terms occupy the same place in lexical space;
they have one and the same functor advisories;
they have one and the same coherent routes to other categorematic word tokens;
and their term tokens have one and the same [A/E]s in lexical space.

These requirements are the salva coherentias of identity propositions.

The coherence of identify propositions with singular tokens, such as proper names, indexicals, or pronominal anaphora also depend on a ONE count. In this case, we count how many [A/E]s there are in a sentence’s SS or PP terms.

An emplacement--which is always singular--into a singular name, /Tom’s lilac/, may be a substantive, ^Etom’s lilacE @ /Tom’s lilac/>. Tropes, too, are singular; Tom’s lilac carries its singular purple trope into /purple/: ^EpurpleE @ (tom’s lilac)/purple/>. This yields a coherent proposition with two singular emplacements into a singular S and a singular P:

^^^Etom’s lilacE @ /Tom’s lilac/ & ^EpurpleE @ (Tom’s lilac)/purple/^^.
A coherent interpretation of /Aristotle/ was The Stagirite/ requires coherent singular assignments of one and the same person, and no other, to both names, which are the premises for this valid inference.

\[^\text{Aristotle}^\text{E} @ /\text{Aristotle}/ & ^\text{Aristotle}^\text{E} @ /\text{The Stagirite}/^\]
\[^\text{The Stagirite}^\text{E} @ /\text{The Stagirite}/ & ^\text{The Stagirite}^\text{E} @ /\text{Aristotle}/^\]

\[^\text{The Stagirite}^\text{Aristotle}^\text{E} & \text{Coherent}\]

\[^<\text{Aristotle}^\text{E} @ /\text{The Stagirite}/>^\text{True for these emplacements}\]

These S+S+ emplacements make the concluding statement True, which is all we need for valid alethic inferences from coherent premises in which two similar or different names for the same entity appear. Without a lot of informative buttressing, we can’t use the counter-intuitive ‘rigid designation’ of a singular /Aristotle/ for this inference, knowing that many people have borne and do bear the name “Aristotle” as A. Onassis did, who was no Stagirite. So, ‘rigid’ designation becomes ‘rubbery’ designation. On any occasion in which proper names, of the same or different type, appear in inferences, validity requires only that we emplace one and the same person in that name throughout, unless specifically excepted because other tokens of the same type have different emplacements. Further, instead of improbably being able to trace an uninterrupted history of the designation relation between /Aristotle/ and Aristotle, all we need to save the subjunctively challenged inference’s validity is: <If Aristotle’s contemporaries had emplaced the same person in /Aristotle/ that we assign today, then ^\text{Aristotle (antique) Aristotle (current)}^\text{=}^\text{Coherent}>. Of course, we need to know if the Athenians’ emplacement into /Aristotle/ is identical to the person we assign to /Aristotle/. This epistemological challenge is greater than the banal ontological <Nixon was no more Aristotle than Onassis was, because he couldn’t not have been Nixon>, on the assumption, of course,” that ^\text{Nixon Nixon}^\text{=}^\text{Coherent}, ^\text{Richard nixonE}^\text{being emplaced/assigned at both /Nixon/s. He was a one-count person just like the rest of us; and as it goes for Nixon, so it goes for my rotting turnip as well.}

Unfortunately, the initial introduction to rigid designation was an undigested mixture of epistemology, logic, ontology, and a sideshow of names offered as sufficient evidence for identifying singular substantives, untoldillions of which have no proper names, nor is there a hint of coherently assigning/emplacing persons and other substantives and their tropes, [A/E]. Kripke’s subjunctive wager fails, because it doesn’t do any more for assuring us of Aristotle’s identity than it does for his nameless main sow.

Frege thought we need to explain why identity ‘statements’ could be informative. That epistemological issue wouldn’t even have come up had he not mixed epistemology
into his logical investigations, and had he gone further with his ‘conceptual’ studies and learnt that, because my emplacements (his Bedeutunge) are as much interpretations (Sinn) as concepts are, he could have snuffed his overly celebrated italicized dualism above in the cradle before it grew up and made trouble for philosophers who weren’t interested in the foundation of mathematics. Besides, who doesn’t know that many different emplacements have the same name?

[ ]

**Bondage Inferences**

**B1**

: S1 P1…Pn
/S1 {S2…Sn}

Subsumed substantive concepts, {S2…Sn}, inherit their subsuming S1 concept’s bonded trope concepts Pi… n.

: ^{S2…Sn}^ \wedge ^{Pi \ldots Pn}^ This guarantees S1…Sn share a bonding to Pi… Pn.

: vehicle transports

^Vehicle^ is bonded to ^transports^.

/vehicle {train car ship…}

^Vehicle^ subsumes these conveyances.

: train transports & : car transports & : ship transports, ...

**B2**

/ P {Q ~Q}

Assume P subsumes the adjacent {Q ~Q} range; that is, P subsumes no intermediate trope concepts that subsume {Q ~Q}.

: S Q

: bird feathered

~: S ~Q

:^: bird ~feathered^ is incoherent.

**B3a**

: S1 P

!: S1 S2

: P P1

**B3b**

: S P

!: P P1

\underline{B3a and B3b’s} S and P concepts, respectively, are incompatible. They’re on different pathways. ^temperature^’s subsumption pathways are ^hot^, ^cold^… .

~: S2 P

~: S P1
[*] **Link Inferences**

*1  : S P
    / P {Q ~Q}
    ______
    / S {Q ~Q}

This is a particularly important inference for clarifying what
Wittgenstein was after in the *Tractatus*, distinguishing between
what can be said and what can’t be said (coherently). The
range of concepts in a link proposition, * S {Q ~Q}, shows
incompatible concepts may be coherently soothed with its S
cost; these sooths may “be said”. This will be made inferentially explicit in .4 in the
sooth inference section. On p. 84 - 91, *Conceptual Logic 3.0*, there are extended Link,
PElwalk, and Selwalk inference forms. They provide ways to minimize symbolization of
such inferences when there’s an “extended” distance between concepts on subsumption
pathways. There’s no new logic there, just brevity for convenience. That’s why it’s an
optional section there.

*2  / P {Q ~Q}
    ~: S Q & ~: S ~Q
    ______
    * S {Q ~Q}

{Q ~Q} is a range of concepts each contrary to each.
Since S isn’t bonded to either Q or ~Q, you’re free
to link any trope concept in the {Q ~Q} range to S. *2
specifies Free-Predicate’s routes in lexical space.

*3  : S Q or : S ~Q

*3’s premise nullifies the Free-Predicate Condition, making its conclusion incoherent.

*4  . S Q & . S ~Q
    -----------
    * S {Q ~Q}

See sooth inference .4 below for a coherence condition of
*4’s premise. .4 is a very important inference form, be-
cause it and *4 are the route to and from de dicto cohe-
rence and assignment/emplacement coherence; they’re the
link between mind and world. The *4 and .4 inferences
are the mother of all facts and all alethic truth value. Don’t keep this to yourself! Inter-
pret the broken line between *4’s premise and its conclusion as equivalence; if either is
coherent, so is the other. Remember ^P^ may subsume several contraries, {Q ~Q}, per
the second premise of *1.

[.] **Sooth Inferences**

.1  . S P or . S ~P
    ______
    . S P & . S ~P

If either of two contradictory or contrary sooth proposi-
tions coherent, both are. This contrasts with the logic
of alethic values, which rejects its alethic equivalent form
“If either of two contradictory or contrary statements are true, both are” This difference proves that neither ^coherence^ nor ^truth^ value are reducible to the other. I have other arguments for this independence scattered throughout my essays on this website, [http://philosophy.sfsu.edu/philosophy/page/arthur-bierman](http://philosophy.sfsu.edu/philosophy/page/arthur-bierman). Some inferences in this precis, particularly in this section, show how the ^coherent/true^ evaluation concepts and their logic are complementary. So, please keep both their logical non-reducibility and logical complementarity in mind while entertaining my proposals for a conceptual/lexical logic. For complementarity, see .5, the one place where logical positivists and truth-conditions supporters of meaning were right.

.2 \(\sim \cdot S \cdot P \text{ or } \sim \cdot S \cdot \sim P\)

If either of two disjunct, incompatible sooth propositions is is incoherent as in .2’s premise, their conjunction is incoherent as in .2’s conclusion. If \(\wedge\) Lincoln-penny is hungry\^ or \(\wedge\) Lincoln-penny satiated/~hungry^ is incoherent, both are. Since neither proposition is coherent, neither of their statement correlatives, \(\sim \cdot S \cdot P \) or \(\sim \cdot S \cdot \sim P\), has a truth value

.3 \(\wedge \cdot S \cdot P\)^

\(\wedge /\{P1\ P2\ …\ Pn\}\)

The subsumed concepts in ^colored^’s range, \(\{P1\ …\ Pn\}\), are contraries: ^red^, yellow^, green^, ….

\(<\cdot S\ P1\> \text{ iff } \langle\sim\sim \cdot S\ P2\> \& \ldots \& \langle\sim\sim \cdot S\ Pn\>\)

Only one statement with a predicate from a range of contrary concepts can be true; all others are false. Not both \(<\cdot S\ P1\> \& <\cdot S\ P2\> may be true, but both may be false because another contrary proposition, \(<\cdot S\ Pn\>\) is true. Incompatible trope concepts, \(\wedge\{[!]\ P\ \sim P\}^\wedge\), entail that if \(<\cdot S\ P\> is true, \(<\cdot S\ \sim P\>) is false and vice versa. This clarifies the standard fare met with in School expositions of [non/~]’s role in the traditional Square of Opposition’s contrary relation. If \(<\cdot S\umbrella\ yellow\) is true, then none of ^yellow^’s contraries, ^\{P1\ P2\ …\ Pn\}^, such as ^red^, may be truly soothed of the umbrella.

.4 \(\sim\cdot S\cdot P\ & \sim\cdot S\cdot \sim P\)

This premise is *2’s Free-Predicate linkage condition, p. 40, which entails a coherent link proposition. [Ignore the dark line below; I don’t know how to erase it.]

.4 is a very important inference schema. It marks the descent from the lexically enjoined [^] to the allowed [^].
functor, which opens entry into the fracas of statements about the world of substantives and their tropes out of which emerge factual statements on which we place our bets of true and false claims. Note that \( \Delta \)'s first premise is a premise that frees us from [\( \Delta \)] bondages and yields the Free Predicate Condition. Its \([\text{Link}, \*] \) conclusion tells us what “may be said”, recalling that \( ^\*P, \sim\text{large}^\* \) is the contrary of \( ^P, \text{large}^ \), and that \( ^\*P^\* \) subsumes other contrary trope concepts that may be coherently soothed of \( ^S^ \), such as \( ^[\cdot] S \{\text{small tiny miniscule subatomic ...}^ \}. \) Wittgenstein didn’t know about link ranges of contraries (Laurence Goldstein disagreed) and their logical connection to sooth propositions in the Tractatus, so, until now, his “what may be said” was too vague for him or anyone else to know how to answer <What may and may not be said?>, which is the most important lexical question for linguists, semanticists, and philosophers to answer.

\[ \Delta \quad \text{< . S P> or < . S \sim P> } \]
\[ \quad \text{If either of two sooth contradictory or contrary statements is true, both of their correlative propositions are coherent. This is logical positivists’ principle of the relation between truth and meaning. While \( \Delta \) supports them, they leaned too rhetorically on a sloganized ‘principle’ they couldn’t get beyond without a decent conceptual logic. Writing \( \Delta \)’s third line in the via passive mode gives us the \( \Delta \) via passive conclusion:} \]

\[ \text{<< . S P> True or False>} \]
\[ \quad ^\*S-P^ \& ^\*S-\sim P^ \quad \text{are Coherent, ‘meaningful’ in old speak.} \]

\( \Delta \) and its via passive variant are my spare version of a ‘truth conditions’ theory of meaning. Although presented by its legions of advocates for decades in various versions, they were never been able to close the gap between \( ^\text{truth conditions}^ \) and \( ^\text{meaning}^ \). The early birds were so engrossed in their rampage against ‘metaphysics that they never realized how complicated the relations between \( ^\text{truth}^ \) and \( ^\text{coherence}^\rangle/’meaning’ \) are. Their slogan never revealed the relations. It had to await a conceptual logic to unearth the deep relations between conceptual coherence and alethic truth. We know now that truth conditions alone do not fully deliver \( ^\text{coherence}^\rangle/’meaning’ \); schemas, 1 - . \( \Delta \) prove this.

I don’t find an account of the logical relation between truth and meaning in D. Davidson’s adaptation of Tarski’s T-convention. Invoking ‘charity’ towards the truth of what a person is stating is no substitute for providing a specified relation(s) between truth and meaning. Charity does nothing to explain it; it presupposes one. Perhaps a ‘negative’ version is the stealth message: If you don’t know the truth conditions for a statement, you don’t know its meaning. That is, “If you don’t know which substantives
and tropes are the coherent, truth-making emplacements in a sentence’s word tokens, you
don’t know its meaning?” (Getting warm.)

But this gives priority to words’ meanings, which counters Frege’s, and Plato’s,
widely accepted “Words have no meaning outside of sentences”, which gives priority to
sentences’ meanings. These are mutually cancelling orientations. How can I go from
the meaning of a sentence to the meaning of its words? Tell me the procedure, Mister.
Theorists who rely on these vagaries need to be specific, especially since many of them
also promote the Haggis slogan: “Sentence meaning is composed of its words’ mean-
ings.” These slogans, often endorsed together, pull in opposite directions: Sentence
meaning → word meanings versus word meanings → sentence meaning, decomposition
versus composition. This untethered wandering in those sere plains, governed by alethic
tongues, needs a little coherence logic to shift theorists’ foci to help them bridge the gap
twixt truth and ‘meaning’ that champions of alethic meaning conditions foredoomed us.

Lexical inferences shrink the verifiability account of meaning to its proper size.
They do show that neither truth conditions nor the verifiability account should be wholly
discredited. They’re obviously not up to a full meaning theory; they’re but one amongst
a throng of conceptual inference schemas presented here. The trick is to entwine them in
a wider, more complex, and detailed conceptual logic I’m proposing. Twentieth Cent-
ury’s logicians’ obsessive devotion to a cripplingly limited alethic logic, abandoned us to
a gap twixt truth and meaning.

Here’s what you’ve been waiting for, Tom: An explanation of why sooth truths
yield sooth coherence (meanings).

(a) Sooth propositions’ coherence requires there be a coherently allowed de
facto, de dicto, or de jure sooth route between a substantive concept, ^S^, and a
trope concept, ^T^.

(b) If emplacements into a sentence’s substantive /S/ and the trope emplace-
ment it carries into /T/ are coherent, the de facto condition for the truth of
<EsE @ /S/ & EtE @ /T/>
has been satisfied. It also shows that it has satisfied the coherence conditions of the
proposition
^EsE @ /S/ & E(s)EtE @ /T/.
The coherent substantive’s emplacement EsE into /S/ carries the coherent trope emplace-
ment EtE into /T/. Suppose EsE is a ball and EtE is red. With such acts of coherent em-
placements we construct both a true statement about ^S^, and a coherent propositional
sooth route between ^S^ and ^T^ in lexical space, ^, ^[.] ball red^.

This explanation of the logical relation between truth and meaning supports the old
saw: What is actual is possible. The new saw is: What isn’t actual is also possible, be-
cause sooth falsity, <[.] ball  ~red/green> also yields sooth coherence. Suppose a ball
carries a green trope.

(F) <^EballE @ /ball/ & ^E(ball )greenE @ /red/>.
(F) is false, because $E_{\text{green}}E$ is not coherently emplaceable in /red/. [S+ T→] is the short version of (F). See Conceptual Logic 3.0, p. 43. (F) is false, because

(a) $E_{\text{red}}E$ and $E_{\text{green}}E$ are emplaceable respectively in /red/ and /green/~red/;

(b) $^\text{red}^\wedge$ and $^\text{green}^\wedge$ are incompatible because they’re both subsumed under

c) the concept $^\text{colored}^\wedge$, as in *1 Link inference on p. 40; and

d) with the aid of .5’s conclusion, p. 42, we know both $^\text{red}^\wedge$ and $^\text{green}^\wedge$ are

e) coherently soothable of $^\text{ball}^\wedge$; and

(f) because a false statement is validly inferable from a true contradictory or

cor- 

tary statement that sport the same substantive concept and an in-

compatible trope concept.

The following inferences prove (f), refuting Parmenides’ claim that we can’t make 
false statements.

\[
\begin{array}{ccc}
<.\ S \ P> & \text{True} & \text{or} & <.\ S \sim P> & \text{True} \\
^\wedge! \ P & \sim P & ^\wedge! \ P & \sim P \\
\hline
<.\ S \sim P> & \text{False} & \text{} & <.\ S \ P> & \text{False} \\
\end{array}
\]

These inference schemas symbolize Plato’s refutation of the widely shared view

that Parmenides claimed we couldn’t say what is false in the Sophist, 236d8 – 261c4.

Plato uses [~], [Subsume, /], [Link, *], and [Sooth, .] functors in that section. Statements’ 
falsity is inferred from incompatible statements’ truth value. I substitute [~] for

‘other’ and ‘different’ in that dialogue. These inferences show why we don’t need ‘negative
facts’, which Russell once proposed. Some logicians worry about which statements are

negative; that’s over. Either of two contradictory statements may be used to deny or

affirm the other’s truth; once we distinguish the via attiva [Deny] from the via passiva

[Negative] and opt for the via passiva [Deny] and [Affirm], the problem leaves only its

Chesire grimace behind. Each of the above inferences show either’s first premise may be

via passiva ‘negative’ of the other, which differs from affirming either in order to the

deny the other by using the via attiva [Deny] and [Affirm] functors.

[+] Congery Inferences

:+1a $^[:+]\ S\ [A1…An]^\wedge$ The form for a conger of $^S^\wedge$’s Attributes for identifying kinds of substantives. Suppose its proposed.

\[
<[.]\ S1\ [A1 \ldots An]>\wedge\]

$^[:+]\ S1\ [A1…An]^\wedge$

:+1b $^{E}\ S\ E\ @/S/^\wedge$ [Any] substantive satisfying $^S^\wedge$’s conger is of the $^S^\wedge$
That determiner saves S from being a ‘member’ of a ‘class’, ‹[:] class member›. ‹Class› and ‹kind› aren’t identical; the former is an ontological concept, the latter epistemological, <[:] pig DNA (x or y or ...)>. There will be borderline cases when an S won’t satisfy all of a congery’s attributes. If a pig is born with three legs, but possesses all the remaining attributes, we can de jure preserve its ‹pig› kindhood. You ask, Tom, “How many congery attributes must Porco satisfy to preserve its ‹pig› kindhood?” I suggest you ask your corner zoologist.

The subject of ‹[:+› water clean› in normal English speech has a congery of attributes, such as ‹[transparent liquid potable]›. Chemists have justifiably de jure added ‹H2O› to its congery. The earlier congery may be kept concurrent with ‹H2O›. In case these attributes are incompatible on some occasion, chemists have decided to favor ‹H2O›.19 :+1b is the final conclusion of this pair of inferences; the liquid sample S may be coherently emplaced in /water/ if it satisfies the stipulated congery of attributes, after which it becomes its own haecceitas.

Each of the attribute concepts in a congery are bonded to the same substantive concept. Congery ranges differ from link ranges, because only one of the concepts in a link range may be bonded to a given substantive concept. Concepts in a bonded range are complicit, because each are bonded and collude to identify a single substantive as a kind. ‹H2O› helps identify this liquid as a kind of liquid. One of ‹train›’s older complicit concepts is ‹moves on iron rails›, which differs from a new complicit ‹moves suspended by magnetic force›. The basic idea here is that any substantive has many attributes, some of which may be stipulated as complicit and bonded. Substantive conceptual kinds live and die by their bonded ranges of congery attributes. Which are complicit depends in part on our de jure supported grounds for stipulated choice. See “Stipulating and Conceiving ‘Natural Kind Concepts’” on the website: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman. Quicker access: sfsu arthur bierman.

The following inference schemas have premises negating via attiva [Identify, =] propositions; with them we solicit complicit concepts of different kinds of substantives to kind incompatibility.

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19 Via passive logical reports are oriented toward the dead, unalterable past, via attiva toward the living, alterable present and to the malleable future. Conceptual historians may revise former historians’ accounts. Was the 15th Century German concept “Schwein” different from the 21st Century Americans’ “pig”? Were both coherently emplaceable by the same animals?
Concepts in congeries need not be incompatible, but different congeries are, as in 2b’s conclusion. One kind’s congery can’t have another’s. This assures uniqueness of kind concepts.

Because of :+2b’s conclusion, S1 and S2 have switched congeries in violation of :+2a’s first two premises. Since each conjunct congery proposition is incoherent so is the conjunctive proposition.

Each subsuming substantive concept on a subsumption pathway bestows its congery on its subsumed concepts; ‘Mammal’’s congery is bestowed on ‘bear’. Ascending from the lower, determinate depths of subsumption pathways, with their finer grained congeries, we reach the top determinables’ complicit concepts. Consider ‘object’. It’s top bonded concept is ‘(physical) property’, ‘[object] property’, atop subsumption pathways (1., 2., and 3. below); ‘[object] property {size shape weight …}’. If that range is chosen as the congery [shape size weight …], then it’s part of the congery that individuates the concept ‘physical object’. Subsumption bottom dwellers, such as my left incisor’s size and shape, keep general concepts in touch with reality, keep them from being bloodlessly ‘abstract’. I just scare-quoted /abstract/, because it’s logically superfluous. We don’t need, for example, ‘abstract’ ‘redness’, only ‘red’, and its subsumed range(s) levels, and their coherent emplacements, ‘Escharlet /red/’, ‘Ecrimson /red/’, ‘…’ to communicate and reason. This example shows that when you use Ockham’s razor to eliminate ontologies’ ‘ness’s, you can cut closer to the conceptual bones of our lexical structures.

Congeries breed link ranges, 5., in the subsumptions below, and, through them, of sooth propositions, 6., also below; the latter may flower into speakers’ coherent sooth statements. The subsumed concepts of each concept in a congery are gathered into linked ranges, 5. below. They may be severally soothed of a specified object concept without committing incoherence, 6. All sooth statements using trope concepts subsumed under a congery’s concepts may be true or false, providing one of them isn’t bonded to a sub-

---

20 Although ‘red’ and ‘green’ are incompatible, they don’t necessarily make the propositions ‘The apple is red’ and ‘The apple is green’ incompatible, providing we modify the substantive concept. For example, one part of an apple may be red while another part is green. This shifts the substantive in these propositions from ‘apple whole’ to ‘apple parts’; thus, the two sentences become logically independent and compatibly coherent.
stantive concept. These points are exhibited in the following series of inferences. I start at the top of a subsumption pathway to identify part of "(physical) object"'s congery.

1. object (physical) property
2.
3. ++ object [size shape weight ...]  
   eel {short thin light ...}  
   eel {long thick heavy}
4. eel {long thick heavy}
5. [*] eel {long short ...} 
   [*] eel {thick thin ...}  
   [*] eel {light heavy ...}  

These linkages entail coherent sooth propositions.

6. eel long eel short ...  
   eel thick eel thin ...  
   eel light eel heavy ...

Coherent sooth propositions legitimatize making coherent sooth statements.

7. (< Eel long>, < Eel short> ...)  
   (< Eel thick>, < Eel thin> ...)

The truth value of such statements is determined by assigned/emplacement coherence, partially explained in the inferences, above. More may be found in my Conceptual Logic 3.0; and in “Assignments and Varieties of Emplacements”, which is on the website: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman; sfsu arthur bierman.

Valid inference schemas are identified empirically; banal premises and conclusion may be via attiva propositions or via passiva de dicto reports on our widely shared lexical practices, except for de jure premises. Agreement by qualified speakers on the validity of inferences in their language is the only authority that serves to justify judgments of their validity. Aristotle’s basic Barbara syllogism relies on that authority. Banal propositions are the most reliable ones to use, because they provide the most secure agreements on coherence of conceptually related premises and conclusions.

[/] animal dog  
[/] dog terrier  
[\] square four-sided  
[\] my garden three-sided  
[!] four-sided three-sided

The first is a conceptual interpretation of the Barbara inference, which might have been intended by Aristotle. I don’t know; I’m no scholar of his work. It may be that he did
not intend the relation between \( ^\text{animal} \) and \( ^\text{dog} \) to be class inclusion, as Boole and his successors did. British extensionalism grew like Topsy and surely isn’t the best way to interpret Barbara.

From such banal coherent propositions, even modestly equipped English speakers can recognize the validity of these inferences. Most do not deny the coherence of the conclusion if they have enough English to acknowledge the coherence of the premises and to perform the operations called for by the functors.

Do you agree that these inferences are valid? If you don’t think so, I suggest you first check to see if you have a firm grasp of the functor operations. Yes or No? You get it or you don’t; evasion is not a response. There’s no way left to challenge someone who recognizes their validity but to show that the form of the inferences when content is coherently assigned or emplaced in the variables produces an incoherent conclusion. Your move, Tom. If a counter example is found, it’s back to the inference drawing board.

We move from a banal valid inference to its valid form, thereby increasing our reasoning capacities: We welcome any variant assignments/emplacements:

++ **Substitute variables for concepts; same concept, same variable.** ++

The following valid inference forms are the result of these recommended substitutions for the \( ^\text{animal} \) and \( ^\text{square} \) inferences, respectively.

\[
\begin{array}{c}
[|] \ ^a^ \ ^d^ \\
[|] \ ^d^ \ ^t^ \\
[|] \ ^a^ \ ^t^ \\
| \ ^g^ \ ^\sim t^ \\
| \ ^t^ \ ^\sim t^ \\
\end{array}
\]

These forms prove useful guides to logically extended reasoning about the coherence of premises and conclusions that are not banal and about those whose coherence we disagree. We move from the easily known, the banal, to the arduously known, the controversial, with the latitude of variant emplacements/assignments into variables.

We don’t need Goedel-Frege appeals to ‘third-realm’ intuition to support the ‘truth’ of logical or mathematical ‘statements’. We have our lexical knowledge to support the coherence of our logical/mathematical propositions. By substituting variables for the constants in exemplary, banal conceptual inferences which most qualified speakers employ, we recognize valid inference schemas. Alethic axioms have no more claim to our consent to their truth than is handed to them as banal coherent conceptual propositions. Logic and mathematics have no true statements, only coherent propositions.

Models have been favored as a system’s axioms and theorems best supports, which depend for authority on precisely the same grounds as “shared lexical practices”. Arithmetic, a favored coherence model for ‘alethic’ systems is as banal a source of axioms’ ‘truth’ and alethic ‘validity’ as you can get, and for that reason is correctly favored as a model by athletically prejudiced logicians and mathematicians.
I haven’t addressed how I might reduce the number of valid inferences to a minimum with the aid of transformations. I may try to do that by and by, but for now I leave that task to my logical betters. Thank you for your charity.

01/28/13

A. K. Bierman: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman

Appendix I
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Appendix II
Emplacement chart (p. 43ff, from “On Emplacing”), p. 50 – 53

<table>
<thead>
<tr>
<th>EMPLACEMENT CHART</th>
</tr>
</thead>
<tbody>
<tr>
<td>S  P  V</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>1  +  +  T  S+ P+</td>
</tr>
<tr>
<td>2  +  -  F  S+ P-</td>
</tr>
<tr>
<td>3  +  ~  F  S+ P~</td>
</tr>
<tr>
<td>4  +  ?  U  S+ P?</td>
</tr>
<tr>
<td>5  -  +  F  S- P+</td>
</tr>
<tr>
<td>6  -  -  F  S- P-</td>
</tr>
<tr>
<td>7  -  ~  F  S- P~</td>
</tr>
<tr>
<td>8  -  ?  F  S- P?</td>
</tr>
<tr>
<td>9  ~  +  U  S~ P+</td>
</tr>
<tr>
<td>10  ~  -  F  S~ P-</td>
</tr>
<tr>
<td>11  ~  ~  U  S~ P~</td>
</tr>
</tbody>
</table>
In the S(subject) and P(predicate) columns, "+" indicates you know there is a coherent emplacement; "−" indicates you know there is no coherent emplacement; "~" indicates there’s an incoherent emplacement; "?” indicates you don’t know if there is or isn’t a coherent emplacement for a grammatical subject or predicate. In the V(value) column, T is true, F is false, and U is unknown.

Now, get out your red pen and make a red dot. You're entitled to say <<The dot is red>> is true if you've done this:

You've coherently emplaced, literally put the dot into the sentence's subject, /dot/, and put the dot, the red trope's carrier, into the predicate token /red/. /dot/ and /red/ are the sentence's categorematic tokens. Row 1 represents this case. I write coherent, collocated emplacements, indicated by the bold /E/s, in /The dot is red/ this way:

^EdotE @ /dot/ & E(dot)redE @ /red/^.

This emplacement proposition shows we’re entitled to claim <<This dot is red>> is true.

E(dot)redE @ /red/^ shows the dot’s red trope is coherently emplaced in that sentence's predicate token, /red/. The dot has carried and emplaced the red trope into the predicate /red/. E(dot)redE @ /red/^ is a collocated emplacement of the dot and its red color in /red/. The parentheses around /(dot)/ in E(dot)redE @ /red/^ shows the dot has been emplaced in /red/ and that it’s carried a red trope into /red/.

When these two coherent emplacement operations occur, I say the dot and the red trope are collocated in a sentence. And when they're collocated, we're entitled to claim <<The dot is red>> is true; or, as is more colloquially said, we ‘know’ the dot is red.

TOM: The dot is emplaced twice; first, in the subject, then in the predicate.

THELMA: It’s emplaced first in /dot/ and again when you emplace the red trope into /red/, because you can’t detach a trope from its host. Here "carries" doesn't designate an ontological relation between substances and their properties, but reports that I've physically carried the predicate's emplacement on the back of its host into a sentence’s predicate place. If the red trope goes where my dot goes, they're collocated, and that's all we need for verifying the truth of <<The dot is red>>. This hands-on nominalism extends the promise of “direct” reference, and gives a literal interpretation to Frege's "falling under" a concept. An argument, EdotE, coherently emplaced in a sentence’s subject, “falls under
a concept” if it carries a trope, EredE, coherently emplaceable in the ‘function’/predicate token /red/.

^EleafE @ /dot^ shows I’ve incoherently emplaced a leaf in /dot/’s space.

^E(dot) greenE @ /red/^ shows I’ve incoherently emplaced green in /red/’s space.

Diego Marconi reports that Donald Davidson, in his Hermes Lectures, given at Perugia in May, 2001, asks “…what is the connection between a subject and a predicate that unifies them into a proposition?”21 That’s looking for unity in “all the wrong places”, as Tarski does, on whom Davidson leans for an explanation: Statements’ are unified because the predicate contributes the truth conditions of a statement with that subject. This is deceptively near the right answer, except for one affliction: Predicates can’t unify. They’re inert. Humans carry an object emplacement from the subject to the predicate during emplacement maneuvers; humans unify subject and predicate, if the emplacements are coherent. When such emplacements fail, there is no lexical unity; incoherence is the result. Once again, honor the agents, and the coherence value of the propositions they construct. When agents are left out, we’re left with reliance on magical acts by inert parts of speech.22

Try tenderly, doubly emplacing your tender pinky in /My fingernail is pink/, Tom. Write it big. Now, unify the subject and predicate tokens in that sentence token by emplacement.

Serious, write that sentence down and put your pinkie in /fingernail/’s space, then move it into /pink/’s space. Is your <My fingernail is pink> true or false?

Appendix III

Historical setting of conceptual logic (pp. 1 – 9, from The Logical Structure of Conceptual Coherence 3.0, pp. 54 – 61.

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 characters, whether these characters be words or symbols or pictures.”
G. W. Leibniz

“State (CA), tribe debate definition of slot machine”

21 Marconi’s review of Donald Davidson’s, *Sulla verità*, Trans. S. Levi; Roma-Bari, Laterza, 2006(?).

"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."

"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"

- 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 emplace-
ment `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 (coming up in 2013). Tom, this essay should help you comprehend our conversations at a deeper level and assess our conclusions about the Liar paradox. This is a precis of “Conceptual Logic 3.0”, 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” before or after 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.

** * ** *

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 one quantifier, [Any]. 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.24

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23 For more extensive applications, see A. K. Bierman and R. N. Assali, The Critical Thinking Handbook, Part III.
24 A de facto exception is explained later, page 34ff. Also, see Bierman & Assali, Handbook, p. 369.
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* nor George Lakoff’s in his "Linguistics and Natural Logic" nor Ray Jackendoff’s wider lexical investigations. 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.

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.

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 subsumption 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 defined lexical relations in class terms, he made useful advances on earlier treatments of concepts. 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.

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28 See http://wings.buffalo.edu/academic/department/philosophy/ontology.
29 CLUEB, Bologna, 1990. Thanks to Capozzi, I learned of this forgotten work. Her introduction is in English.
30 *Theory of Science (Wissenschaftslehre, an Attempt at a Detailed and in the main Novel Exposition of LOGIC With Constant Attention to Earlier Authorities)*, (Trans. George Rolf), Univ. of California Press, Berkeley, 1972.
Relevant work has been done under the name of "semantic fields". See, for example, Adrienne Lehrer's *Semantic Fields and Lexical Structure*.\(^{32}\) 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".\(^{33}\) 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 extracted a logic from them (Slightly altered from 3.0.) 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*.\(^{34}\) 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.

The basic, minimum truth logic philosophy students need in order to master conceptual/coherence logic is propositional logic. Quantified logic beyond [Any] 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 current (2015) journal-sponsored authorities, is useless as a guide to judgments about the coherence (meaningfulness, sense) of sentence interpretations in our natural lang-

\(^{32}\) North Holland, Amsterdam, 1974.

\(^{33}\) 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 Philosophical 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 identifying its relations, which yield a canon for inferring from coherent premises to the coherence value of combinations of concepts.

uages, 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". His mature master work is The Logic of Natural Language. My initial work on conceptual logic was published in LOGIC: A Dialogue, "Twelveth Conversation". 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. 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' effort. Expert systems' use Wilkin's lexical subsumption relation, which I use as one functor in my logic.

Coherence logic rests in a cut beyond Husserl's grammatical preconditions of meaning and S. Lesniewski's "meaningful" expressions. 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 basic conditions of the possibility of meaning". 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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35 Mind, LXVIII, April 1959, pp. 160-185.
36 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 conceptual [-~]. 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.
38 An Essay towards a Real Character and a Philosophical Language, Gellibrand, 1668, London.
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.” Reichenbach is a bit parsimonious here; he should have included 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-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/does not 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..." Wedgewood may be confusing ^idea^ with ^statement^ as may Kane (via Ginet's reading), a common error, somewhat like Hegel's mixup in his Logic. Wedgewood's "there are certain modal facts" looks like a statement that may or may not be true. 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^.

"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..." Ginet also mentions the "coherence of indeterministic free will" (p. 313; my emphases.)

I allow, Wedgwood's "there are certain modal facts" looks like a statement that may or may not be true. 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^.


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

43 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.
tions of concepts in their single, cited sentences. With this interpretation, Wedgwood is wondering whether the combination of "non-reductive" and "physicalism" in a proposition is "coherent", and whether the combination of "modal" and "fact" in a proposition makes "sense", whether it is "coherent". Likewise, Ginet is attributing to Kane the claim that the propositional 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...". 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 literature 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 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.

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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". 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.

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 professional 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

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not a paradox, it doesn’t need a ‘solution’. Hold the presses! I show also that conceptual logic is sufficiently refined a tool for rethinking ‘natural kinds’. See “Stipulating and Conceiving ‘Natural’ Kind concepts” on the website: http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.