The Dawn of Coherence, the Twilight of Analysis

Abstract

In this essay I invite you to consider a bird's eye view of an innovative project, a logic of concepts. It is a study of logical relations between concepts as alethic logic is a study of truth relations between statements. This new logic is the basement foundatios on which all truth logics rest; it is the ur-logic contained in natural languages. I've extracted this one from English. I know four languages; each uses the same functors with which we construct conceptual systems, but, of course, none of their conceptual systems are fully isomorphic . I don't know if all languages use the same functors to organize their concepts, but I suspect they do. Hilary Putnam pungently remarked that meaning ain't just in the head, it's also outside the head. My conceptual logic research is an extensive explanation of what makes that remark true. It relies chiefly on the functor/operations [Emplace/Assign].

*I sketch the conceptual logic of English, using its functors to fashion a structured lexical/conceptual space. * I prove neither conceptual nor truth logic are reducible one to the other. * I introduce coherence values of propositions, coherent/incoherent, the most important concepts in logic. They are not identical to consistent/inconsistent evaluations of statements' truth value. * Ur-logic's coherence values entail a coherence theory of truth. I prove the correspondence account of truth is incoherent. * Conceptual logic's valid inference forms are algorithms for determining propositions' coherence value; they underwrite a computer friendly conceptually organized dictionary. * Using only the [Any] quantifier enables us to establish a nominalistic theory of concepts: Concepts are physical tokens with unique locations in lexical/concept-*

ual space. * I critique the standard notions: Refer/names/truth, and replace them with Emplace-Assign/variables/coherence. * This makes a 180º revolution of language's and the world's rela-tion that abandons the standard Word ➔ World direction in favor of the World ➔ Word direction. To say we name the world's items doesn't describe what we do; it is correct to say we emplace them in lexical variables, affiliate them in lexical/conceptual space. This is the Second Act of Kant's Copernican Revolution. It shows what's at stake for Western philosophy's future.

In a "Brief Lives" essay,[1] Alistair MacFarland points out that Nelson Goodman treats art "as belonging to the mainstream of modern philosophy". This, in his view, began when Kant, at the end of the Eighteenth Century, considering what was of primary importance for human knowledge, exchanged the structure of the external world for the structure of the mind as primary". He notes that C. I. Lewis significantly extended Kant's Revolution by sub-stituting the structure of concepts for the structure of the mind; the structure of concepts was elaborated with the development of <u>sym-bol systems</u> in analytical philosophy for the sciences, the arts, and everyday discourse, at around the beginning of the Twentieth Cen-tury. This essay extends the "mainstream of modern philosophy" into the beginning of the Twenty-first Century with a new, con-ceptual logical "symbol system".

I introduce seven interpretations of the English copula that I call binary [Functors]/[Operators]. See p.13 for the list. Lexical semanticists know about many of them, but to my knowledge have never used them to construct a **conceptual logic**.

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[1] *Philosophy Now*, Issue 109, August/September, London, UK., (2015).

The unary functor, [~], negates concepts and propositions; propositions are interpretive bridges between sentences and statements. [~] functions differently from [-] truth negations of statements. See Fn. 2, p. 7 for how we use [~] in conceptual reasoning.

With these functors we can construct a systematic lexical/-conceptual space, and how it relates to the world. The first five binary functors on the list, p. 13, are **internal** to the space; [Emplace/Assign, **E ...E**] and the [Sooth, **.**] functors are hybrid **internal/external** functors that connect external world items, such as frogs and their slippery tropes to internal concepts. Coherent emplacements into the subject and predicate tokens of ^[Sooth, **.**] frog slippery^--a frog into /frog/ and slippery into /slippery/--are coherent grounds for <Frogs are slippery>'s truth. This is the **Coherence Account** of truth value conditions.

We can use conceptual space to construct a conceptual dictionary, proposed centuries ago by John Wilkins and G. Leibniz. Functors can be used to construct valid inference forms, algorithms, to determine the coherence value--coherent or incoherent—of propositions. Using the lexical term, 'lizard', I sketch the form its entry might be given in a conceptual dictionary, pp. 10 – 22.

Plato's Partial Conceptual Logic

Plato used a truncated version of my conceptual logic in his *Sophist* in order to isolate the concept ^sophist^, which, rather than truth logic, is the proper canon for philosophy and lexical linguistics. Philosophers have used it implicitly for centuries. It's embedded in our natural languages; I've made it explicit. Once exposed as a formal system, it gives philosophers, logicians, and mathematicians another canon for reasoning beyond what Boole, Frege,

Russell-Whitehead, Goedel, and their many brilliant successors have given us. The results yielded by conceptual logic's methodology spell the twilight of analytic philosophers' truth-dominated methodology and the dawn of a new epoch for philosophy.

Alethic methodology is dependent on its basement foundation, an ur-conceptual logic. Philosophers of mathematics inquiries into the logical foundations of mathematics are trapped in that alethic methodology, and will never escape until they learn why *pure* logic formulae have no truth value; they have coherence value only. The terms of pure formulae are variables, ^a + b = c^; they cannot be *true to the world* until they've been coherently assigned world emplacements: ^There are 5 apples in my basket, 2 on this side, + 3 on the other^. 'Numbers' were invented to provide the non-linguistic entities that underwrite the 'truth value' of pure mathematical and logical 'statements'. One problem: There are no 'numbers'. The numerals /2/, /3/, /5/ 'refer' to nothing. They are naught but tokens in an ordered series of tokens we were taught to share in the first grade.

Don't worry. Instead of relying on our 'intuitions' to discern the 'truth' of numerical sentences, "2 + 3 = 5", we can rely on the structure of a conceptual space to provide the grounds for 'objective/numerical' judgments of propositions' coherence value. We see printed numerals, hear them pronounced, feel their raised dots on elevator buttons. You can say nothing similar about 'numbers'; they're faux entities, useless for verifying the coherence value of pure mathematical, and logical, propositions.

Analytic philosophers are confined to truth logic, the study of truth value relations between *statements*', to give us 'meaning' conditions. Coherence philosophers, instead, use conceptual logic,

the study of coherence relations between *propositions*' constituent concepts to explain the coherence of propositions. Meanings don't exist. In this essay, I challenge almost every one of the analytic school's stock tenets. I show that all central concepts and functors of alethically limited philosophers are incoherent or that they mis-describe how we relate our words to the world. Without a 180^0 shift in methodology, the issues from both ancient and contemporary controversies will linger unresolved. See Fn. 13, p. 27f.

My account of ^coherence^ isn't the usual search for a neat definition. It takes a whole logical canon, a conceptual logic. You can find it in essays on my website. The most complete essay on this logic is "The Logical Structure of Conceptual Coherence 3.0"; there's a shorter version, "A Precis of Conceptual Logic 3.0". "On Emplacing" locates my enterprise historically, being a critique and a corrective of Russell's "On Denoting" and Strawson's "On Refering". "Assignments & Varieties of Emplacement" enlarges on the [Emplace] functor. Search: sfsu arthur bierman.

The Advent of Conceptual Logic:

Extending Kant's Copernican Revolution

"Breakthroughs come from a willingness to question the status quo."

--University of California, Santa Cruz, advertisement; *The Atlantic*, Jan/Feb 2015

"I believe that in spite of all its snowfields Mont Blanc is a component part of what is actually asserted in the proposition 'Mont Blanc is more than 4000 metres high'."

--Bertrand Russell, Letter to Gottlob Frege

"Russell's analysis of the proposition expressed by "John is tall" provides us with two components: the property expressed by the predicate is tall, and the individual John. That's right, John himself right there, trapped in a proposition."

--David Kaplan, "Dthat"

"To say 'This combination of words makes no sense' excludes it from the sphere of language and thereby bounds the domain of language."

--Ludwig Wittgenstein, *Philosophical Investigations*

The most important concept in logic is **coherence**. A combination of lexical concepts in sentences are **coherent** or **incoherent** with each other. Coherence is not identical with consistent.[2] The second most important concept is **truth value**, **true** or **false**. "The nail is rusty" is coherent and may be true, "The nail is blind" is incoherent and has no truth value. That's intuitively obvious to adult native English speakers. But there are hard cases where intuitions clash. Most think "A child is a person" is coherent; some think "A one-day-old fetus is a person" is coherent. Others reject subsuming "fetus" under "person"; since it lacks persons' 'essential properties'; it's incoherent, so neither true nor false. It's as incoherent as ^A peach tree's flower is a peach". Who'd pay the

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[2] In what follows, I sporadically ease into new quotation symbols and terminology. Although I often use "sentence", I distinguish between /sentence/, ^proposition^, and <statement>. Note the three new different quotation marks. I advise printing out this pony.

Brackets, [...], embrace linguistic operations that I call [Functors], which are seven different uses of sentence copulas, plus conceptual [~] negation. Slashes, /.../, embrace linguistic physical tokens, words, phrases, sentences, written, spoken, signed. Carets, ^...^, embrace ^concepts^ and ^propositions^. Concepts are interpretations/rewrites of categorematic lexical words; ^stolen^ is a concept, a token rewrite of /hot/. Propositions are interpretations/rewrites of sentences, of their lexical tokens and copulas. Corner brackets, <...>, embrace statements with which we make truth value claims expressed by propositions. I distinguish sentences from propositions, which are rewrites of sentences, and distinguish both from statements that contain propositions.

price of a peach to buy its flower? "Same-sex marriage is an abom-ination" is easily accepted by some (see the *Bible*, Leviticus, Ch. 18, Ver. 22). For a growing number of others, it's becoming an incoherent 'moral' judgment. Sex and love's connections differ.

The extraction of a conceptual logic that can be used to eval-uate the coherence of concepts in sentences challenges the domin-ance of truth/alethic based logics on which the 'analytic' school of philosophers rely. Coherence value is more basic than truth value: Sentences have truth value if and only if they're coherent. I advo-cate a coherence account of truth in place of the correspondence account, which I show later is incoherent, pp. 27 -28.

The combination of "nail" and "blind" in common parlance may be condemned as meaningless, senseless, absurd, gibberish, babble; all these evaluative terms have been used to deny that "The nail is blind" has truth value: "Hey, where's da nail's eyes." I sub-sume all of them under the concept **incoherent**. Coherence value has the support of conceptual logic, unlike the above common de-rogatory terms that have no logic designed to support them.

Backing this view is an important argument showing that the concepts ^truth^ and ^coherence^ are not identical; so, neither ^truth^ nor ^coherence^, nor their logics, may be reduced one to the other. Here's the argument.

Both of the following statements, <The nail is rusty> and <The nail is not rusty>, are coherent; this allows you to use either to affirm or deny the other's truth value. But *not both* are true; affirming one is true enjoins you to deny the other is not. **Two coherent** statements are not identical to **one true** statement just as the numeral 2 isn't identical to the numeral 1; hence, coherence

and truth values aren't reducible one to the other. Both of two incompatible propositions and the statements in which they're used may be coherent; not both contradictory statements may be true.[3]

The first stage in talking about a 'predicative' sentence's truth value is ascertaining that it's coherent. That's why I said coherence is the most important logical concept; it has logical priority over truth value. Sentences are true or false if and only if there are coherent emplacements of substantives, S+--objects, events, processes, acts ...-- and tropes (P+ or ~P+--hard/soft, de-cisive/indecisive, intentional/accidental--into their subject and predicate terms. True subject-predicate statements must have a S+P+/~P+ emplacement profile. Also, sentences find the parlor door locked shut against the known non-existence of a coherent emplacement: If S**-** or P**-**, ^[Sooth, ^[Bond, **:**] ^angel^ ^winged^^, then no S+ or P+; so, any sentence's subject or predicate term profiled by /-/ rather than /+/ cannot be a coherent proposition and can never be used to make a true or false statement.[4] This shows alethic logicians mistook contradictory statements as a criterion for 'absurdity'. Incoherence does the job.

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[3]   Distinguish the two individual sentences, /The nail is rusty/ and /The nail is not rusty/ from their conjunction, /The nail is rusty **&** the nail is not rusty/. A sentence is coherent and true if and only if the emplacements into a sentence's S subject S+(nail) and into its P+(rusty) or ~P+ (glistens) predicates are coherent. Both S+P+ and S+~P+ are coherent. This is the ground for their contingent truth value. But because ^rusty^ and ^glistens^ are incompatible, the use of both in a conjunctive statement is contradictory; one and the same nail can't coherently carry both a rusty trope into P, P+, **and** a glistening trope into ~P, ~P+. The conjunction fails this coherence requirement: Unless both conjuncts are coherent and true, the conjunction can be neither coher-ent nor true, because P/rusty and ~P/glistens are incompatible concepts. You're enjoined never to form statement conjunctions from conjuncts with incompatible predicates; that way lie con-junctions' incoherence. This may be what Aristotle tried to show in his *Metaphysics*, 1011^{b}23 – 1012^{b}23, and what Wittgenstein sometimes claimed in his *Tractatus* when he said that contra-dictions, such as the conjunctive contradictory statements, <rusty & **-**rusty>, aren't statements, 6.12 and 6.1202. Nor did he think tautologies were statements.

[4] See line 2 in the Emplacement Chart, in this essay's Appendix, p. 32.

Conclusion: Coherence logic is the **basement logic** on which alethic value and any of its logics rest.

Our ready ability to know which 'nail' sentence is coherent, rusty, and which is incoherent, blind, indicates English speakers have access to some implicit conceptual logic in the English language. For at least two decades, people have proposed "inferential theories of concepts". That needs a conceptual logic with valid inferences. Version 1.0 one was published in 1965, *LOGIC: A Dialogue,* Bierman. Version 2.0 is in *The Critical Thinking Handbook*, Bierman and Assali. Version 3.0 is on my website, "The Logical Structure of Conceptual Coherence 3.0".

I've extracted valid inference forms that explain our capacity to form propositions out of lexical concepts with which we can speak, write, sign coherently; it's a semantic kin to Chomsky's *Syntactic Structures*. These inference forms enable us to reason objectively about coherence value. It's useful to make our implicit conceptual logic explicit, because it enables us to deal with hard cases, such as "Are determinism and free will coherent?" Spinoza thought they were. We can use the valid inference forms to reason publically about hard cases, ferret out interlocutors' incoherent premises and invalid inferences. In *Version 3.0*, I've made explicit that implicit logic we use unconsciously, daily, lavishly. I hope philosophers and linguists will develop it beyond its present stage and use it for philosophical and linguistic research. "A Precis of Conceptual Logic" is a shorter, slightly revised and lightly augmented version of *3.0*'s longer, more elaborately detailed mother version. It's easier to start with "A Precis ...".

Dictionaries, Lexicography, and Conceptual Logic

Lexicographers and linguists interested in paradigmatic information could use conceptual logic to aid them in their work. Dictionary entries give such information "as **synonyms**, **antonyms** **superordinates** (*crippled* is superordinate to one sense of *lame*), **converse relations** (*buy* and *sell*) ... ".[5]

Conceptual logic, too, gives paradigmatic information, but supplants vague "*same* meaning" and "*opposite* meaning" with logically precise structural relations. I find that, on checking dictionary lexical entrys, most are shorthand, alogical versions of what could be gleaned better from browsing in logical conceptual/lexical space constructed with its seven different kinds of copulas. This new kind of dictionary would be identical with a language's lexical/conceptual space itself. It's not a wholly novel idea. Raimondo Lullo, John Wilkins and Gottlieb Leibniz, who, as a wit said, fancied he spoke for God, also proposed new structural ways of connecting dictionaries' entries conceptually and of 'defining' lexical tokens.[6]

Wilkins, the first Secretary and a co-founder of the British Royal Society, conceived of categorical, superordinate concepts that subsumed branches of related concepts. He eschewed an orthographical order for dictionaries, because it provides no information about how tokens are logically related to other tokens. Wilkins' dictionary was limited to the subsumption, sooth, and

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[5] *The Linguistics Encyclopedia*, p. 294. New York, Routledge; Ed. Kirsten Malmkjaer,1995.
[6] For more on this topic, see the "Eleventh conversation: THE LEXICOGRAPHER, THE PHILOSOPHER, AND A PARROT" in *LOGIC: A Dialogue*, A. K. Bierman; San Francisco, Holden-Day, 1964. The "Twelfth conversation" is the 1.0 version of Bierman's conceptual logic.

alethic negation functors, too limited for an adequate conceptual logic compared to mine with its eight conceptual functors.

Leibniz was no fan of Wilkins' proposal, although he, too, wanted to connect our concepts logically. He proposed a universal science (*scientia universalis*) that could be achieved with a universal notation (*characteristica universalis*) for facts and a formal system of reasoning (*calculus ratiocinator*).[7] He unfortunately held a compositional, whole-part metaphor of concepts and propositions, still popular today, as if sentence 'meaning' is composed of the 'meanings' of the lexical words as bicycles are to their parts. In the *Theaetetus*, Plato's definition of knowledge had compositional genus and species parts that Aristotle took as the basic form of classification and definition, assuming he read that dialogue.

In the *Sophist*, Plato advanced beyond the whole/part metaphor he'd used in his *Theaetetus*. He introduced some of the first conceptual logic known to me in his *Sophist*. To reach his concept of ^sophist^, he analogized it with the way to reach the concept of ^fisherman^. In doing this, he used the functors [Subsume, /], [Sooth, .], and the conceptual negation functor [~] to identify the concepts ^fisherman^/^sophist^. Apparently, Leibniz didn't notice that in the *Sophist*, if he read it, Plato had shifted to a structural theory of concepts; but Leibniz clung to the whole/part metaphor like the present analytic school of concept theorists do; he should have taken *Sophist*-Plato rather than *Theaetetus*-Plato as his concepttual mentor.

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[7] *The Cambridge Dictionary of Philosophy, 2nd Ed.*.; Robert Audi, General Editor; Cambridge, UK; 1999. See the Leibniz entry by Robert C. Sleigh. Also see Leibniz's "Towards a Universal Characteristic" in *Leibniz: Selections*, pp. 17 – 25, Ed. Philip P. Wiener. New York , Charles Scribners Sons, 1951. His basic idea was to assign a "characteristic number" to every object, and/or "idea", which enables us to calculate infallibly the answers "to all questions". Great ambitions sometimes inspire great mistakes.

My mentor *is Sophis*t-Plato. For me, concepts have their being in **lexical tokens** that have a unique complex of relations to other tokens each of which has its own unique complex of relations in a systematized logical space with which we can construct valid inferences that alone or in strings are algorithms for determining a proposition's coherence or incoherence. There's a current, popular slogan, "*inferential* theory of concepts". But its devotees haven't given us *valid inference forms* to cash in this 'theory'. The good news is I've found such inferences. There are schemas of such inference/algorithms and examples of them in "A Precis of Conceptual Logic" on my website, pp. 33 – 50, and more fully in "The Logical Structure of Conceptual Coherence 3.0". The entry to the site is: sfsu arthur bierman.

A new, conceptual dictionary would be a digital version for computer adepts friendly to conceptualizing token entries. We can use the **seven binary** copula functors/operators and one **unary negation** functor/operation to do this, the very ones we use to construct conceptual space.

I start with [**Conceptual negation**, **[~]** for concepts and propositions. Its short for **[Counter/Incompatible, !].** Caret quotations, **^...^**, surround concepts and propositions.   If we counter/negate ^tough^ as ^~tough^, it's contrary to/incompatible, [~], with the concepts in the conceptual **range** ^{soft pliant mushy ...}^. A **proposition** is an interpretation, **a token rewrite**, of a sentence. If we rewrite /hot/ as /fast/ or /stolen/, we can rewrite the sentence /The car is *hot*/ as the propositions ^The car is *stolen*^ or ^The car is *fast* ^; they're incompatible, [**!**], concepts, because they belong to different conceptual ranges.

Here are the **seven copula functors/operations** and the one **unary negation** functor/operator.

[Subsume, **/**] [Bond, **:**] [Conger, **:+**] [Link, *****] [Identify, **=**]

 [Emplace/Assign] **E**...**E** @ /.../] [Sooth, **.**]

The unary negation functor, [**~**]/Counter/Incompatible, **!**]

The first five binary functors are **internal** functor operators; the sixth and seveth, [Emplace/Assign] and [Sooth] are hybrid **internal and external** functors. Internal functors modally *enjoin us* and *enjoin us not* to combine substantive and trope lexical concepts in propositions. They are the functors with which we construct logical space's structure for lexical terms.

[Sooth, .] is an **external, modally allowed functor. We use it to relate the** World's substantives, S, and tropes, P or ~P, that normally reside *outside* conceptual space, unless we've coherently emplaced-/assigned them into lexical variables that puts them *inside* conceptual space. After they're inside, they become concepts, because they're *internally* related to other concepts within lexical space. The concept ^beaver^ is bonded to the concept ^furry^; after coherent emplacement in lexical space, a beaver and its furry trope, too, become concepts and are bonded to each other: ^[Enjoined] [Bond, **:**] ^**E**beaver**E**^ ^**E**furry**E**^^. Emplaced entities inherit all the lexical relations possessed by the tokens into which they're emplaced.

This isn't bizarre, just unexpected. The direction of emplacement, World → Word, reverses the referring direction, Word → World. [Emplaced] is explained further, p. 25f. This is the second 180º turn of the Copernican Revolution a la Immanuel Kant. It doesn't take us back to

Kant's starting point however, because the new turn swirls us into an extended post-kantian orbit as I explain here and on p. 26, fn. 13f.

We evaluate coherence in two situations.

(1) The coherence value of *emplacements/assignments* into sentences' subjects' and predicates' term tokens determines the coherence value of the propositions; thus, emplacing a cigar in "pipe" of /My pipe is unlit/ is as incoherent as emplacing a rose-odor into /loud/ of /My dogs bark is loud/.

(2) Coherent emplacement, S+(P+/~P+), is required also to determine that statements are true.[8] On p. 4, I identified the truth conditions for statements, where /+/ is a symbol for coherent emplacement and assignment: S+ (P+/~P+).

The coherence value of *combinations* of concepts in subject-predicate propositions varies; if ^Jill's a woman^ is coherent, ^Jill's a robot^ is literally incoherent, not false. Jill is a person; as such, she's bonded to the concepts of ^flesh^ and ^bone^s' tropes.   ^Robot^ is bonded to the concepts of ^silicon^ and ^metal^s' trope's, which are incompatible with ^flesh^ and ^blood^s' trope concepts; so, you're enjoined not to say literally that ^Jill's a robot^ on pain of incoherence.

I share Richard Rorty's critique of "mind is the mirror of nature", a fancy sobriquet for "corresponds to". Conceptual logic grants us means to construct shorter, crisper arguments against the 'mirror' view

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[8] "To see and to know that there is a red apple on a brown table requires more than seeing those objects. It requires competence in and competent exercise of the perceptual and conceptual capacities required for propositional thought about what you perceive." Barry Stroud, "Perceptual Knowledge and the Primacy of Judgment, p. 392; *Journal of the AMERICAN PHILOSOPHICAL ASSOCIATION,* Vol. 1, Issue 3, 2015. Kant understood this, but Stroud notes the British Empircists did not.

than Rorty's prolix attack does. We don't need his alternative, seeking support in his 'anything goes pragmatism'.

My alternative: We construct the concept of ^nature^ by incorporating it's electromagnetic-caused sensory data rather than by mirroring it. We do this by emplacing.   Knowledge of nature is nature conceptualized as ^nature^. The original sin in the Garden of the Word is eating of the reptile's proffered apple, ^[Refer]: Word → World^. Rather, "In the beginning was the Word, and the Word was with God, and the Word was God." (*St. John*, Ch. 1, Verse 1) "And God called the dry land Earth; and the gathering together of the waters called He Seas". (*Genesis*, Ch. 1, Verse 10) Maybe Moses was a better lexical guide than analytic philosophers. Try this rewrite: "In the beginning did God cause in Man wondrous Manifolds of the /Earth/ and /Seas/, and bade Adam and Eve to emplace them into His given Words, and, Lo, they created ^Earth^ and ^Seas^ and everything therein, and so, too, our Knowledge of the twain." Bishop Berkeley could approve.

We use functors as **advisories** to indicate on which routes **to travel** coherently between concepts in lexical/conceptual space per the **Lexical Imperative**:

> **If** we wish to travel with others on the same paths between concepts in lexical space, and **if** we wish to construct coherent propositions in tandem with fellow travelers, take the same paths they do (if they speak with coherent tongues).

The Lexical Imperative is a hypothetical "If..., then...". To avoid incoherence, sometimes we need to rebel against the *hoi palloi*'s lazy, conceptual travel habits. Plato tells us Socrates often refused to sanction his fellow citizens' routes in conceptual space, and well fed their malice against him.

Dictionaries stockpile an enormous amount of lexical information, but they're entries aren't organized conceptually, which Wilkins and Leibniz wanted to remedy. Conceptual logic is devised to do this. I sketch what the lexical entry for /lizard/ (p. 17f) would look like in a conceptual dictionary if they were structured with the eight internal and hybrid functors I and others have identified and used; John Lyons did this especially well.[9]

A lexical entry token would be connected coherently to other tokens for each of the eight functors. This installs logical information about lexemes' relations. I use the concept of the substantive ^lizard^ as my example, and use the morphological tropes listed in a Webster's definition rather than its DNA tropes, because I don't know anything about their DNA. This doesn't, however, vitiate my explanation of the *form* a concept's 'definition' would take in lexical space. Just use DNA variable tokens for morphological ones when apposite.

What follows shows how functors shape relations between **concepts** in conceptual space. Each of the eight functors supplies information for a conceptual dictionary entry; that information converges on a unique location for each token's entry. This enables us to distinguish precisely one concept from any others although concepts are fugitive. Any change in one of a token's coherent enjoined functors makes the old concept archaic and replaces it with a new one; this contrasts with change in subs-

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[9] John Lyons, *Structural Semantics: An Analysis of Part of the Vocabulary of Plato*; Oxford, Basil Blackwell, 1963. For this, you need a mastery of ancient Greek; I do not. In 4.3, p. 57, he writes "I propose to define the notion of 'semantic structure' in terms of certain relations [some of my functors] that hold between the items in a particular lexical subsystem." The subsystem in his book were Plato's epistemic concepts. "They include such relations as sameness and difference of meaning, incompatibility, antonymy, ... , which are customarily held to fall within the scope of the theory of meaning". Remember to substitute ^coherence^ for Lyons' 'meaning'.

tantives; when they change, they're altered, not replaced. A green colored orange changes to ripe orange, but it's still an orange. Concepts don't endure as substantives do. They're put out to 'archaic' pasture when a single change in their enjoined functor relations in conceptual space antiquates them--for certain purposes. When we're in the swamp counting the species of reptiles, visual tropes aren't antiquated. Back in the lab, DNA is now the preferred way to differentiate species found in wetted marshes.

The Form of an Entry, /lizard/, in a Conceptual Dictionary

This exemplar displays a substantive entry in a conceptual dictionary, which has inferences/algorithms. It shares all eight functors with other entries. Digitizing all lexical concepts, including street and scientific ones, is a very large task, but it doesn't start at ground zero. Our presently alphabetized entries are a well-endowed jumping off points. Balance digitizing costs against the boon it would be to philosophers, linguists, translators, and scientists from various fields of research.

^[**Subsume**, /]: ^reptile^ ^lizard^^. ^Lizard^ inherits all of ^reptile^'s coherent enjoined conceptual relations, but ^lizard^ has more enjoined trope concepts than the more generic ^reptile^ does, such as ^long slender tail^, unlike ^turtle^'s ^stubby thin tail^.

^[**Bond**, :] ^lizard^ ^four-legged^^. Think of bonding as approximately establishing a 'necessary condition' for being a lizard. ^Viper^ is also a reptile, but it's bonded to ^~legged reptile^; so, it's not a ^lizard^.

^[**Conger**, :+] ^lizard^ ^[four-legged scaly-skin slender body slender tail ...]^ This functor conjunctively bonds multiple tropes in an **attributive range**, ^[...]^, to the substantive concept

^lizard^. The concepts in an attributive congery range distinguish ^lizard^ from any other creature and any other substantive's concept. Add DNA attributes to bring its congery up to date.

^[**Link**, *****] ^lizard^ ^{small old crippled ....}^^. This is an enjoined, functor, but, any concepts in this **link range**, ^{...}^, as well as the range of its negated, incompatible concepts, ^{~small/-big/middle ~old/young/ juvenile ~crippled/able}^, may be coherently soothed of ^lizard^.

[**Sooth, .**] Sentences with a **sooth** functor **connect World** ➔ **Word** via [Emplace/Assign within [Bond]'s limits. Both ^[Sooth, .] lizard small^ and ^[Sooth, .] lizard ~small/large^ are coherent because they may be validly inferred from the coherent [Link]'s range of, {small/large ill/healthy...}, of incompatible concepts. [Sooth] is a **modally allowed** functor: ^[Sooth, **.**] ^S^ ^P & ~P^^. A **modally enjoined** functor is coherent with but one of the two incompatible trope concepts: ^[Bond, **.**] S P^ or ^[Bond, **.**] S ~P^. The coherence of [Bond, **:**] lizard four-legged]^ entails you're **modally enjoined** *not* to travel on the ^[Bond, **:**] ^lizard^ ^~four/two/zero` legs^^.

[Sooth] is easily confused with [Predicate]. Strictly, we don't 'predicate' a trope *concept* of a substantive *concept*. Give up on <Billy Joe's singing off-key> as if ^off-key^ is predicated of Joe's ^singing^. Think this metaphor instead: We sooth *travel* between concepts in lexical space, between ^singing^ and ^off-key^ just as we travel between San Francisco and Los Angeles in world space. Both count as one, unified ^trip^, one is literally in physical space, the other is in conceptual space. Yet, electrical energy literally travels on synaptic routes in brain space, beginning with **S**singing**S** neural location, ending with **S**off-key**S** neural location.

Usually, you're allowed to *sooth* incompatible trope concepts of the same substantive concept, but you're enjoined not to *bond* incompatible trope concepts with the same substantive concept. In extensional-speak, because having four legs is a '*necessary condition*' for being a lizard, a creature without four legs couldn't be a lizard. Radcliff reminded me that Wittgenstein suggested thinking of 'bonded' concepts as "criteria" for concepts, a less rigid bar. We do allow a legless lizard as 'anomalies' if most other conceptual bondings/criteria of ^lizard^ are satisfied. How many and which? White crows? Brainless children? ^Anomaly^ needs work.

In his first *Critique*. Kant tried to understand how, starting with a blooming, sensory "manifold" of percepts (colors, sizes, shapes, odors, sounds, pains, tastes), this can be a data base suitable for discursive knowledge. It can't be explained without a conceptual logic at our command. That's why I claim I'm extending Kant's revolution. The world's electromagnetic energy activates our sensory apparatuses that transform that energy it into electro-chemical energy that causes Kant's sensory "manifold". This is a rewrite of Kant's: "... I assume that the objects, or—what amounts to the same, fn.75—the *experience* in which alone they (as objects that are given to us) can be cognized, conform to those concepts." (See Fn. 13, p. 26) ^Substantive^ and ^trope^ are conceptual constructs. In our "*experience*" of them in an Impressionistic blooming manifold, they're just data, not yet ^substantive^s nor ^trope^s,. But when the data are coherently emplaced or assigned to subjects and predicates of sentences' variable terms, that data are loaded into conceptual/lexical space and transformed into ^substantive^ and ^trope^ concepts.

The coherent emplacement of particulars—their caused traces appear in our sensory manifold—into sentences' subjects and predicates conceptualize, a substantive concept, say, ^hand^, (S), and a trope concept, ^hot^, (P). Such a process yields propositions with a coherent duo of conceptualized substantives and tropes: ^[Sooth, **.**] hand   hot^ and ^[Sooth, **.**] hand ~hot^. Coherent propositions entail the truth value of their allied statements, either <[Sooth, **.**] hand hot> or <[Sooth, **.**] hand ~hot>. So, distinguish **(i)** substantive/trope data from **(ii)** constructed substantive and trope concepts. Further, **(iii)**, distinguish both from physical entities that you can literally move as ground zero emplacements into sentences' variable terms, e.g. /lizard/ and /four-legged/.

Here's a coherent ground zero example of emplacing a physical substantive and trope, if anyone's adroit enough to control a slippery lizard long enough, into in a sentence's form to produce the following proposition:

> **^^**[Emplace] **E**lizard**E** @ /lizard/**^** **&** **^**[Emplace] (lizard)
> **E**four-legged**E** @ /four-legged/**^^**.

/Lizard/ and /four-legged/ are the subject and predicate in the token sentence /Frogs are four-legged/. The parenthesized (lizard) in the second emplacement above is there because physical tropes are always guests of physical substantives that *carry* them into predicate tokens, as a physical lizard carries a physical four-legged trope into /four-legged/. We couldn't conceive different kinds of substantives without using the tropes they carry. That may be why Donald Williams thought of substantives as ^bundles^ of tropes. Who needs substantives other than as constructions out of tropes to comprehend the world per Berkeley? There's more on [Emplace] in the section "[Emplace] replaces [Refer]", this essay, p. 25f.

The main difference between ground zero emplacing and assigning is that we physicaly **emplace** substantives and tropes in sentences' variable terms and proper names. Whereas, we can coherently **assign** *unperceived* data, if we can validly infer they exist or existed. A recent astronomical discovery illustrates a coherent assignment. "A planet that is rocky like Earth and only slightly bigger has been discovered orbiting Proxima Centauri, the nearest star to our solar system ... The international team of astronomers that announced the discovery did not actually see the planet but deduced its existence indirectly, by using telescopes to spot and precisely calculate the gravitational pull on the star by a possible orbiting body—a tried-and-true method of planet hunting." (*San Francisco Chronicle*, Associated Press; 08/25/2016)

^[**Identify**, =] ^Mark Twain^ ^Samuel Clemens^^. An identify proposition is coherent if and only if /Mark Twain/ and /Samuel Clemens/ have one and the same coherent emplacement. Frege's example was the identity of the Morning Star and the Evening Star. S. Kripke mistakenly claimed some statements with proper names (Nixon) are *synthetic* | *a priori*; both parts of this attribution are alethic distinctions outmoded by conceptual logic.

^[Enjoined] [Identify, =] ^**E**nixon**E** @ /Nixon/^ **&** ^**E**37th president of the USA**E** @ /(nixon) 37th president of USA/^^**.** If both /nixon/s have one and the same coherent emplacement, then the [Identify] proposition is coherent. Who else was our 37th elected President? Kripke mistakenly thought the above proposition is a sooth statement qualified by the alethic modal, [Possible]; from that he correctly inferred the contrary to fact subjunctive, <But he might not have been>. If he'd noted it's an [Identify] proposition, as I did here, he needn't have dashed his raft on the

incoherent *synthetic | a priori* statement. In conceptual logic, ^Twain=author of^ identity is a coherent proposition with a leutic **enjoined modality** as in ^[Assign, =] **A**mark twain**A** @ /Mark Twain/ & **A**(mark twain)author of *Huckleberry Finn***A** @ /author of *Huckleberry Finn***A/** ^. Who else wrote that book? Kripke advised us to rely on historical information. I've done so.

Applying this to emplacements into /lizard1/ and /lizard2/ tokens, if these distinct tokens on different pages of a book have one and the same coherent emplacement, the lexical tokens occupy one and the same location in conceptual space; hence, they're one and the same concept.

Researchers working on 'machine' translation could use the above sketch for ^lizard^ as a model for logically relating an entry to other entries in a conceptual dictionary. This form of conceptual information could be coded software, which, incorporated with conceptual logic's inferential algorithms, could improve machine translations of languages' lexical vocabulary. Using these inferences would also reduce the bloated amount of 'associated' data presently used while yielding more precise results. In case the algorithms don't yield a determinant result, you have to de juris revise entry tokens' information. Algorithmic failures require revision; concepts undergo change, and so should their software.

Pause for a Summary

Concepts are physical tokens that exist in a logically structured space. They reside in what I call a **lexical/conceptual space**. It has eight dimensions; seven are different interpretations of binary subject-predicate sentences' copulas. Five dimensions are internal to conceptual space; [Emplace] and [Sooth] are hybrid func-

tors, external/internal; the eighth functor is enjoined conceptual negation, [~], which differs from alethic negation, /-/. [~] Negates concepts and propositions , [-] negates statements The equivalent of [~] in alethic logic is [non-], as in "non-rusty" in syllogistic logic, which, too, negates a concept. Otherwise, keep the two negations, [~] and **[-]**, distinct. This part of conceptual logic deals with subject-predicate sentences: /Jack is hungry/. It doesn't include relational sentences: /Jack is hungrier than Jill. Work on their logic is underway. Hint: Relations are ordering functors, not concepts, nor substantives, nor tropes.

Any entity that has a place in the structure of conceptual space is a concept. All piles of ink on paper in the form of "dove" and it's pronounced air waves have a place in English (and Italian) lexical space; they're concepts. Any substantive "dove" token is a variable into which we may coherently emplace any dove. Any token occupying the same 'latitude and longitude' in that place is one and the same concept. When a dove is coherently emplaced into /dove/'s location in that space, *while there*, the dove, too, is a concept. /Evod/, unless encrypted in reverse order, has no place in English or Italian lexical space; so, it's not a concept in either language, and has no coherent emplacements.

Coherent emplacement has the virtue of putting both word tokens and the world's physical substances and tropes in the same conceptual space. It frees us from Frege's disruptive "sense" and "reference" dualism. A structural account of concepts and coherent sentences can heal the long festering wounds inflicted on us by Plato's pre-*Sophist* definition era, and Leibniz's and his admirers' whole/part compositional metaphor: Propositions' 'meaning" is

composed of their terms 'meanings'. This alone shows alethic logic is seriously inadequate for conceptual work.

Critiques of Three Functors Endemic to Analytic Philosophy:

[Refer], [Name], [Correspondence]

Conceptual logic and coherence value are the flagships of the extension of Kant's Copernican Revolution. He'd shifted a sophisticated epistemology into a dominant position over ontology, and his 'concepts' replaced British empiricists simpler, psychologically associated 'ideas' and 'impressions'. See fn. 12, p. 26, and fn. 13, p. 27.

My conceptual logic and epistemological extension of Kant's Revolution turns the order of world and language 180 degrees from its currently prevailing direction. Regnant analytic philosophers go from Word → World. That relation is supported by claiming we use lexical terms "to refer to" and "to apply" them to world items. This direction induces us to think our lexical terms for substantives and tropes, and of mass entities, such as water, are similar to names of individuals. We should, instead, go in the opposite direction, World →Word, **assign/emplace** the world's physical substantive and trope data *into*, respectively, our sentences' grammatical subjects and predicates to give them world content.[10] This enables us to cognize the world, because we incorporate its wholes, parts, features, relations, and aspects into a logical, conceptual order.[11] I explain in more detail below.

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[10] "...Philosophy is not a quest for knowledge about the world, but rather a quest for understanding the conceptual scheme in terms of which we conceive of the knowledge we achieve about the world...The world doesn't have scaffolding. Rather, in doing philosophy, we come to realize the character of the grammatical and linguistic scaffolding from which we describe the world, not the scaffolding of the world." Quotations from James Garvey's "(Peter) Hacker's challenge"; *The Philosophers' Magazine*, Issue 51; October 25, 2010. See Wittgenstein's *Tractatus*, 6.124.

[11] "The great Supreme Court cases turn on the majestic ambiguities embedded in the Constitution. It is not a simple thing to define and apply terms like "the freedom of speech", or "equal

The three philosophic concepts I critique dominate Anglo-American philosophy; they've gone global, adopted by much of the philosophical world. I replace them. My replacements are nourished by conceptual/lexical logic and by nominalism. We need a public, shareable vehicle for coherent discourse. This spurred my search for a logically structured **conceptual space** of *visual, audible, ... tokens*, that are shareable: "Do you *hear* me?" Methodologically, nominalism is the best way to construct and maintain a cognitive, linguistic community of orally, visually, tactually equipped citizens without which there cannot be a civic community informed and rational enough to be peacefully contentious, something like Socrates sought in Plato's early dialogues.

My inquiry supersedes solely an academic adventure. See my *The Philosophy of Urban Existence: Prologue*; Athens OH, Ohio University Press (1973). There I show that a civic arts program may integrate a city of neighborhoods housing diverse classes and cultures into a concinnated culture. San Francisco and San Diego did this once under the leadership of June Dunn-Gutfleish. Conceptual logic is the ground for *Urban Existence: Epilogue* I plan to write that shows how diverse neighborhoods may be integrated into a city by acquiring shared concepts to concinnate our civic discourse and, so, our lives.

Here are my replacements for the three basic functors on which analytic philosophers rely.

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protection of the laws", much less explain how much process is 'due'". Jeffery Toobin; *The New Yorker*, March 9, 2015. Note "define" and "apply". To "apply" a 'defined' word assumes the Language → World direction. I advise you to give up on ^define^. Instead, look for ^freedom^, ^equal^, and ^due^'s places in structured, lexical space.

REPLACEMENT ONE:

[Emplace/Assign] replaces [Refer/Apply to]

[Emplace/Assign]s' direction is **World → Word**.

[Refer/Apply to]'s direction is **Word → World**.

[Emplace/Assign] turns 180º in direction from [Refer/Apply to] for connecting language and the world.

The world is cognized discursively when it's incorporated into a logical, conceptual structure. To acquire this knowledge, we pass from percepts to concepts ("percepts without concepts are blind", Kant famously noted). He, however, misleadingly wrote that we *"apply"* our language to the world.[12] Although, that's the wrong direction, he rightly *described* its correction direction: "conform **to** those concepts", World → Word.

How do we know which objects "conform to" which concepts? My explanation is that "objects" "conform" to a concept just in case they are coherent emplacements/assignments into a token variable or a proper name. Knowing that an "object" conforms or not requires knowing the proper area in conceptual space where, say, the token /glue/ is located in order to determine if the 'object' **E**glue**E** may be coherently emplaced into the token /glue/. For that, you have to know to which trope concepts ^glue^ is **bonded,** such as ^sticky^, ^viscous^/, and ^holds objects together^; if the glue-object coherently carries those tropes into their bonded trope terms, /sticky/, /viscous/ ..., it's coherent to emplace that object into /glue/; *it conforms*. Once this is done, you know the prop-

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[12] *Critique of Pure Reason*, B 150, "On Applying the Categories to Objects of the Senses as such".

osition ^This emplaced object is glue^ is coherent and <This emplaced object is glue> is true, because their emplacement profiles are S+P+.

According to most current analytic philosophers, we refer when we *apply names* to world items. We *apply* the token /dog/ to individual dogs or their classes, a token of "brown" to individual patches of brown tropes wherever they may be; this is the **Word → World** direction. "Pick out" is oft used. Emplacing/Assigning goes in the opposite direction, it puts the world's substantives and tropes *into* sentences' places where lexical tokens reside; this is the **World → Word** direction. The token /dog/ is a substantive *variable* wherein we may emplace *any* dog coherently. Upon emplacement, the dog becomes the **semantic subject** of the sentence "The dog is brown". Similarly, any coherently emplaced brown trope into the *variable* /brown/ becomes the **semantic predicate** of that proposition.

Peter Radcliff astutely asked me if these competing directions "allow the world to have the same set of items and the only issue is whether to point to an item or emplace it?" The answer is "No". I understand why he asked that question. It reflects Kant's remarks in fn. 13 below. [13]

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[13]   In Kant's Preface to the Second Edition of the first *Critique*, B xv – xix, he rethinks the relation between concepts and the world. He's still a bit muddled, but he writes pretty clear sentences in B xvii, p. 21 - 22, that shows he accepts the World → Language direction as a "revolutionary" change. "... I assume that the objects, or—what amounts to the same, fn.75—the *experience* in which alone they (as objects that are given to us) can be cognized, conform to those concepts". He specifies "those concepts" are a priori. None of mine are. The transcendental deduction isn't needed. Interpret his a priori concepts as those we're modally [Enjoined to] combine with others within the structure of conceptual space. I reconceive Kant's "a priori' modally as ^[*Enjoined* to say] (A canary is a bird)^ and modally ^[*Enjoined not* to say] (A canary is a snake)^. Such propositions find their coherence ground in the logical structure of conceptual space.

W. Pluhar, the translator, in footnote 73, p. 22 on *Vorstellungen* elides the via passive translation of *Vorstellungen* as ^represents^; he prefers a via attiva translation as "something we do"; it's a functor not a relation. He asks us never to translate it as "represent" in the sense of "stand for". Good, this is important. *Critique of Pure Reason*, translated by Werner S. Pluhar; Indianapolis/Cambridge, UK, Hackett Publishing Co., 1996.

There he uses the wrong term, "applied", but uses "conform" correctly; a hammer conforms **to**, →, ^hammer^ is coherent. He may have thought ^applied to^ and ^conform to^ are compatible concepts; but their directions are 180º different. He was looking for the conditions of discursive knowledge, knowledge "that". To succeed, he had to wed percepts → concepts. I argue that for the perceived world to be known discursively requires we coherently emplace our perceived data object and its tropes as the semantic content within the sentences of a discursively friendly conceptual/logical space. Until that's been done, there aren't any 'facts', no 'states-of-affairs', nor are there substantives or tropes. /Pig/ and /eat/ in /Pigs eat/ are variables. A flesh and blood pig is **any** entity that is a coherent emplacement in /pig/, **any** swallows-its-slop is a coherent emplacement in /eat/. [Any] is a nominalistic-friendly quantifier and the only quantifier used in this conceptual logic.[14]

REPLACEMENT TWO: Variables Replace Names

The tokens /pig/ and /eat/ are *variables*, not names, just as the token letters in "a + b = c" are variables. We get a coherent arithmetical proposition if we emplace /2/ in /a/, /3/ in /b/ to arrive at /5/ in /c/ on the numeral series. /2/ + /ant/ = ? This is incoherent, has no answer, because no ant is an ordinal numeral. Moving to the right [+] in the numeral series starting at /2/, then moving three more places to the right, we end up at /5/. Thusly, we've produced the *coherent proposition* "2 + 3 = 5". That's how we use the abacus; we move beads on wires to coherently emplace numerals from our numerical series into a formula with variables, "a + b = c". /Ant/s aren't invited emplacements.

Do not interpret the *coherent proposition* "2 + 3 = 5" as a *true statement* any more than "2 + 3 = 6" as a *false statement*. Numerals

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[14]   See "Two Squares of Opposition" on my home site for interpretations of /any/.

aren't world substanives or tropes outside our language; they're physical tokens inside languages, unlike 'abstract' numbers. **'N**umbers**'** were invented to be non-linguistic entities outside languages that make statements true, illegitimate progeny of the correspondence account of truth. Numerals are inside our o*rdered* conceptual space where coherence of lexical tokens order reigns; there are no true or false statements there.

REPLACEMENT THREE:

The Coherence Account of Truth Value Replaces Correspondence

Most contemporary analytic philosophers hold that the truth of statements is determined by a correspondence between statements/sentences and facts/states-of-affairs. This is incoherent. Sentences' ^substantive^ concepts are bonded to their trope concepts by logical functors: ^[Bond] canary yellow^. They're also subsumed, ^[Subsume] cat lion^. And negated, ^[~][Identify] hat cap^. Our manifolds' data caused by nature doesn't come with seen, heard, or brailed operational functors. Without having similar *structures*, it's incoherent to say sentences/statements 'correspond' to facts. Hence, the correspondence account of truth value is incoherent.[15] Marx and Hegel often misused ^contradiction^, a logical concept, when they should have used ^opposition^, a power struggle concept. Kant was explicitly clear about their difference.

Consider /The dog is brown/. If a dog is emplaced into /dog/, that's a coherent act (S+); and if, upon emplacing the dog in /brown/, it carries a brown patch into "brown", that, too, is coherent, P+: S+P+. Whenever we have an S+P+ or an S+~P+ proposition, ^The dog is white/~brown^, we're entitled to say its allied statement is *true*. The other fifteen emplacement variants on the Emplacement Chart entitle us to say a statement is *false* or its value is *unknown*. I combine a two-val-

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[15] See p. 13, [Sooth], for the reasoning behind this argument.

ued logic with three-valued truth judgments. Hence, there are sixteen emplacement variants.[16] Coherence logic is our *ur*-logic, the deep basement structure underwriting all truth logics.

These 'replacing' challenges reject standard analytic assumptions, analytic philosophy's twilight. Once the refer/name/correspondence triade is superseded by conceptual logic's replacement triade, emplace/variable/coherent, philosophical practices will "change, change utterly", if a goodly corps of philosophers invest in the new conceptual logic, commit to further research, and use it, including teaching it and alethic logic in their logic classes. It could nurture a revival of philosophers thinking without habitual reliance on the prevailing orthodoxies.

Conceptual logic is more useful for hard legal cases that turn on conceptual challenges than alethic logic; hence, it should be part of pre-law requirements just as alethic logic is now; the same goes for the philosophy curriculum. Inventive lawyers and all philosophers live and die by their conceptual skills. Since the new conceptual logic underwrites standard alethic truth value on which "analytic" philosophers currently rely, there's nothing to lose and much to gain.

I've chosen those three assumptions to critique because they're central for the 'analytic' school, and also because they're mal-fecund. They've begotten tens upon tens of other mistakes in their wide, infectious sweep. I've addressed several of them on my website to show how conceptual logic changes the way we can think better about ancient controversies, such as the Liar and other paradoxes, conventionalism, the Square of Opposition, Kant's Categorical Imperative, and how to reason differently about evaluations of personal, group, and universal moral

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[16] See this essay's Appendix for the Emplacement Chart with "sixteen emplacement variants"; the chart presents the maximum number of relations between two coherence values (coherent/incoherent) and three truth values (Entitled to claim true, false, or unknown).

acts.[17] My books and website address these controversies that show we get better resolutions by using a conceptual rather than an alethic methodology.

I'm challenging current orthodoxies as Boole, Moore, Russell, Frege, Dewey, C. I. Lewis, R. Carnap did, a century ago, when they challenged Aristotelian logicians and Absolute Idealists' orthodoxies. Compare an 1890 *Mind* with one in 1940. Philosophy progresses.

Twenty-first Century philosophers, especially young ones, need a new logical canon to supplement the alethic canon favored by older analytic philosophers still working on a tributary dominated by a mathematical orientation to philosophy. The advent of conceptual logic opens philosophy to a grander scale of conceptual research. It's time for the young cadre to begin afresh, to lead the next philosophical epoch, even if you have to reject comfortably familiar but incoherent, endlessly iterated alethic philosophical orthodoxies. Your next step is to learn the new logic and its valid inferences. The full shot, so far, is in *The Logical Structure of Conceptual Coherence 3.0*. The lesser is in *A Precis of Conceptual Logic*. Both are on my website. To reach it, use the short address, sfsu arthur bierman; its shorter than my URL:

http://philosophy.sfsu.edu/philosophy/page/arthur-bierman.

The Coherence Generated Truth Table

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[17]   I deal with the last two issues in *The Critical Thinking Handbook*, Part IV, A. Bierman and R. Assali; Prentice-Hall, Upper Saddle River, NJ (1996).

THE EMPLACEMENT CHART/TABLE

FOR [SOOTH, .] PROPOSITIONS

	S	P/~P	V	
1	+	+	T	S+ P+ or S+ ~P+ (Abbreviation: S+ P/~P+)
2	+	-	F	S+ P-
3	+	~	F	S+ P~
4	+	?	U	S+ P?
5	-	+	F	S- P+
6	-	-	F	S- P-
7	-	~	F	S- P~
8	-	?	F	S- P?
9	~	+	U	S~ P+
10	~	-	F	S~ P-
11	~	~	U	S~ P~
12	~	?	U	S~ P?
13	?	+	U	S? P+
14	?	-	F	S? P-
15	?	~	U	S? P~
16	?	?	U	S~ P?

In the S(ubject) and P/~P(redicate) columns, "+" indicates you know a coherent emplacement has been made; "-" indicates you know no coherent emplacement exists, S- and/or P-; /~/, coming *after a term*, "S~" and/or "P~", indicates there's been an incoherent emplacement. "?" indicates you don't know if a coherent emplacement exists for a gram-

matical subject or predicate. In the V(alue) column, "T" indicates you're entitled to claim a statement is true, "F" that you're entitled to claim it's false, and "U" indicates your entitlement is unknown. Arguments for each line in the chart may be found in "The Logical Structure of Conceptual Coherence 3.0" on my website.

The Emplacement Chart is a Table of **[Sooth, .]** (only) propositions' coherence values and also of what you're entitled to claim for their allied sooth statements' truth values. This Chart goes beyond Wittgenstein's truth tables. The first row is the only one whose sooth propositions are coherent and whose allied statements are true. The Chart/Table shows the **Coherence Account of Truth** at work: Coherent propositions **entail** the truth value entitlement values of their allied statements. / [--}]/ symbolizes the [Entails] functor:

$$^S+ P+^\text{'s coherence} \ [--}] <S+ P+> \text{ is true};$$
$$^S+ {\sim}P+^\text{'s coherence} \ [--}] <S+ {\sim}P+ \text{ is true}.$$

The entailments hold because both coherent propositions and true statements' terms have identical ++ emplacements. Statements are proposition rewrites of sentences with coherent emplacements plus explicit or implicit *claimed* truth value entitlements. The other fifteen rows' of emplacements in /S/ and/or /P/ are incoherent for either of three epistemological reasons:

(i) It's known that /S/ and/or /P/ have no emplacements: $^S-^$ and/or $^P-^$;

(ii) it's known that /S/ and/or /P/ have incoherent emplacements: $^S{\sim}^$ and/or $^P{\sim}^$;

(iii) it's not known that /S/ and/or /P/ have coherent emplacements: $^S?^$ or $^P?^$.

None of the other fifteen rows are coherent propositions; hence,

their allied statements have no entitlement to truth value, because they fall short of the S+ P+ and S+ ~P+ truth value emplacement conditions.

Visibly Showing the Validity of Conceptual Inferences

An inference is conceptual if at least one of its premises is a proposition with a conceptual functor. The following inference **shows itself to be valid**. Suppose there are ++ emplacements in the terms of the following premises.

> ^[Subsume, /] ^animal^ ^dog^^
> ^[Subsume, /] ^dog^ ^~pug^^
> _____
> ^ Subsume, /] ^ animal^ ^pug^^

This inference is valid, because ^animal^ is + in the first premise and so is ^pug^ in the second premise. Perforce, given that identical emplacements are made in the inference's similar terms, if the premises are coherent, we're enjoined to say the conclusion, too, is coherent, ++, valid and sound. This procedure extends to the same form of an alethic inference by the Coherence Account of Truth explained in the above section. Validity is an empirical enterprise, kin to Wittgenstein's empirically constructed truth tables. The following inference is valid for the same reasons as the above inference is.

> ^[Subsume, /] ^animal^ ^dog^^
> ^[Subsume, /] ^dog^ ^terrier/~pug^^
> _____
> ^ Subsume, /] ^ animal^ ^terrier/~pug^^.

This holds since each of the concepts in the following coherent [Link] propostion's range , {...}, of concept is incompatible, [~], with each other. This is shown in the second premise's last term.

> ^[Link, *] ^dog^ {pug terrier greyhound ...}^^.

The substantive concepts in this proposition's range are incom-

patible because they have incompatible congeries of tropes. The congery for ^greyhound^ contains the trope concepts, ^lean^ and ^tall^ while ^pug^'s and ^terrier^'s do not.

Epigram

"...a mathematician, writes Kepler to his aristocratic patron, has nothing and obtains nothing. Perhaps because his pocket is empty and his pencil plays with abstractions ..., he knows only signs, not things."

Claudio Magris (*Danube)*

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