

**Meaning and Mapping:
Sellars on Predication and Representation**

by

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The following individuals certify that they have read, and recommend to the Faculty of Graduate and Post-doctoral Studies for acceptance, the thesis entitled:

**Meaning and Mapping:
Sellars on Predication and Representation**

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Abstract

Wilfrid Sellars (1912-1989) developed a broadly deflationary, non-relational analysis of traditional semantic vocabulary. However, Sellars also developed a broadly inflationary, “correspondence” theory of “matter-of-factual” truth and linguistic representation, in which language-world relations play an important role. By contemporary lights, there is a certain tension in the combination of these Sellars’s advances, concentrated in his claim (in *Science and Metaphysics*) that “the *criterion* of the correctness of the performance of asserting a basic matter-of-factual proposition is the correctness of the proposition *qua* picture” [ch.V, §57].

This paper addresses the tension in Sellars’s project, in an attempt to reconcile the analysis of semantic vocabulary with the account of “picturing” as a natural-order, language-world relation. I first situate Sellars’s theory of predication against the backdrop of theses advanced by Russell and early Wittgenstein. I then present Sellars’s analysis of semantic vocabulary and draw out his (albeit skeletal) account of the relation of semantic vocabulary to descriptive vocabulary, here proposing that a causal, anthropological account of the proper functioning of ‘...means...’ is supposed to fill an apparent gap most recently addressed by Lionel Shapiro (2014). Finally, I defend Sellars’s distinction between *pictorial* structure and *logical* structure, arguing that it stems from a disagreement with Wittgenstein of the *Tractatus* and yields a response to Irad Kimhi’s (2018) criticisms of compositionalist picture-theoretic accounts of propositional complexity.

Lay Summary

I tackle some theoretical issues concerning the relationship between a sign (utterance or inscription) and the symbolic representation that it encodes. Computational machinery took off in the twentieth century from advances in philosophy driven by reflection on simple sentences admissible as premises in argumentation. A simple sentence is admissible as a premise only if it is apt to be *(un)true* and is so apt only if it says something of something. In order to say something of a thing one must make a statement in which a name for the thing, or something like a name for it, occurs. Naming a thing then makes possible some measure of control over it and one's relation to it, but names are, of themselves, inert. A system of signs is animated by significant use of them to form complex representations and I sketch a Sellarsian account of how this works.

Preface

This thesis is the original, unpublished work of Ewan Townshend, sole author.

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Chapter 1

p: Fa and aRb

1.1 A Preliminary Model

Consider the statements:

- (1) a. Lake Michigan is water.
- b. The London Eye is circular.
- c. Vancouver is north of Seattle.

Each of the above is meaningful, true, and easily verified with a quick search. We should then be able to say something informative about three factors in the analysis and explanation of simple truths like these: (i) the job of the logical subject(s)¹, ‘The London Eye’, ‘Lake Michigan’, ‘Vancouver’ and ‘Seattle’ (ii) the job of the logical predicate or relational expression, ‘... is round’, ‘... is water’ and ‘... is north of ...’; and (iii) how these go together. The evidence is in favor of the copula being at least in principle dispensable. In various natural languages no-nonsense sentences are produced in which no analogue of an ‘is’ or ‘are’ occurs; in English too – consider:

- (2) a. Theaetetus sits.
- b. Socrates thinks.
- c. Alice adjoins Bob.

So in short, if we suppose that the copula is a tense indicator and abstract away from the variety of lexical categories items in which can be used to form English verb phrases, we can identify the grammatical structures typically assigned to (1a-b) and (2a-b) with the logician’s formula:

¹Paradigmatically, proper names.

(3) Fa

and the structures assigned to (1c) and (2c) with the formula:

(4) aRb

where F is one place predicate, R is a two place predicate, and a and b are singular terms linearly concatenated (in some order) with predicates to form atomic sentences.

As to the origins of this model, my understanding is that Gottlob Frege and C.S. Peirce independently arrived at systems of logic capable of handling polyadic predicates, i.e. n -adic *relations*, and nested quantification.² Peirce, Frege and later, Wittgenstein, were “into” notations. Russell wanted a logical-metaphysical scheme more amenable to rigorous scientific inquiry than the systems offered by his Idealist predecessors. *Relations*, the *logic* and *nature* thereof, were (equally) essential for Russell, but he was primarily concerned with purely formal matters in the foundations of mathematics.³ The *problem* of relations is, from a purely formal standpoint, a peculiar one. Roughly, it is that in order to have *one* real relation, you seemingly need infinitely many more just to relate relations to things. For now, we can work with F.H. Bradley’s description of the problem:⁴

From terms taken as in themselves unrelated, and from a relation not taken as itself their relation, there is no logical way to the union present in, and required for, the relational fact

and Russell’s (1903) view as to the role of the *method of analysis* in generating the problem:

A [relational] proposition, in fact, is essentially a unity, and when analysis has destroyed the unity, no enumeration of constituents will restore the proposition. [30, §54]

²Frege first introduced a polyadic system in *Begriffsschrift* (1879), wherein he presented a two dimensional notation and a sketch of its place in the Logicist program. C.S. Peirce, son of the mathematician Ben Peirce, opposed the Logicist program, favoring a conception of deduction as experimentation on diagrams. He introduced a polyadic system in “On the Algebra of Logic: A Contribution to the Philosophy of Notations” (1885), and later developed a graphical notation (“Existential Graphs”), which constitutes a proof system amenable to a game-theoretic semantics. Since the rediscovery of his work by Russell, Frege’s work has been more widely disseminated; but prior to Russell, Peirce’s work was better known to logicians. Variations on Peirce’s algebraic notation – e.g. $\exists x(xRb \wedge bR\check{x} \wedge x \neq b)$ – are standard in contemporary presentations of the predicate calculus, but graphical notations have made a comeback recently in knowledge representation and reasoning; e.g. John Sowa’s “Conceptual Graphs” are a variation on Peirce’s lesser-known EG notation.

³Russell (in 1924) sums up the early development of his thought as follows: “At Cambridge I read Kant and Hegel, as well as Mr. Bradley’s *Logic*, which influenced me profoundly. For some years I was a disciple of Mr. Bradley, but about 1898 I changed my views, largely as a result of arguments with G. E. Moore... Analysis of mathematical propositions persuaded me that they could not be explained as even partial truths unless one admitted pluralism and the reality of relations. An accident led me at this time to study Leibniz, and I came to the conclusion... that many of his most characteristic opinions were due to the purely logical doctrine that every proposition has a subject and a predicate. This doctrine is one which Leibniz shares with Spinoza, Hegel, and Mr. Bradley; it seemed to me that, if it is rejected, the whole foundation for the metaphysics of all these philosophers is shattered. I therefore returned to the problem which had originally led me to philosophy, namely, the foundations of mathematics, applying to it a new logic derived largely from Peano and Frege, which proved (at least, so I believe) far more fruitful than that of traditional philosophy” [31, p. 127]. Though Russell does not recognize it, Peano was influenced by Peirce’s work in the algebraic tradition [26].

⁴In a posthumously published paper, “Relations”, quoted in [28].

1.2 Meanings

In talking about (i') the *contributions* of 'a' and 'b', (ii') the *contributions* of 'F' and 'R', and (iii') the *unity* of these contributions in *what is said* by things with the shape of (3) and (4), philosophers inspired by the advent of polyadic quantificational logic have tried to say something informative about meaning (generally), and meanings (plural) against the backdrop of certain influential views about the nature of propositional form and content. Around the mid-point of the twentieth century, quite general objections were raised to a conception of *meanings* as *objects*.⁵ *Descriptivism*, as a theory of *reference* associated with this conception, later came under fire in a second wave of criticism in the early 1970s. With this second wave arose the so-called 'New Theory of Reference' associated with Donnellan, Kripke and Putnam.

The traditional framework that came under fire was something like the following. Meanings are objects associated with expressions in such a way as to determine semantic, or more broadly, 'intentional' relations of expressions to definite parts of the (a, any possible) world. A person's understanding of a language then can be thought to consist in their somehow psychologically relating *to* meanings associated with expressions. The meaning of a first-order object expression (paradigmatically, a proper name) can be identified with the meaning of a (formally equivalent) definite description; so, in effect, a cluster of criteria for application of the expression to an individual, somehow guiding use of the expression in a responsive capacity. Such criteria present, provide a way of recognizing, or specify conditions for *being*, the individual to which an expression refers, and thereby determine its reference.⁶ In parallel, the meaning of a general term is a *comprehension* associated with the term; that is, a (definite) collection of attributes common to various individuals, collectively functioning as a criterion which determines the application range, or extension, of predicative expressions formed from the term, and thereby relating the expression to a definite *class* of objects each of which *has* each of the attributes collected.⁷

In short, language, and by analogy thought, was seen as getting in touch with the world in the language-to-world direction; and as if by piling on predicates to form increasingly complex predicates. The determinate reference of a proper name was seen as an effect of focusing the indeterminate reference of the quantifier, and the essential idea was that, in keeping with Leibniz's Law, i.e.:

$$\forall F(Fx \equiv Fy) \Rightarrow x = y$$

meanings associated with predicates of a descriptive vocabulary are truth-functionally combined in meanings associated with (increasingly) complex descriptive phrases that 'hone in' over time, like missiles, on target entities in the (typically, extra-linguistic) world of some specific description.⁸

⁵Or in more traditional terms, with the positing of "intensional entities", with a purported explanatory role.

⁶Donnellan [9, 10] took issue with the 'principle of identifying descriptions' for proper names, and Kripke [16, 15] with the idea that proper names are 'disguised descriptions'.

⁷Putnam [25][27] famously took issue with this 'criterialist' picture of extension fixation for general terms.

⁸This conception of meanings as objects had as its upshot that synonymy, or sameness of meaning, could be seen through the

1.2.1 Our World

The prevailing model for scientific theories was at the time that of a layer cake. In this model analytically valid inferences were supposed to provide a way of traversing ‘bridges’ between an observational base-vocabulary and a theoretical vocabulary erected (at least in philosophical reconstructions) with the setting out of meaning postulates in early stages of theory construction.⁹ Observational base-vocabularies were to retain a privileged status *vis-a-vis* various theoretical vocabularies developed atop them over time, because in the background of all this semantical theory was a *phenomenalist* proposal for *explaining* the significance of simple observation statements formulated in terms of a base (with which the analysis of theoretical vocabulary ‘bottoms out’). The phenomenalist proposal was, roughly, to subordinate meanings of expressions in observational base-vocabularies to (descriptions of) *sense-data* complexes. The thought was that meanings associated with expressions in the languages of various (special) scientific theories could be subordinated to meanings associated with expressions in observational base vocabularies underwriting theoretical vocabularies, and these (the hope being, eventually) subordinated to meanings associated with (expressions in the universal language of) sense-data.

Translations could then be analyzed as assertions of equivalences of meanings associated with expressions in observational-cum-theoretical vocabularies. And with the language of each theory seen as bottoming out in a common observational base-vocabulary, statements formulated in terms of a theoretical vocabulary (e.g. in perceptual contexts) could then be understood as made true by (material) identities of sense-contents (at the perceptual boundary of language and world). When considering changes in theory over time, the privileged status accorded to an observational base (the sum of *our*, ‘phenomenalistic’ idiolects), in its expressions being so related to sense-data and to various theoretical vocabularies (by the work of scientists), suggested that each expression in the language of each theory in a sequence of theories over time (with a common ‘phenomenal’ base) could be more or less precisely translated into the languages of the theory’s predecessor and successor.¹⁰ Together with the traditional idea that the meaning associated with an expression determines its reference, this provided ample support for the idea that semantic relations of parts of (true) statements to parts of the world (however reconstructed in terms of sense-data) are likewise more or less fixed across radical changes in theory.

lense of objectual identity as an equivalence relation on *contents*, rather than *things* (proper). If synonymy is an equivalence relation and the meaning associated with an expression (in some context) determines its reference, then the synonymy of two subsentential expressions guarantees that any statement which asserts the identity of the referents of the expressions is true. So *synonymy* dovetails with *substitutivity*, and the inference from some statement, *S*, to any other statement, *S'*, which is the result of substituting parts for synonymous parts in *S*, is semantically indefeasible, i.e. truth-preserving, in virtue of meaning alone (so, analytically valid).

⁹That is, in stipulating how the meanings of items introduced in a theoretical vocabulary were to be subordinated to the meanings of expressions already in the inventory of a common observational base-vocabulary.

¹⁰If need be, by way of a detour, via the relevant meaning postulates, to expressions in the common base vocabulary the meanings of which are (or in principle could be) appropriately subordinated to all and only the same sorts of sense-data.

1.2.2 My World

This framework also proved fruitful in dealing with analytical problems more specific to the philosophy of language; in particular, in analyzing *failures* to preserve truth-values under substitution in a sentence for co-referential sub-sentential expressions. Such failures can in this framework be accounted for by the *non-identity* of meanings associated with co-referential expressions, but which can nevertheless be said to be *responsible* for the co-reference of the expressions. Consider, for example, failure to preserve *meaning* under substitution of ‘Phosphorus’ for ‘Hesperus’ or ‘Venus’ for ‘Phosphorus’ in:

Hesperus is Phosphorus

and so failure to preserve *reference* (e.g. of ‘that’) under substitution of ‘Venus is Venus’ for ‘Hesperus is Venus’, in:

Jones says that Hesperus is Venus

in light of the facts that (as we now know):

Hesperous, i.e. the morning star, *is* (i.e. turns out to *be*) Venus

and

Phosphorous, i.e. the evening star, *is* (i.e. turns out to *be*) Venus

And the parallel failure to preserve meaning under substitution of ‘water’ for ‘ H_2O ’, or vice versa, in:

water is H_2O

generally (as said by *anyone*), and so to preserve reference under substitution of ‘ H_2O ’ for ‘water’ in:

I think that Twin Lake Michigan is water.

wherein ‘water’ involves an implicit reference the epistemic community of which I am a member.

These failures of substitution *salva veritate* can, in the meanings as objects framework, be explained by the *non-identity* of meanings associated with expressions (in some discursive context): ‘Hesperous’ (i.e. *the morning star*), ‘Phosphorus’ (i.e. *the evening star*), ‘Venus’ (i.e. *the second planet from the sun*), ‘water’ (i.e. *transparent drinkable liquid in lakes and rivers*), and ‘ H_2O ’ (i.e. *the composite stuff in our lakes and rivers, here, now, on earth and in the vicinity*). So, ‘meanings as objects’ contributed a seemingly essential *analytical* tool when it came to matters of interpretability in *non-extensional* or so-called ‘intensional’ contexts; paradigmatically, translation statements and statements by which an assertion is ascribed to a thinker or speaker.

The parallel analysis of statements which are attributions of beliefs and thoughts, e.g.:

Jones thinks *Hesperous is Phosphorous*

as *relational* statements, which relate individual persons (or cognitive agents) and propositional contents, takes us quickly into central metaphysical issues in the philosophy of mind pertaining to cognitive relations and the ‘objectivity’ not just of thoughts and beliefs, but of *propositional complexity*. We in the end would *like* an account of the difference between the complex, e.g.:

Hesperous is bright *and* Phosphorous is bright

and the atomic:

Venus is bright

as thought by me. But as Tyler Burge observed: “the question of what substitutions are admissible on purely logical grounds in oblique belief contexts presents no mere exercise in formal semantics. Dealing with it forces one to consider issues about the relation between language and mind, the community and the individual” [2, p. 119].

1.3 An Alternative to the Frege-Tarski Model

How do the parts of an ‘*Fa*’, or an ‘*aRb*’, or an ‘*R'abc*’, go together as a *unit*: *p*, which is, so to speak, *fit* for Boolean operations, e.g. $\{\neg, \wedge\}$? That is essentially what Donald Davidson calls the “problem of predication”:¹¹ “Once plausible assignments of semantic roles have been made to the parts of sentences, the parts do not seem to compose a united whole”, and “it is as if a child who has taken a watch apart cannot put it back together” [7, p. 4]. *Semantic relations* and *functional application* form the core of what we can call, following Rescorla [29] the Frege-Tarski model of predication.¹² This model works well for certain purposes. But here I will sketch what I think is a preferable model, developed by Wilfrid Sellars (1912-1989).

Sellars was a Nominalist¹³ and remarkably *efficient* theoretician. We lack a thoroughgoing account of his “theory” of predication and its relation to his carefully articulated theories of meaning, truth and linguistic

¹¹Though Davidson adds: “Just as this book illustrates two different routes into the simplest sentential structures, starting with reflections on the role of proper names might end up doing the same thing. ‘The Problem of Proper Names’ might then have taken the place of ‘The Problem of Predication’ ”[7, p. 4]

¹²Frege’s innovation was to regard predicates as denoting (i.e. semantically relating to) functions from objects to truth-values (‘concepts’). Tarskian predicates like Fregean functional expressions are ‘incomplete’ expressions with *n*-many ‘open’ argument positions and concatenated with *n*-many terms in some order to form sentences. Sentences formed from predicates are called ‘open’ if unbound variables occur in argument position, and are truth-evaluable (saturated) just in case either denoting expressions or bound variables occur in argument position. Finally, (the value of) an *n*-place predicate is said to (apply to, or) be *true of*, i.e. *satisfied by*, an (*n*-tuple of) object(s) (in a model). So we can, at least in this sense, speak of the ‘Frege-Tarski’ model.

¹³The label ‘Nominalism’ is, however, to be immediately qualified. Sellars wants to *demythify* abstract entities (along with the place of mind in nature), but he wants to do this by showing them to have a *derivative* status as ‘distributive’ *natural-linguistic* objects, rather than eliminating them from the picture entirely. Skyrms writes: “In what sense is Tractarian Nominalism nominalism at all? It is certainly not nominalism in the sense of Goodman [‘A world of individuals’] or Quine [‘On what there is’], since it finds quantification over properties and relations of individuals just as acceptable as quantification over individuals, and cashes both in

representation. This is an unfortunate situation. So, the bulk of what follows is targeted re-presentation of an underappreciated corner of Sellars’s systematic philosophy. In the next chapter, I outline this alternative to the Frege-Tarski model. In the third chapter, I present Sellars’s analysis of semantic vocabulary and build on it in two ways. First, I sketch a resolution to an apparent tension in Sellars’s account of (empirical) truth – which is, by contemporary lights, at once “deflationary” and “inflationary”. Second, I outline a proposal for filling a gap in Sellars’s account of the relation of semantic vocabulary to descriptive vocabulary, which has been addressed by Ruth G. Millikan [20, 21, 22] and Lionel Shapiro [47].¹⁴ In the final chapter, I draw out Sellars’s distinction between *pictorial* and *logical* complexity, which stems from a disagreement with Wittgenstein of the *Tractatus*, and yields a response to Irad Kimhi’s [14] concerns about a threat to the *principle of compositionality* on going “picture-theoretic” accounts of propositional complexity.¹⁵

terms of facts. But its properties and relations are all properties and relations *of* individuals and its facts are all *first-order* facts: facts ‘about’ individuals. There are no higher-order facts: facts consisting of relations between relations and objects or relations between relations and relations. In particular, there are no causal relations between relations and individuals.” [48, pp. 206, 202]

¹⁴With a naturalistic (causal, anthropological) account of the proper functioning of ‘...means...’. Though Sellars feigns no explanatory hypothesis, *explication* of the proper functioning of ‘...means...’ is at the core of his philosophical semantics.

¹⁵That is, the (Fregean) principle that the content of a syntactic complex (in some context, however global) is determined by the contents of its constituents (in that context) and the manner of composition.

Chapter 2

Predicates

Suppose we take as our starting point for a theory of propositions (i) that a simple sentence, ‘ Fa ’, expresses (stands for) a proposition just in case each of its parts names something – ‘ a ’ some *thing* and ‘ F ’ something which is not a thing, e.g. a concept – (ii) that the proposition expressed is true if it corresponds to a fact (how things are), and (iii) that the logical copula (as component of ‘ a is F ’) names a relation that relates a and F when ‘ Fa ’ is asserted. Call this relation R^* , and note the further assertion that a is R^* to F [$R^*(a, F)$], connected to the assertion that a is F .

If to be a (first-level) predicate is to be R^* -related to some *thing*, e.g. a , b , etc. we might try to analyze ‘ aRb ’ and ‘ bRa ’ along the same lines as ‘ Fa ’, but in effect treating R -to- b [$-Rb$] and R -to- a [$-Ra$] as distinct predicates, and noting the further assertions that a is R^* to R -to- b [$R^*(a, Rb)$] and that b is R^* to R -to- a [$R^*(b, Ra)$]. With Russell [30], we might just as well treat R -relatum-of- a [$aR-$] and R -relatum-of- b [$bR-$] as predicates; then, noting the further assertions that b is R^* to R -relatum-of- a [$R^*(b, aR)$] and that a is R^* to R -relatum-of- b [$R^*(a, Rb)$], we would have in all four further assertions connected to these two (which together say that the relation is mutual). We might then try to identify *the proposition that aRb* in connection with the set of terms, $\{R, a, b\}$, and the assertion that the couple $\{a, b\}$ is R^* to R . If we let R be a set and R^* set-membership, we might try to define the relation R in extension by listing couples like these; but since sets are indifferent as to *order*, there is nothing in the symbolism which guarantees the identification of the meaning of ‘ R ’ with R rather than its converse \check{R} , and so the meaning of ‘ aRb ’ with *that aRb* rather than *that $b\check{R}a$* , and of ‘ bRa ’ with *that bRa* rather than *that $a\check{R}b$* .

The connection of the main assertion to the further relational assertion noted above does not help one to non-arbitrarily identify the proposition asserted with *that aRb* , and here we run into regress. Since each part of e.g. ‘ a is R^* to Rb ’ names some thing, there must be a relation, R^{**} , which relates R^* to a and Rb . Then each part of ‘ R^* is R^{**} to a and Rb ’ names some thing, and we need another relation, call it R^{***} , which relates R^{**} to R^* , a and Rb ; and we are off on a variation of Bradley’s regress. We might in response distinguish with (early) Russell between relations *as named* (“in themselves”) and *as actually relating*, letting the latter

“relating relation” be “distinguished from a relation in itself by the indefinable element of assertion” [30, p. 99]. Then while assertion of a further relation is *implied* by assertion of the proposition *that aRb*, this further relation is external to the proposition *as asserted*. In other words, no further relations of *a* and *b* to *R* are contained in the proposition *that aRb*, but are implied by the proposition. So, the regress – while ever-looming – is not vicious, *as long as* (the relevant) propositions are asserted and (the relevant) facts are described, but neither are named. This is, roughly, where Russell left off in *Principles of Mathematics*.

The usual set-theoretic treatment of relations as sets of order pairs deals with the first of these problems extensionally. By taking *order* as primitive (i.e. the universe to be ordered by set-membership from the outset), and identifying e.g. the pair $\langle a, b \rangle$ with the set $\{a, \{a, b\}\}$ and the pair $\langle b, a \rangle$ with the set $\{b, \{a, b\}\}$, and letting ‘ \check{R} ’ denote $\{y, \{y, x\}\} : \{x, \{x, y\}\} \in \text{den}(R)^i$ we can associate ‘*aRb*’ and ‘*bRa*’ with distinct claims, i.e. that $\langle a, b \rangle \in \text{den}(R)^i$ and that $\langle b, a \rangle \in \text{den}(R)^i$. This works well enough in considering (composition-wise) the *reference* of ‘*a*’, ‘*b*’ and ‘*R*’ in ‘*aRb*’, but what about its *sense*? In the set-theoretic treatment “a couple becomes essentially distinct from a class of two terms, and must itself be introduced as a primitive idea” but, as Russell remarks, “it would seem, viewing the matter philosophically, that sense can only be derived from some relational proposition” [30, §98].

In order to account for my recognition of a difference between what is said by ‘*aRb*’ and what is said by ‘*bRa*’, it seems one must mention the fact that ‘*a*’ is right of ‘*b*’ (in the latter case), and the fact that ‘*b*’ is right ‘*a*’ (in the former), and *say that* these are (somehow) correlated with distinct propositions. At least, in order to be *recognized* as expressing *that aRb* (as opposed to *that bRa*), the complex ‘*aRb*’ must be considered as something over and above the *list of terms*, $\{R, a, b\}$ and the external assertion that the couple $\{a, b\}$ is R^* to *R*. One must it would seem recognize not just the names (as couple), but *the fact* that the names are *so related*, or (by proxy) the ordered *pair* of terms $\langle a, b \rangle$ or $\langle b, a \rangle$ and relate this (as term) to *R* in either case. But ‘*R*’ is, like ‘*a*’ and ‘*b*’, a *word*, and is related (as name) to a *relation* (of particulars), so its nominatum *R* cannot be R^* -related to a *fact* about particulars (first-level state of affairs intension), or, if facts are no longer unities, to an *ordered pair* of words each of which is related, as name, to a particular.¹

Let us instead suppose there is a relation, call it *exemplification*, which can *only* be expressed by placing names for *things* (however complex) and names for *somethings* which are not things proper (e.g. first-level concepts), in some *conventional* relation, e.g. by concatenating the names. We might symbolize concatenation with ‘ \frown ’, and say generally that an ‘*Fa*’ is an ‘ $F \frown a$ ’ and that an ‘ $F \frown a$ ’ implies that *a* exemplifies

¹As Russell says in his (later) *Logical Atomism* phase: “the conception of the relation as a third term between the other two sins against the doctrine of types, and must be avoided with the utmost care”; continuing: “What, then, can we mean by the doctrine of external relations? ... A relational proposition is not, in general, logically equivalent formally to one or more subject-predicate propositions. Stated more precisely: given a relational propositional function “ xRy ”, it is not in general the case that we find predicates α, β, γ , such that, for all values of x and y , xRy is equivalent to $x\alpha, y\beta, (x, y)\gamma$ (where (x, y) stands for the whole consisting of x and y), or to any one or two of these. This, and this only, is what I mean to affirm when I assert the doctrine of external relations; and this, clearly, is at least part of what Mr. Bradley denies when he asserts the doctrine of internal relations.” [31, p. 139]

F (-ness, -ity, -hood, etc.). In the relational case: that an ' $R(t_1, \dots, t_n)$ ' is an ' $R \wedge 't_1' \wedge, \dots, \wedge 't_n'$ ' and that an ' $R \wedge 't_1' \wedge, \dots, \wedge 't_n'$ ' implies that t_1, \dots, t_n (jointly) exemplify the (n -adic) relation R . In explaining my recognition in the sign ' aRb ' of the proposition *that* aRb (rather *that* bRa) one can then appeal to my recognition (as a well-versed member of our community) of the *complex* of names (of particulars, concatenated in that order) as concatenated with a name of something which is *not* a particular (i.e. a specific universal).

This move is a twist on a suggestion from Wittgenstein; as found in *Tractatus Logico-Philosophicus* [52]:

We must not say, “the complex sign ' aRb ' says ' a stands in relation R to b '”; but we must say, “*That* ' a ' stands in a certain relation to ' b ' says *that* aRb ” (3.1432)

In that work (esp. 3.1-3.5), Wittgenstein tries to identify the logico-syntactically 'essential', perceptible features of propositional signs and to exploit a “pure description” of these to interpret an ideally perspicuous “co-ordinate” language.² The strategy employed above is a “twist” on Wittgenstein’s suggestion, in that Wittgenstein argues the only *essential* components of the propositional sign: ' aRb ', i.e. those features “which alone enable the proposition to express its sense” as opposed to those “which are due to a particular way of producing the propositional sign” (3.34), are names for a and b , and a conventional (dyadic) relation of the names.³

Wilfrid Sellars argued that Wittgenstein had failed to appreciate the significance of the idea that one can *only* say *that* aRb by placing names for a and b in a conventional dyadic relation. This was, Sellars thought, because Wittgenstein was bewitched by his ontology of facts into thinking that the propositional sign is a fact (TLP 3.14),⁴ and it was, Sellars emphasized, Russell who first *applied* Wittgenstein’s insight to evade Bradley’s regress of relations. Sellars claimed, however, that Russell evades Bradley’s regress too late, because he too “begins with too rich an ontology” [38, p. 63].

The real bite of the thesis developed in the *Tractatus* is, Sellars says, that the *function* of the predicate *terms* of our own subject-predicate language is dispensable in a symbolism. The ideal language that Wittgenstein’s envisions would be one by translation into which (*pace* Russell), predicate *symbols* with which we are left on the ground floor could quite literally be broken up and dissolved into arrangements of names, and the content of the logical constants then specified (in the language) in terms of rules for transforming perceptible arrangements of (descriptively specifiable) *arrays* of conventionally characterized names.⁵ So Russell had, Sellars argued, built in a logico-syntactic contingency. We make use of an ' F ', ' R ', or more generally, concatenate n -many singular terms in some linear order with an uppercase letter, to do *in a linear notation*,

²“The sign is the part of the symbol perceptible by the senses.” (TLP 3.32)

³“In order to recognize the symbol in the sign we must consider the significant use.” (TLP 3.326)

⁴“*Indeed, Wittgenstein’s own failure to appreciate the full significance of his analysis can be traced to his ontology of facts.*” [38, p. 65].

⁵Sellars writes: “Wittgenstein in the *Tractatus* suggests that the compatibilities and incompatibilities of semantically significant styles might reflect the compatibilities and incompatibilities of quality spaces” [38, p. 68, fn. 2].

what could otherwise be done by imbuing, in the process of production, descriptively *n*-adic (perceptible) features on names in accordance with alternative conventions in a polydimensional symbolism.⁶

On the other hand, Sellars claims that Wittgenstein's notion of *picturing* collapses into *translation*, and that as a result of this collapse, Wittgenstein [49, 10e] draws the consequence:

The limit of language is shown by its being impossible to describe the fact which corresponds to (is the translation of) a sentence, without simply repeating the sentence.

(This has to do with the Kantian solution of the problem of philosophy)

Sellars then wants to *prevent* this collapse of picturing into translation, and revive the Tractarian thesis on an ontology of just particulars. His *diagnostic* hypothesis is that:

The standard theory has been pursuing single-mindedly the idea that in '*Fa*', the '*F*' and the '*a*' stand in distinct and autonomous semantic relations to extra-linguistic reality. The former stands for something, the latter for something else. The former something is predicated of the latter something else. [45, p. 320]⁷

And he advances a pair of positive theses:

- (5) a. "By virtue of being an '*a*' concatenated with an **F** [a conventional monadic design feature], an '*Fa*' is an '*a*' which has a character by virtue of which it is semantically associated with *F*-things."
- b. "When looking for an explanation of the truth of 'red *a*' we should concentrate on the fact that '*a*' is a [linguistic representative] of *a* and that in the sentence 'red *a*', the '*a*' has a character by virtue of which it belongs to a class of linguistic representatives of red things." [45, p. 320]

Here, I will illustrate a basic distinction between *semantic associations* at work in (5a) and *representation relations* at work in (5b), by restricting *the world* to a few figures and introducing two "toy" observation languages: FOL and Jumblese. A note before proceeding in this task: the overwhelming temptation in philosophical analysis is to read ontology off of surface grammar, and if doing so is inevitable, we ought to read Jumblese. It is a wonderfully *efficient* symbolism.⁸ Sellars showed that taking it seriously as *inter-translatable* with interesting fragments of our own (natural) languages, sheds light on the boundary between

⁶A linguistic *convention*, in this sense, is simply an actual but not necessary *pattern of behaviour* which primarily consists in cooperative *tokenings-in-response*. As Ruth Millikan puts it, a "convention, in the sense that a natural language contains conventions, is merely a pattern of behaviour... such that *if* the pattern has a function... then it is not the only pattern that might have served that function about as well... linguistic conventions correspond to reproducing lineages of cooperatively used tokens-with-responses" [21, p. 60].

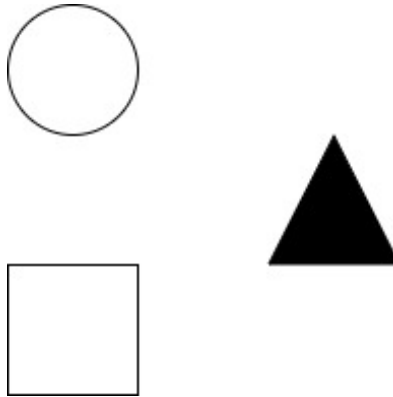
⁷Here and elsewhere, I have capitalized lower-case '*f*'s in the quoting.

⁸As McFarlane observes, Jumblese makes it obvious that "it is the grammatical constructions themselves, not the expressions involved in them, that should be called logical or nonlogical", because it "contains nonlogical predicate constructions but no nonlogical predicate expressions", and a similar strategy can be used to devise a language which "would not contain specifically

logic-using and non-logic-using representational systems, and makes possible a rich “perceptive nominalism” according to which “the varieties of mapping are as multiple as simple *matter-of-factual* qualities and relations” [38, p. 76].

2.1 The World

Consider:



A simple description: this is a white circle above and left of a black triangle above and right of a white square.

A ceremonious dubbing: let this circle be called Alice, this square Bob, and this triangle Carol.

2.2 FOL

Suppose while in the presence of these things we encounter some creatures who produce the following inscription in a language familiar to philosophers, which we can call FOL:

$$\begin{array}{lll}
 Ca & Sb & Tc \\
 Wa & Wb & Bc \\
 aLc & bLc & aAc \\
 cRa & cRb & cAb
 \end{array}$$

logical expressions... [but] would have logical modes of construction” [19, note 4]. As Gangle et al. highlight in their reconstruction of the ‘logic of picturing’, Sellars has recognized that “the compositionality of relations in a notation which instantiates relations directly provides a natural means for simultaneously representing multiple relations in a complex or conjoined system without requiring any additional representational machinery”; “one does not require additional symbols to represent logical relations such as conjunction or additional rules to establish at least some logical properties such as the commutativity or associativity of conjunction” because “merely empirical features of the notation (such as the juxtaposition of written signs on a common sheet) are formally sufficient to model some of the features that will eventually be understood as abstract logical properties (such as the commutativity and associativity of conjunction)... [thereby providing] a potential basis for explaining how purely logical elements of cognition (such as the logical conjunction of properties or propositions) might emerge from, roughly, inductive generalizations of empirical features of practical language use” [12, p. 260]

With *semantic associations*, Sellars then has in mind something like the following:

'a' means <i>Alice</i>	'C' means <i>circular</i>
'b' means <i>Bob</i>	'S' means <i>square</i>
'c' means <i>Carol</i>	'T' means <i>triangular</i>
'B' means <i>black</i>	'L' means <i>left of</i>
'W' means <i>white</i>	'R' means <i>right of</i>

So we get:

'aAb' means *Alice is above Bob*

2.3 Jumblese

Suppose, while in the presence of Alice, Bob and Carol, we are now run upon by another strange group of creatures, whom Sellars calls the Jumblese, and that they produce the following inscription in their own language-in-use, made-up by Sellars and called Jumblese:

à ¸
¸
b ¸

The principle here is quite simple: *contrary* determinations of simple signs correspond to *contrary* determinations of things.⁹ The point is that we can just as well make the following semantic associations:

'a' means *Alice* | 'b' means *Bob* | 'c' means *Carol*

but in Jumblese there are no syntactic objects corresponding to the predicate terms of FOL. So to semantically associate Jumblese expressions, we must employ a different strategy; we can either describe the Jumblese conventions – “they write a name adjoining another name when in the presence of a thing adjoining another thing” – or go directly to the sentential level:

'a' means <i>a is circular</i>	'à' means <i>a is white</i>
'b' means <i>b is square</i>	'b' means <i>b is white</i>
'c' means <i>c is triangular</i>	'¸' means <i>c is black</i>
'ac' means <i>a is left of c</i>	'bc' means <i>c is right of b</i>

Again, having identified 'a', 'b' and 'c' as names, we get:

' $\frac{a}{b}$ ' (in Jumblese) means *Alice is above Bob*

⁹Note: in the end this expression will in fact turn out to be 'ill-formed' in Jumblese, though still legible with the right punctuation. The formation rules do not allow multiple *copies* of a name to occur in a single (atomic) sentence (predicational form), so the above is *said with a stutter*, so to speak. The correct form is obtainable by recognizing the Jumblese demand that *type-identity* (of the simple *sign*) reduce to *token* identity, and imagining the one above 'reverse-engineered' by (illicit) copying:

à *
 ↑
* ← ¸
 ↓
b *

2.4 Essentials in a Notation

We have here three ‘forms of words’ which mean *Alice is above Bob*:

Alice is above Bob | aAb | $\frac{a}{b}$

and three which mean *Carol is triangular*:

Carol is triangular | Tc | c

The forms in each group have two characteristics in common. First is the presence of names semantically associated with Alice and Bob: ‘Alice’, ‘Bob’, ‘ a ’ (x2), ‘ b ’ (x2). Second is a perceptible feature conventionally imbued on the names in the process of production. *Which* (n -adic) perceptible feature is the variable.¹⁰

2.5 Semantical Systems and Representation Relations

Various attempts have been made at doing away with *propositions* and reconstructing these in terms of more concrete things, like sentences. Rudolf Carnap [3] tried to do so by analyzing belief and assertion statements so that the criterion for identity of belief (or assertion) is *intensional isomorphism*.¹¹ Alonzo Church brought to light some essential issues with this analysis [6, 5]. Most pressing was that if the English sentence:

(i) Timmy said that Carol is triangular

is analyzed as:

(ii) There is a semantical system, S' , such that Timmy produced a sentence of S' , the translation of which into English is ‘Carol is triangular’

then one cannot infer (i) from (ii) *on purely logical grounds*; i.e. without making use of the (extra-logical) fact, not contained in (ii), that:

‘Carol is triangular’ (in English) means *Carol is triangular*

¹⁰We have, in the first case, three pairs of *names* “standing in a certain relation”, belonging to a *system* of relations, such that each pair satisfies the abstract requirement that n -adic configurations of names represent n -adic configurations of things. *Which* relation the names stand in is a matter of convention generally, but we have here three *specific* conventions. That it is *these* conventions (which I have chosen for illustration) is a matter of logico-syntactic contingency. But what will (later) do the work of preventing a collapse of *picturing* into *translation*, is simply the *specificity* of the conventions (which ‘take hold’ *over time*) but as (initially) involving a matter-of-factual correlation of *this* specific (spatio-temporally localized) array (in 2.1) of 2D things (*these* “configurations” of things) with *this* specific (spatio-temporally localized) array (in 2.3) of Jumblese names (*these* descriptively specifiable configurations).

¹¹Two sentences are said to be intensionally isomorphic just in case the designating components of the sentences correspond to one-another in such a way that sequences of truth-preserving substitutions in one sentence correspond to sequences truth-preserving substitutions in the other. For a more detailed presentation at the level of designator matrices, see [18].

The assumption in Carnap's analysis is that 'English', and whatever expression means *English* in *S'* (granted there is such), each "have a sense which includes a reference to matters of pragmatics" [6, p. 99]; something like "the language most commonly used in London, England, 2020".

Church suggested that one might resolve the problem by taking each of these expressions to have the sense of "the language for which such-and-such semantical rules hold", then saturating the descriptive phrase by listing enough rules to ensure that only one language (empirically) satisfies the description. Sellars went in this direction by introducing the notion of a linguistic *role*.¹² Sellars's semantical theory – an early form of "inferential role" semantics – is the subject of the next chapter. What is important for now is that *semantic associations* are distinct from *representation relations*; with the latter Sellars has in mind something like the following:

'Alice's (in E) represent the circle inscribed above
'Bob's (in E) represent the square inscribed above
'Carol's (in E) represent the triangle inscribed above

where 'represent' is short for a description correlating tokens of names and the shapes inscribed above; or as we know them – Alice, Bob, and Carol.

Suppose we find that with some regularity each group produces (among their peers) 'a's when in the presence of and in response to Alice, 'b's when in the presence of and in response to Bob, and 'c's when in the presence of and in response to Carol. We might then say:

'a's represent Alice
'b's represent Bob
'c's represent Carol

And we might say that this is *because* e.g. the Jumblese (typically) *do* write a name left of another name when in the presence of a thing which is left of another thing, and a name above a another name when in the presence of a thing which is above another thing, and a *grave* name when in the presence of a white thing and an *acute* name when in the presence of a black thing, *in accordance with the rules of their language*.

Given all this, one might then think that it necessary to introduce a *thing* somehow *represented* by predicates terms occurring in sentences of FOL and English. Sellars argues that positing some abstract entity, e.g. *T-ity*, as co-present with and somehow related to Carol (on the page above), and saying that:

'is triangular's (in English) represent *T-ity*

and

'*T*'s represent *T-ity*

contributes nothing to an explanation of the semantic association:

¹²Roughly, he maintains that when an expression occurs in an ostensibly non-extensional context it functions either in a (as I understand it, *syncategorematic*) *term-forming* capacity, to *illustrate* the function of an expression in some (target) linguistic economy for others who already understand how to use a *background* language-in-use, or as designating a *role* that might be played by expressions in various languages, as determined by a battery of *rule-statements* sufficient to ensure that *only one* language game empirically satisfies the description.

'*Tc*' means *Carol is triangular*

because it tells us nothing about what is going on in:

'*c*' means *Carol is triangular*.

In *explaining* the attribution of empirical content to a *predicate* (term) we must appeal to relations like:

'*Tc*'s represent Carol

'*aLc*'s represent Alice

'*aLc*'s represent Carol

which correlate sentence tokens with things, since when our target is Jumblese, we can *only* appeal to relations like:

'*c*'s represent Carol

'*ac*'s represent Carol

'*ac*'s represent Alice

Chapter 3

An Analysis of Semantic Vocabulary

The search for an adequate conception of *synonymy*, as equivalence of content, dominated analytic philosophy of language around the midpoint of the twentieth century. Sellars bucked this trend, and opted for a fresh analysis of meaning-attributions in one natural habitat: translation statements. Sellars argued that we should not be so quick to take semantical statements in our own language at face value. He assimilated all of the ostensibly (dyadic) relational contexts:

- (6) a. ‘ – ’ (in L) refers to –
b. ‘ – ’ (in L) stands for –
c. ‘ – ’ (in L) expresses –

to the ostensibly relational context:

- (7) ‘ – ’ (in L) means –

and this (primitive) *ostensibly* relational context to the classificatory context:

- (8) ‘ – ’ s (in L) are · – · s

where the dots are a special kind of quotation mark, understanding of which enables the frame (as a whole) to be employed as a sort of technical device. Dot-quotes provide a handy notation that I will make use of, so here I briefly elaborate the groundwork for this account.¹

3.1 ‘...means...’

Substituted in for the left-hand side of the frames in (6-8), Sellars tells us there are (linguistic) distributive singular terms (DSTs). A *non*-linguistic DST would be, for example, ‘the wood tick’ in the context:

the wood tick carries pathogens

¹The analysis of semantic vocabulary covered schematically here is presented in a number of places, most fully in [35]. An early paper – [43] – provides clues as to its relation to Carnap’s project, as well as an early account of the function of dot-quotation in a *notation*; i.e. Sellars’s reasons for designating linguistic *roles* (functional types) in this way in a *written* symbolism.

which, since ‘the wood tick’ is formed from the common noun ‘wood tick’, we paraphrase as:

wood ticks carry pathogens

A *natural-linguistic* DST would be, for example, ‘the ‘i’ ’ in the context:

the ‘i’ (in English) goes before the ‘e’ except after a ‘c’

which we can paraphrase as:

‘i’s (in English) go before ‘e’s except after ‘c’s

This is of course just a paraphrase of the meta-pragmatic maxim:

‘i’ before ‘e’ except after ‘c’

wherein the reference is to a symbol *type*, as opposed to *token* (a distinction which comes down to us from C.S. Peirce). In Sellars’s analysis natural-linguistic DSTs then play the role of what might otherwise be called expression types; they *distribute* over natural linguistic objects – i.e. utterances and inscriptions (tokens) – belonging to a temporally extended lineage of determinate repeatables.²

At home on the right-hand side of frame (7), Sellars tells us there are *illustrating sortals*. The notion is rather intuitive. Sellars observes that in contexts like:

‘W’ (in FOL) means *white*

‘wit’ (in Dutch) means *white*

as well as contexts like:

‘aLc’ (in FOL) means *Alice is left of Carol*

‘ac’ (in Jumblese) means *Alice is left of Carol*

the English expression while still an English expression functioning in English, does not have its usual job. The expression is not functioning (respectively) as a predicate or sentence with its normal assertoric function, nor as an abstract singular term (in either case, i.e. term for a property or proposition). In this context the English expression is neither *used* (in the ordinary way) nor mentioned, but ‘held up’ – “*exhibited*, so to speak” – to *illustrate a linguistic role* which is attributed to tokens over which the DST on the left distributes.³ Sellars observes that just as ‘pawns’ in:

Pawns attack on the diagonal

abstracts away from the empirical features of pawns to include such items as e.g. erasers and bottle caps (in a pinch), which are *pawns* insofar as their movements are governed by the rules of chess, ordinary quotation marks when used to form a sortal, as in:

²I clarify this claim, as well as my use of the notion of expression “types” and of various sorts of type-expressions below.

³This has the effect of familiarizing fellow speakers of the background language (e.g. English) with the function of a (typical) token of the expression (type) on the left, in some target language, by having them “rehearse in imagination” a (typical) tokening of the illustrating expression on the right. Sellars writes that the ‘...means...’ rubric “is a linguistic device for conveying the information that a *mentioned* word... plays the same role in a certain linguistic economy” as does the “*exhibited*” expression on the right, with which participants in the discourse are presumed to be familiar. [33, pp. 163–164]

‘Alice’s (in English) are names

enable us to abstract away from the empirical features of the written sign, i.e. A-L-I-C-E, to include vocalizations and any other items which play a role (in English, here, now) relevantly similar to A-L-I-C-E. We can then imagine, Sellars says, a form of quotation that abstracts away from the empirical features of tokens of expressions in *various* languages, so as to form by quotation of some English expression an *inter-linguistic* sortal in the extension of which is *every* item, in *any* language, that plays a relevantly similar *role* to the quoted English expression in its various forms. Sellars’s suggestion is then that the *illustrators* which we find on the right-hand side of (7), are (from a semantical standpoint) functioning in this (translatory) context as *sortals*, thus flanked by a *specialized form of the copula*. This depth-grammar he indicates with dot-quotes, so we get the paraphrases:

‘*a*’s (in FOL) are ·Alice·s

‘*a*’s (in Jumblese) are ·Alice·s

and

‘*W*’s (in FOL) are ·white·s

‘wit’*s* (in Dutch) are ·white·s

and:

‘*aLc*’s (in FOL) are ·Alice is left of Carol·s

‘*ac*’s (in Jumblese) are ·Alice is left of Carol·s

In sum, as Sellars writes, in “Meaning as Functional Classification” [35, p. 431]:

According to this analysis, meaning is not a relation for the very simple reason that ‘means’ is a specialized form of the copula. Again, the meaning of an expression is its ‘use’ (in the sense of function), in that to say what an expression means is to classify it by means of an illustrating functional sortal... We could, instead, have listed the syntactical rules which govern the word [in each case]... [and] in general the rule governed uniformities which constitute a language (including our own) can be exhaustively described without the use of meaning statements.

3.2 ‘... stands for ...’

Consider the following semantical contexts in which abstract entity talk typically enters into an argument in anglophone philosophy of language:

- (9) a. ‘*a*’ (in L) refers to *o*
b. ‘*F*’ (in L) stands for *F*-ness (*F*-ity, *F*-hood, Being *F*, etc.)
c. *o* exemplifies *F*-ness (etc)

On Sellars’s analysis ‘... stands for ...’ turns out to be a form of the ‘...means...’ rubric (so, copula) specialized to semantic and alethic contexts wherein an illustrator is transformed into a *meta-linguistic distributive singular term*. Affixes like ‘-ity’, ‘-hood’ and ‘-ness’, as well as contexts like ‘Being –’ and ‘that –’, are to be understood as nominalizing devices that transform illustrating sortals into meta-linguistic DSTs. So in short, in semantic and alethic (as opposed to translatory) contexts the illustrators:

·triangular·
·Carol is triangular·

are transformed into DSTs which distribute over expression-tokens of any material form (in any language) that play a relevantly similar role to the (English) expression surrounded with dot-quotes (here, now). I will employ the definite article ‘the’ to reflect this transformation with a surface form; then we get the ‘sense-preserving’ paraphrases:

Triangularity ≈ *the* ·triangular·
that Carol is triangular ≈ *the* ·Carol is triangular·

where in each case the definite article is to be compared with the definite article in:

the pawn attacks on the diagonal

which is logically equivalent to (mutually entails):

pawns attack on diagonals

It is worth reflecting, for a moment, on the place of specifiers.⁴ Compare the *generic* ‘the ·red·’ of:

⁴An aside on asterisk quotation and “types” is also in order. Consider the familiar design, whereby a type-expression is formed with quotation marks: ‘red’. Compare the two introduced designs: *red* and ·red·. Sellars employs asterisk quotes to designate a class of linguistic events – a “token-class” (though he has in mind token-ings, or productions of tokens, which are of themselves particulars) – described as *the class of events* (productions of things) *to which a sample* (token *qua* product of linguistic activity) *belongs*; the sample which forms the basis for this description being *indicated* (“pointed to”) by production of a token surrounded with asterisks. There is then a three-fold distinction in play: (i) tokens, i.e. spatiotemporally localized utterances and inscriptions considered as such, e.g. this thing: red; (ii) token-classes, which is to say groups of resembling tokens, i.e. perceptually similar natural-linguistic things, designated by e.g. *red*; and (iii) families of token-classes considered as sharing a specific function, thus a (first-level) *type* (belonging to some *logical* category, e.g. predicate), which Sellars designates by e.g. ·red·. Sellars points to a parallel in chess: (i*) the particular pieces which constitute *my* chess set (crafted by someone); (ii*) classes of things which *are* conventional chess set *design-features* (the knights on my board are, like many others, horse-heads); (iii*) families of such classes considered as sharing a specific function (thus, the pawn may be a bottle cap, in a pinch, or a Ford, were we playing Texas chess with cars for pieces and counties for spaces).

In an early paper, Sellars tells us (ii)-quotation presupposes (iii)-quotation: “a linguistic token is not *linguistic* merely by virtue of the intrinsic characteristics (color, shape, melody) which it is observed to have. It must belong to a class of events which is associated with a linguistic role. Thus the concept of a linguistic role, which we have been adumbrating, is presupposed by the concept of a token-class” [43, p. 25]. In that paper Sellars also distinguishes between a *language* as system of type-expressions and as system of token-classes for a given language (type), and suggests we might refer to a type-expression (role) by means of the token-class which plays this role in written English, first introducing the convention of dot-quotation for this purpose, so that: ·red·, is understood as an abbreviation for: the type whose token-class in written English is *red*. He notes, here, that “this technique is available only where we are concerned with types which have token-classes embodying them in written English or in some other written language we are able to use” [43, p. 29].

So, the use of ‘type’, in connection with expressions in a language *qua* abstract identities, reference to which is achieved by surrounding a token with quotation marks, carries with it a dual connotation and resulting ambiguity that Sellars wants to avoid by distinguishing the token-class designated by e.g. *red* and the type-expression (role) designated by e.g. ·red·. Sellars’s linguistic roles (i.e. iii), designated by dot-quoted expressions, are *functional* types, consisting in token-classes with relevantly similar functions. By the use of regular quotation marks – e.g. ‘red’ – and in speaking of ‘types’ (in contrast to roles) *I* designate *families* of token-classes *considered as* temporally extended and causally connected *lineages* of tokens with *various* empirical characteristics (utterances *and* inscriptions), identities of which I take to be *asserted* in semantical contexts and *explained* (at least in part) by the (proper) functioning in a language (in similar ways) of tokens belonging to token-classes of the family. I take something like this account to be implicit in Sellars’s frequent use of regular quotation marks to include utterances *and* inscriptions; though he is sometimes explicit – specifying e.g. written English – the tendency is to abstract away from *utterances* in favor of their written (dot-quote-able) counter-parts given that philosophizing is, most often, performed in a written medium.

the ·red· is a predicate

and the *specific* ‘the German ·red·’ of:

the ‘rot’ is the German ·red·

Sellars considers:

(10) the ‘dreieckig’ is the German ·triangular·

as being of the same form as:

the pub is the poor man’s club

and tell us this is of the form:

the K_1 is the ϕK_2

Here, we have a distributive singular term occurring on either side, formed in each case from a common noun – ‘ K_1 ’ and ‘ K_2 ’ – but on the right, ‘ ϕ ’ functions as a *specifier*, which restricts the reference of the DST to a *sub-class* of the application range of ‘ K_2 ’. Sellars then wants to analyze (10) as logically equivalent to (mutually entailing):

‘dreieckig’s are German ·triangular·s

where the function of ‘German’ is to specify a linguistic economy. So, in speaking of *the* ·triangular· or *the* ·Carol is triangular· we are operating at the level of *logical categories* (genera); as in saying:

the ·red· is a predicate

which, transposed into the material mode, is to say:

Redness is a property

But in speaking of ‘red’s (in English), or saying:

the ‘rot’ is the German ·red·

we are concerned with specific uniformities characteristic of an actual linguistic economy.

One important take-away of this analysis is supposed to be that abstract entity talk in semantic and alethic contexts in philosophical English is innocuous to Nominalism, since e.g.:

‘ T ’ (in FOL) stands for Triangularity

turns out to have the depth grammar of:

the ‘ T ’ is the FOL ·triangular·

which is equivalent to:

‘*T*’s (in FOL) are ·triangular·s

and, e.g.:

the ‘*Tc*’ (in FOL) stands for *that* Carol is triangular

turns out to have the depth grammar of:

the ‘*Tc*’ is the FOL ·Carol is triangular·

which is equivalent to:

‘*Tc*’s (in FOL) are ·Carol is triangular·s

To be e.g. a ‘*T*’ (in FOL) is to be an utterance or inscription that satisfies syntactic and pragmatic criteria for being a token of *some* (specific) predicate term (type) *in FOL*. Introducing a meta-linguistic variable, ‘(name)’ (in L), the substituends of which are *names* in various languages,⁵ to be a ·triangular· is to be a monadic sign design feature, i.e. an **F**, conventionally imbued on names (in L), *such that* in virtue of the rules of L and matter-of-factual relations to triangular things that *would* result from actual following of the rules of L, **F** ‘(name)’s (in L) play a role in *inference* (in the linguistic economy of the L-community) relevantly similar to names (in English) concatenated to left of ‘is triangular’s (here, now). So, what are ostensibly relations to properties and propositions get analysed away as artifacts of a philosophical-cum-formal-semantic model of *semantic vocabulary* which, according to the analysis, is based in a misunderstanding of the form and function of meaning attributions in a natural background language in which the philosophical dialectic is conducted. The fact remains however that Sellars wants to leave room for real representational relations in his account of empirical content and “matter-of-factual” truth.

3.3 Truth: the “tension”

In “Truth and ‘Correspondence’”, Sellars first sketches his *analysis* of sentential truth (-in-L), propositional truth, and the connection of these. In *Science and Metaphysics*, Sellars presents a revised account. In each presentation, Sellars’s *analysis of the background language* reveals *truth* to be a *semantic* notion, which (in the late paper) he reconstructs as *semantic assertibility*. But *picturing* remains a non-semantic, natural-order relation of extra-linguistic *things* (e.g. *F*-things) and natural-linguistic *things* (e.g. **F** ‘(name)’s). This makes for an apparent tension in Sellars’s account. As Armour-Garb and Woodbridge have observed, in the early paper:

Sellars seems to be expressing commitments to both a central aspect, or feature, of [truth]-deflationism *and* a central aspect, or feature, of [truth]-inflationism. But T-deflationist and T-inflationist accounts are supposed to be incompatible... His inferential reading of the standard truth schema comports with a general ‘use-theoretic’ approach in the philosophy of language, but his inclusion of an account of truth as a substantive (albeit ultimately matter-of-factual) picturing relation is harder to fit with his general approach. [1, p. 38]

⁵For now, I take naming as a primitive notion. I return to it in the final chapter, arguing that classification of a spatio-temporally localized particular as a name involves both a supposition and an assertion.

In that paper, Sellars is trying to figure out whether there is a sense of ‘correspond’ in which empirical truths can be said to correspond to objects or events in the world, *other than* the sense explicated by formal-semantic theorists in the Carnap-Tarski tradition. In any case, he agrees that a theory of truth should yield instances of the schema:

$$'p' \text{ is true} \Leftrightarrow p$$

and recognizes that an extensional definition of the truth-predicate for a language has the virtue of enabling one to say semantic statements assert a purely formal correspondence of linguistic and extra-linguistic entities, in order to preserve the thesis that statements occur in statements only truth-functionally. But Sellars’s *psychological nominalism* prohibits him from positing abstract entities,⁶ and he thinks there is an important sense, neglected by the Carnap-Tarski tradition, in which “the truth of propositions is prior to the truth of forms of words” [46, p. 198]. This is to be explicated by considering (an early version of) his analysis of semantic vocabulary, which yields:

$$\text{that-}p \approx \text{the } \cdot p \cdot$$

together with (putting it in terms of the later analysis) the formulas:⁷

$$'aAb' \text{ is true (in FOL)} \equiv (\exists \cdot p \cdot) ('aAb' \text{ s are } \cdot p \cdot \text{ s and the } \cdot p \cdot \text{ is true}_i)$$

$$'^a_b' \text{ is true (in Jumblese)} \equiv (\exists \cdot p \cdot) ('^a_b' \text{ s are } \cdot p \cdot \text{ s and the } \cdot p \cdot \text{ is true}_i)$$

In short, Sellars is concerned with explicating the ‘true’ in:

$$'s' \text{ is true (in L)} \Leftrightarrow s$$

by its relation to an inter-linguistic truth-concept, i.e.:

$$'s' \text{ is true (in L)} \Leftrightarrow \text{that-}s \text{ is true}_@$$

where ‘true@’ is short for something like ‘true in CS@’, and CS@ is *our* conceptual structure (here, now), i.e. a propositional framework which comprises a ‘cross-section’ of the world-history of an *inter-linguistic* (epistemic) community; and with analyzing, e.g.:

$$(11) \text{ that Alice is above Bob is true} \Leftrightarrow \text{Alice is above Bob}$$

as an instance of:

$$(12) \text{ the } \cdot p \cdot \text{ is true} \Leftrightarrow p$$

where ‘the $\cdot p \cdot$ ’ is a meta-linguistic distributive singular term (DST). Ultimately, he argues that this (propositional) sense of ‘...is true...’ is also *purely formal*, and so cannot provide the second sense of correspondence which he is looking to define. In other words, Sellars concludes that the criteria for being a (propositional) \cdot is true \cdot are determined solely by participation in *trans-level inferences* like:

⁶“If there is such a thing as my *primary* argument against Platonism it begins with my “psychological nominalism” that is the *at first sight* innocuous thesis that empirical psychology requires no *genuine relations* between persons and abstract entities *construed as basic objects*.” [34, p. 220]

⁷Here, the ‘*i*’ is to indicate an *inter-linguistic* propositional framework (or ‘conceptual scheme’) with respect to which propositional truth is defined.

$$\frac{\text{that Alice is above Bob is true}}{\text{Alice is above Bob}}$$

$$\frac{\text{Alice is above Bob}}{\text{that Alice is above Bob is true}}$$

which are *governed* by the truth-schema in (12), insofar as they are of the forms:

$$\frac{\text{the } \cdot p \cdot \text{ is true}}{p}$$

$$\frac{p}{\text{the } \cdot p \cdot \text{ is true}}$$

This seemingly deflationary analysis of propositional truth is on the surface at odds with the ‘Tractarian’ account of simple empirical truths as *picturing* things which Sellars then goes on to develop. However the upshot of this analysis for Sellars’s metaphysical project cannot be ignored. He writes:

If the word ‘true’ gets its sense from this type of inference, we must say that, instead of standing for a relation or relational property of statements... ‘true’ is a sign *that something is to be done* [46, p. 204]

and in an enigmatic but important remark immediately following the passage above, writes:

Furthermore, if the above argument is correct, we can understand how statements can occur in meaning statements – thus ‘Chicago is large’ in ‘S (in L) means Chicago is large’ – although the latter are not extensional or truth-functional contexts. They occur as statements *to be made* (on a certain hypothesis). [46, p. 205]

When Sellars later presents this argument in *Science and Metaphysics*, he assimilates propositional truth to semantic assertibility:

For a proposition to be true is for it to be assertible, where this means not *capable* of being asserted (which it must to be a proposition at all) but *correctly* assertible; assertible that is, in accordance with the relevant semantical rules, and on the basis of such additional, though unspecified, information as these rules may require... ‘True’, then, means *semantically* assertible (S-assertible) and the varieties of truth correspond to the relevant varieties of semantical rule. [41, p. 97]

And he no longer characterises the moves illustrated in (11) as *inferences*. Instead, he says:

The assertion of the right-hand side of the implication statement is a *performance of the kind authorized by the truth of the statement on the left*... the so-called “premise” is a statement which *of itself* authorizes the inscribing of the consequence. [41, p. 98]

In either case, *if* we suppose users of a language actually follow the rules of their language, the *upshot* of this analysis of e.g.:

$$\text{that Alice is above Bob is true} \quad \approx \quad \text{the } \cdot \text{Alice is above Bob} \cdot \text{ is true@}$$

for a theory of representation, is that statements of this form are (typically) followed by, or *result in*, an instance of the ‘truth move’, i.e. the performance of asserting a basic matter-of-factual proposition. As a *performance*, the truth-move is subject to criticism (in accordance with rules of criticism), but also involves *production* of an utterance or inscription, e.g. a *token* of one of:

Alice is above Bob | aAb | $\frac{a}{b}$

and these things are, *qua* natural-linguistic objects in the causal (spatio-temporal) order,⁸ governed by the same (physical) laws as Alice and Bob.⁹

3.4 A Summary Argument

In sum, Sellars's considered position is that we are presented with:¹⁰

Tc (in FOL)

and

c (in Jumblese)

To which we attribute (empirical) content, schematically:

' Tc 's and ' c 's are ·Carol is triangular·s

We then say that this is *because*

' c 's (in FOL) and ' c 's (in Jumblese) are ·Carol·s

and

' $T(name)$'s and ' $(name)$'s are ·($name$) is triangular·s

Then since:

'Carol's are ·Carol·s

and

·Carol·s are names

and (trivially)

⁸Deliberately abstracting away from the significant use of them.

⁹So, subject to the same natural-order constraints on co-occurrence, whereby objects can be individuated by spatiotemporal relations. I understand the importance of this observation to be in connection with the theory of *picturing*; c.f. Wittgenstein's notebook entries for 11/26/1914 - 11/27/1914 [50, pp. 33–34]. Natural laws are essential to *my* (anyone's) correlation of components of a picture with things, by which the picture comes to represent a situation, not just *things*, and *so* to be a correct or incorrect picture. I return to this thread in the final chapter. To draw it out here would require leaving Sellars's analysis of semantic vocabulary and turning to his account of linguistic representation, but to avoid conflating these accounts – that is, truth with correct picturing – it is best to consider them separately.

¹⁰Two technical devices have also been introduced: the device of *dot-quotes*, by which *meta-linguistic functional sortals* are formed and introduced with an illustrative tokening in some context, and the device of substitution of a meta-linguistic *name* variable – ' $(name)$ ' (in L) – into *quotations* of first-order object expressions of two sorts – e.g. in 'Carol is triangular' and ·Carol is triangular·. Substituends for $(name)$ are individual constants (belonging to a proper subset) recognized as *names* (in various languages).

names concatenated to the left with an ‘is triangular’ (in E) are $\cdot(\textit{name})$ is triangular \cdot s

we can say, without causing any harm, that

the $\cdot(\textit{name})$ is triangular \cdot (here and now) represents things *as* triangular

and it is a truism to add that

‘*Tc*’s and ‘*c*’s represent Carol *as* triangular

Having apprehended this function and ‘rehearsed it in imagination’, we may then *evaluate* the attributed content as *true_i* – schematically:

the \cdot Carol is triangular \cdot is true_@

where ‘true_@’ is short for ‘true in CS_@’, and CS_@ is *our* conceptual structure (*here-now*).¹¹ Sellars tells us that this occurrence of a sentence token in a sentence token *of itself* authorizes *re*-production of an English:

\cdot Carol is triangular \cdot

Then we say that the proposition expressed is true *because*:

Carol is triangular

and in the ‘ground-floor’ matter-of-factual case:

‘Carol’s (in E) *represent* the triangle inscribed above

so

the $\cdot(\textit{name})$ is triangular \cdot *represents* some thing which is triangular *as* triangular, namely Carol

where ‘represents’ is shorthand for a complex *description*, formulated in the *indicative* mood, specifying spatio-temporal correlations of *natural-linguistic objects* (*of a certain description*), with *things* (particulars of a certain description).¹²

My confidence in ascribing this analysis of meaning- and truth-talk, and its relation to descriptive vocabulary, *to* Sellars, is bolstered by agreement with Lionel Shapiro [47].¹³ I further submit that it is in this broader *re*-productive context sketched above that we can and should understand the claims that truth is a sign that something is to be done, and that statements occur in meaning statements *as statements to be made*.

¹¹A conceptual structure being in this sense an *inter-linguistic* (‘propositional’) framework. ‘Our’ here expresses a sense in which speakers of English, French, Japanese, etc. are all at present members of the same (epistemic) community – a community which here-now by hypothesis also includes speakers of FOL and Jumblese.

¹²E.g. co-ordinating names concatenated to the left with ‘is triangular’s with triangular things severally, one of which can be found “on” a page in (2.1)

¹³Shapiro writes: “According to Sellars, the central items of semantic vocabulary are the expressions ‘means’ and ‘true’. And he insists that attributions of meaning and truth conditions do not state relations between linguistic items and extra-linguistic ones... Still, Sellars does not deny that talk of meaning and truth bears on how language relates to the world... Sellars gives two answers to my question [namely: how does semantic vocabulary enable us to relate language to extra-linguistic reality?]. The first appears in a pair of papers published in 1962, ‘Truth and “Correspondence”’ and ‘Naming and Saying’... Each of Sellars’s answers is a version of the same pragmatist thesis about how semantic vocabulary lets us relate language to the world... We take language to bear on the world in virtue of something distinctive we *do* with semantic vocabulary, where this is not a matter of our using such vocabulary to describe language-world relations... it is the relation semantic discourse bears to descriptive discourse that lets us use the former as a way of taking language to connect with the world. [47, pp. 792–794]

3.5 The Janus Figure

Frege famously distinguished three ‘acts’ of the intellect [11, p. 294]:

- (1) the apprehension of a thought – thinking
- (2) the recognition of the truth of a thought – judgment
- (3) the manifestation of this judgement – assertion

When co-present in an indicative sentence, the relation of *the content* – an object in the logical order – and *the assertion* of the content – a happening in the real order – is then mediated by *the judgement*. In this picture, we pass from the psychological (subjective, intentional) order to the empirical (intersubjective, causal) order via the logical (normative, inferential) order. Roughly, Sellars wants to invert this picture, and move (theoretically) from the empirical order to the psychological order, via the logical order.¹⁴ As Gangle et al. point out, he wants to give an account of “how purely logical elements of cognition (such as the logical conjunction of properties or propositions) might emerge from, roughly, inductive generalizations of empirical features of practical language use” [12, p. 260]. We can hone this characterization by bringing out what Sellars calls the “Janus-faced character” of *linguistics* “as belonging to the causal order and the order of reasons” [38, p. 135]. In doing so, it will help to introduce a distinction which comes down to us in its present form (to the best of my knowledge) along with the type/token distinction, from C.S. Peirce (CP 6.456):

An “Argument” is any process of thought reasonably tending to produce a definite belief.

whereas:

An “Argumentation” is an Argument proceeding upon definitely formulated premises.

Peirce famously held that mathematics (including mathematical logic) is the science which *draws* necessary conclusions;¹⁵ *whereas* – the thesis less famously continues – philosophical logic is a theory *of so acting*; it is a normative science, which produces *categorical* assertions that can be understood as *instructions* for acting;¹⁶ I would add: to *realize* arguments as argumentations. Compare this conception of the subject matter of (philosophical) logic as *inferential activity* in which *the series of actual cognitions is made objective* (and so, subject to criticism; thus governed by law), with Sellars’s ‘Verbal Behaviourism’ (VB).¹⁷ The central

¹⁴That is, by bootstrapping semantic then logical vocabulary with normative and descriptive vocabulary, and psychological vocabulary with logico-semantic and descriptive (including behavioural-dispositional) vocabulary.

¹⁵In the sense that the page is like a laboratory and the *method* is to *realize* purely hypothetical constructs by *embodying* them on the page (thus rendering them intersubjectively available); in contrast, logic draws its first principles from *phaneroscopy* (roughly, phenomenology), which is *description* of the workings of the *phaneron*.

¹⁶Peirce writes, in response to rising Logicism: “The philosophical mathematician, Dr. Richard Dedekind, holds mathematics to be a branch of logic. This would not result from my father’s definition, which runs, not that mathematics is the science of drawing necessary conclusions — which would be deductive logic — but that it is the science which draws necessary conclusions. It is evident, and I know as a fact, that he had this distinction in view. At the time when he thought out this definition, he, a mathematician, and I, a logician, held daily discussions about a large subject which interested us both; and he was struck, as I was, with the contrary nature of his interest and mine in the same propositions... [I]ndeed, the difference between the two sciences is far more than that between two points of view. Mathematics is purely hypothetical: it produces nothing but conditional propositions. Logic, on the contrary, is categorical in its assertions... It is a normative science... Mathematical logic is formal logic. Formal logic, however developed, is mathematics. Formal logic, however, is by no means the whole of logic, or even its principal part.” (CP 4.239)

¹⁷Which is offered as “a useful strategy for clarifying key issues in the philosophy of language” [38, p. 82].

thesis of Verbal Behaviourism is that the explanatory function of ‘inner episodes’ rests on an autonomous, *proto-psychological* framework in which linguistic activity can be described, explained and evaluated *with-out reference to mental acts*. Accordingly: “Thinking ‘that-*p*’, where this means ‘having the thought occur to one that-*p*’ has as its *primary* sense *saying ‘p’*, and a *secondary* sense in which it stands for a short term proximate propensity to say ‘*p*’.”¹⁸

VB underwrites the analogical extension of Sellars’s analysis of semantic vocabulary to traditional problems in the philosophy of mind.¹⁹ But its direct application is to traditional problems in logical theory and the philosophy of language.²⁰ So, let us see how far we can get by considering some basic notions in philosophical logic from the perspective of a *theory of so-acting*.

3.5.1 Assertion

The sign, “┌,” called the “assertion sign,” means that what follows is asserted... A proposition stated in symbols without this sign “┌” prefixed is not asserted, and is merely put forward for consideration, or as a subordinate part of an asserted proposition. (Russell, *PM* [32, p. 8])

One can step back, momentarily, and revoke their role in an *assertion*. By staving off the *realization* of a (simple, indicative) sentence (token of some type) that one holds for true, or prefixing it with something akin to a ‘*that-*’, one can investigate inferential relations among possible assertions. In doing so, one considers the *sentential* sign²¹ as a prototype of an utterance or inscription of a kind instances of which *normally* function assertorically in some (first) language. One can from this perspective consider *forms* of words, the status of which *as* sentences (of a type) in a (‘home’) language (e.g. English) is established by uniformities of performance which are, for the most part, logico-syntactically contingent; or in the sense in which we are using the term, *conventional*.

In then considering inferential connections among possible assertions, one is (from this perspective) considering an *argument* as something which is *to be realized as* a bit of *argumentation* in their ‘home’ language, in accordance with the relevant conventions. Having staved off assertions, e.g. with tokens of ‘*that-*’, such inferential connections among *possible* assertions can then be considered in isolation, e.g. as *illustrated* by something of the form:

$$\text{that-}p \dots \text{that-}p \text{ implies that-}q \Rightarrow \text{that-}q$$

¹⁸Sellars continues: “Propensities tend to be actualized (a logical point about the term); when they are not, we speak of them as, for example, “blocked”. The VB I am constructing sees the relevant inhibiting factor which blocks a saying that-*p* as that of not being in a thinking-out-loud frame of mind... Again, a thinking-out-loud that-*Fa* is to be construed as a candid utterance (by one who speaks a regimented PMese language) of ‘*Fa*’ which realizes a fragment of the conceptual functions of ‘*F*’ and ‘*a*’ and is related to their other conceptual functions, as placing of a pawn on a chess board in the course of a game *realizes* a fragment of the function of a pawn and is related to its other chess functions.” [38, p. 82]

¹⁹As mythologized in the first part of the infamous ‘Myth of Jones’ in *Empiricism and the Philosophy of Mind*.

²⁰As for an account of indirect discourse: “To say *what* a person says, or, more generally, to say what a *kind* of utterance says, is to give a functional classification of the utterance... [which] involves a special (illustrating) use of expressions with which the addressee is presumed to be familiar... Thus when we characterize a person’s utterances by using a quoted expression, we imply that the instance is an instance of certain specific ways of functioning... [e.g.] to characterize a person’s utterance by the use of quoted sentences containing logical words is to imply that the corresponding sounds function properly in the verbal behavior in question; and hence to imply that the uniformities characteristic of these ways of functioning are present in his thinkings-out-loud and proximate propensities to think-out-loud.” [38, p. 85]

²¹I.e. a substituent for ‘*p*’, rather than for ‘*that-p*’.

or the enthymematic:

$$\textit{that-}[aLb] \dots \textit{that-}[bLc] \Rightarrow \textit{that-}[aLc]$$

which is, from this perspective, on par with:

$$\textit{that-}[ab] \dots \textit{that-}[bc] \Rightarrow \textit{that-}[ac]$$

In doing so, one considers an *inference* as a *transition* in an argument: something to be *realized* as a number of assertions – and so utterances or inscriptions – *in some sequence*.

3.5.2 Inference

Inference. The process of inference is as follows: a proposition “*p*” is asserted, and a proposition “*p* implies *q*” is asserted, and then as a sequel the proposition “*q*” is asserted.
(Russell, *PM* [32, pp. 8–9])

Suppose the normative-force skeptic accepts and inscribes a pair of statements like:

$$\textit{that-p} \dots \textit{that-p} \textit{ implies that-q}$$

but refuses to accept (inscribe) the statement(s) to the right of ‘implies’, even though they accept (inscribe) the ‘authorization’ statement:

$$\textit{that-p} \dots \textit{that-p} \textit{ implies that-q} \Rightarrow \textit{that-q}$$

We are supposing that they refuse to *draw* the inference thus authorized; to accept (inscribe) the premise held up on the right of the ‘implies’ above, but *detached* from the sign of implication, as it occurs on the right-hand side of the authorization statement. At every stage, our opponent accepts a further hypothetical (conditional) premise expressing *that* a prior premise *authorizes an inference*; but each time refuses to write in their book the result of an *inference* thus authorized. Instead, they again accept the hypothetical; and we are off on an inferential regress, waiting forever for them to *draw* the conclusion of their argument.²²

The usual question is: what has gone wrong in our opponent’s argumentation? The more interesting observation is that one can also step back, with this hypothetical opponent, and revoke temporarily at least their role in the drawing of an *inference*. To do so is to view each of the sentences written on a line of our opponent’s book as a *sequence* of inscriptions, each of which is ‘held up’ in an interesting way by a ‘*that-*’, and which are together concatenated in some order with (what is ostensibly) a sign of implication.

The sequence inscribed at each stage in the argumentation can then be seen to be functioning *abnormally*, where this is an *inductive* hypothesis. That is, each occurrence of a sequence in which occurs an ‘implies’ (on some line in his book), is abnormal insofar as the typical function of a syntactic object which is a sign of implication is: to result, *subsequently* in the course of an *argumentation* in a performance in which is produced a sentence token of a type a token of which is ‘held up’ in an interesting way to the right of ‘implies’ in the course of the argumentation, *when* a token of the sentence (type) ‘held up’ to the left of ‘implies’ occurs ‘held up’ again elsewhere in the argumentation, but *detached* from the sign of implication.

²²Our competition with the hypothetical opponent obviously bears a certain resemblance to Lewis Carrolls’s “What the Tortoise Said to Achilles” [4].

3.5.3 Authorization

Having then stepped back and viewed each step in this deviant argumentation as a sequence of symbols, one can resume their role as a *participant* in the argumentation, and respond with a diagnosis of their opponent’s fallacious reasoning. In short, they can say their opponent has not *yet* done their proper part in *drawing* the inferences which they recognize as authorized at each stage; for to infer is – just as to assert – to *do* something: namely (in the implication context) to *produce* an ‘illustrative’ token of a sentence ‘held up’ by a that-clause, and (in the assertion context) to produce a *normally functioning* (assertoric) token of the same type as the token which is thus ‘held up’. In each case, the inscribing of a token is *of itself* authorized by *occurrences of tokens of its type*; though embedded in a *sentential context* of a different type in each case.

Nevertheless, in both cases Sellars (by *Science and Metaphysics*) holds that – as Davidson put it – “the conventions let us know what is being said, period” [7, p. 116]. In our example, *the inscribing of the conclusion*, in the form of a sentence ‘held up’ by *that*-clause, is *of itself* authorized by occurrences of tokens of this (sentence) type: *as* ‘held up’ by a that-clause to the left of a sign of implication and then again elsewhere *as* held up by a that-clause but detached from the sign of implication; *rather than* by an explicit authorization statement which *mentions* (rather, ‘cites’) this (implicit) authorization *as a further premise*. Likewise, in considering the *trans-level* “inference”:

$$\frac{\textit{that-p is true@}}{p}$$

The inscribing of the so-called ‘consequence’ – i.e. *tokening* of a sentence with its normal assertoric function – is *of itself* authorized by a prior production of a token of *the same sentential type*.²³

3.5.4 Semantical Rules

In the final analysis, argumentations can be looked on as (syntactically complex) *wholes* which ultimately bottom out (in the order of complexity) with spatio-temporally arranged (sub-)sentential expression-tokens, *at which level* invariances not explained by formation rules can be seen as determined by conventions expressible as statements of *semantical rules in the language*. Bear in mind that Sellars’s semantical rules are distinct from pattern- and rule-governed *uniformities* which form the observational basis for semantic classifications, in that semantical rules have the form of ‘law-like’ statements. Sellars gives us the example:

For all temporal senses *t*, one ought not to accept both the proposition that there is lightning at *t* and the proposition that there is not thunder at *t* plus Δt . [41, p. 113]

These are then prescriptive specifications of sequences of occurrences, which “tell us how we ought to think about the world” and “formulate rules of criticism” distinguishable from others by their telling us “what ought or ought not to be the case with respect to *our beliefs about the world*” [41, p. 113]. On the other hand, pattern- and rule-governed uniformities are to be stated as *descriptive* specifications of (contingent) sequential occurrences in the natural order.

²³In this case, the inscribing is *not*, however, of itself authorized by an occurrence of a token *with the normal assertoric function* of its type. Rather, the inscribing is authorized by an *illustrative* occurrence of a token of some type, *embedded* as a meta-linguistic *distributive singular term* in a sentential context wherein the derivative singular term is *concatenated to the left with an ‘is true’*.

3.6 The Function of Functional Classification

The line of argument sketched up to this point connects themes from Wittgenstein’s *Tractatus Logico-Philosophicus* to themes from his *Philosophical Investigations*. This ‘bridge’ between the *Tractatus* and the *Investigations* was foundational for Sellars, and by all accounts is rock solid.²⁴ Yet reflection on the centrality of the above analysis of semantic vocabulary to Sellars’s project can be disquieting. What we want from Sellars is a detailed account – both analysis and explanation – of the distinctive function of meaning statements, i.e. content-attributions. But this would be an account of the *senses*, rather than *extensions*, of meaning statements and illustrators occurring in (basic) meaning statements. Sellars has much to say about the (propositional) senses of simple (first-order) empirical, or “matter-of-factual” statements and the (individual and predicative) senses of their components, as well as the (propositional) senses of sentences in which occur expressions that are *ostensibly* names for abstract entities. *Senses*, in general, get reconstructed in terms of pattern- and rule-governed occurrences, or tokenings-in-response to things (some of which are tokens), which patterns and rules are constitutive of criteria for membership in the extension of an illustrating sortal. Yet, Sellars has remarkably little to say about the senses of (basic) content-attributing statements and illustrators occurring therein.²⁵

Bluntly put in terms of our “toy” world-cum-language, the problem is that we are – it would seem – lacking an account of the *pattern- or rule-governed uniformities of performance* which *determine* criteria for inclusion in the extension of, e.g.:

· ‘s’ (in L’) means *Carol is triangular* · ≈ · ‘s’s (in L’) are · *Carol is triangular* · s ·

for variable ‘s’ (in L’).²⁶ Yet there are, I think, reasons for the omission – first among them that Sellars wants to resist the temptation toward construing *content-attributions* as expressing *propositions* (or “having” propositional senses). Put otherwise, he maintains that they do not belong to the object language of (direct) *fact-stating* discourse; they are importantly *meta-linguistic*, and purport to be *about* language in the sense of a system of *symbols*, i.e. utterings and inscribings subject to standards of correctness, but they lack *representational* purport.²⁷ However (empirical) content-attributions are (he maintains) *indirectly* fact-stating, in the sense that they *imply* matter-of-factual statements which purport to be *about* language in the sense of

²⁴E.g. Ruth Millikan writes: “Brandom and I were both Sellars’s students, yet large differences have arisen between us. How have two siblings, both admirers of the father, come to stand so far apart? Which of us has abandoned the faith? Or was there a crack in Sellars’s own position into which we have driven a wedge?... Certainly, there are ‘*Tractarian*’ themes in Sellars that only I have pursued and themes from the *Investigations* that only Brandom has pursued... I have pursued the picturing themes from the *Tractatus* that were carried through in Sellars’s discussions of that causal-order relation between language and the world that he called ‘representing’. Also in his unique interpretation of Kant, according to which the phenomenal world is abstractly isomorphic to the world in itself. Brandom has followed Sellars’s interest in the language-games metaphor from *Philosophical Investigations*, expressed in Sellars as a form of inferential role semantics and in the thesis that one learns to think only as one learns to abide by the rules of a language. But on inspection there is, at least, no obvious crack in the bridge Sellars built between the *Tractatus* and the *Investigations*.” [22, p. 77]

²⁵As Lionel Shapiro observes: “Explaining the extension of a dot-quote sortal does not amount to explaining its sense. Nor does it even amount to offering a sense-preserving paraphrase of dot-quote sortals... We have arrived at one of the more frustrating areas of Sellars’s philosophy. On the one hand, he recognizes that he faces the challenge of giving an account of the distinctive sense of meaning talk, and he remarks several times on his earlier failures to do so adequately... On the other hand, it is not easy to find explicit discussion of how his general theory of senses as constituted by semantic rules might apply to the sense of semantic talk itself. Instead of specifying the semantic rules that constitute the sense of dot-quote classifiers, Sellars invariably proceeds by explaining the conditions for a dot-quote classifier to apply to an expression...” [47, pp. 798–799]

²⁶Sellars’s contention that semantical rules are reflected in uniformities of performance does not get us what we want, *unless* we can come up with a rule statement which “reflects the sense” of a (typical) ‘...means...’ statement.

²⁷They do not purport to *picture* in that way that ‘Vancouver is north of Seattle’ and ‘Alice is triangular’ *do* purport to picture.

a system of *signs*, significant use of which we are deliberately abstracting away from in this context.²⁸

So, we have a *negative* thesis: the function of content-attributions is not to *assert*, or *report*, real relations of linguistic and extra-linguistic things. But if this is *not* their function, what *is* their function? Ruth G. Millikan, in *Language, Thought, and Other Biological Categories*, took stock of this issue. To understand how, one must have a grasp on what Millikan means by ‘stabilizing function’:

The stabilizing and standardizing proper function (or functions) of a language device is that hypothesized function (or functions) that tends at the same time to keep speakers using the device in standard ways, thus stabilizing its function or functions. [20, pp. 31–32]

Stabilizing functions, which come out of reflection on the ‘...means...’ rubric,²⁹ play an important role for Millikan,³⁰ and she adopts something *like* Sellars’s (early) account of the ‘sense’ (rather, proper function, or standard *role*) of the ‘...means...’ rubric:

No matter how it does it in detail, no matter what earlier stages are gone through first, “‘x’ means y” has its focused stabilizing function to bring a hearer to be able to use ‘x’ in accordance with its stabilizing function. It does this Normally by presenting the hearer with a token from the reproductively established family ‘y’, the stabilizing function of which the hearer is already in command, and causing the hearer to adopt the same posture toward the reproductively established family ‘x’. [20, pp. 78–79]

There is, I think, something deeply right in this – but something importantly *social* is missing. Criteria for being a:

· ‘s’ (in L’) means p · ≈ · ‘s’s (in L’) are ·p· s ·

for variables ‘s’ (in L’) and ‘p’ (in L), must be determined by uniformities characteristic of the job of the ‘means’ rubric in *transitions* of a sort illustrated by:

‘s’ (in L’) means p ... p ⇒ s

But the ‘...means...’ rubric must then take on an interestingly *autonomous* role.³¹

Consider the *inference*:

²⁸To reiterate, Wittgenstein writes that “the sign is the part of the symbol perceptible by the senses” (TLP 3.32), and that “in order to recognize the symbol in the sign we must consider the significant use” (TLP 3.326).

²⁹Millikan writes: “The sense of ‘meaning’ that is explicated by the notion “stabilizing function” is the “means” of what Wilfrid Sellars, in an early paper, calls the “translation rubric”: ‘___ (in L) means...’ ” [20, p. 78]

³⁰“Only because language devices have stabilizing functions is it possible to distinguish what such a device itself means from what a speaker means by it... That a person says what is true vs. what is false depends not upon that person’s intent but upon the stabilizing functions of the language device he uses.” [20, p. 77]

³¹In *Science and Metaphysics* we get Sellars’s considered view: “*Ultimately*, abstract singular terms must relate to the “truth move” in which the non-illustrating component falls away... [but] if abstract singular terms are to do their job **without crutches**, the expressions which are built into them must be expressions which those who use the abstract singular terms understand... which, again, does not mean that they are in “ordinary usage” or that “everybody” understands them.” [41, 124, my bold-facing]

(I) ‘s’ (in my language) means p	\approx	(I’) ‘s’s’ (in my L) are $\cdot p \cdot s$
(II) p		(II’) p
Hence,		Hence,
(III) s		(III’) s

Here I run into a point at which a ‘ p ’ must occur both as *illustrative* of a (normal, assertoric) function, and *with* its normal assertoric function in the same argument. The issue is that I (the logical ‘I’) cannot identify (II’) as specifying conditions under which it is correct to *assert* (III’), or as determining *that* it is correct to assert (III’), on the basis of (I’) *and nothing else*. I get *some* relief by instead considering:

(I’’) ‘s’ (in my L) stands for <i>that</i> p	\approx	(I’’’) ‘s’ (in my L) is <i>the</i> $\cdot p \cdot$
(II’’) p		(II’’’) p
Hence,		Hence,
(III’’) s		(III’’’) s

Yet, I am left with a sense of disquiet, as unable to *demonstrate* that this inference is valid. Of course, the following inference *is* (clearly) valid:

(I’’’’) ‘s’ (in my L) stands for <i>that</i> p	\approx	(I’’’’’) ‘s’ (in my L) is <i>the</i> $\cdot p \cdot$
(II’’’’) it is true <i>that</i> p	\approx	(II’’’’’) <i>the</i> $\cdot p \cdot$ is true@
Hence,		Hence,
(III’’’’) s		(III’’’’’) s

However, this alone is insufficient. Propositional disquotation, as a trans-level *inference*, would require (in either direction) the intermediary premise:

(*) ‘s’ is true (in my L)

but Sellars wants to explicate the *intension* of “true”, i.e. to give “the correct analysis of ‘true (in L)’ for variable L”, *in terms of* “true (in CS_i)” for variable CS_i. Generally, he is trying to explicate *semantical* notions as specialized forms of the copula, without appealing to “recursively structured truisms” formulated in terms of a *logical* vocabulary. To introduce this intermediary stage as a *premise* would be to in effect define (language external) *propositional* truth by a recursive definition-by-listing of (language internal) *sentential* truths, along the lines of:

$\cdot p \cdot$ is true_i \equiv ‘s’ is true (in L) *and* ‘s’ is true (in L’) *and* ‘s’’ is true (in L’’) ...

but this too “simply heats up the problem without illuminating it” [34, p. 222]. Instead, let:

$\cdot p \cdot \mapsto$ ‘s’

symbolize the *actual mapping* (in a discourse) of $\cdot p \cdot s$ onto ‘s’s, for sentential variables s and p .³² Then insofar as the moves:

$p \Leftrightarrow$ ‘ p ’ is true (in L) \Leftrightarrow *that*- p is true@

³²By ‘actual mapping’, I mean collective adoption, by a *group* of participants who (individually) *understand* the expression ‘ p ’, of the same posture towards, or *pattern- and rule-governed responses to*, ‘s’s as $\cdot p \cdot s$.

and the move:

‘s’ (in L’) means $p \Rightarrow \cdot p \mapsto ‘s’$

are recognized by *us* as implicitly authorized, *I* can (at the “moment of truth”) reason *explicitly*:³³

(I*) the ‘s’ (in my L) is the $\cdot p$.

(II*) p

(III*) the $\cdot p$ is true@ and $\cdot p \mapsto ‘s’$

Hence,

(IV*) s

So, while I agree with Lionel Shapiro [47] that Sellars is committed to something like the following thesis:

Mutual Dependence: Understanding the function of truth-talk presupposes understanding the function of meaning-talk (specifically, abstract singular terms) *and vice versa*

I maintain that the ‘...means...’ rubric must (at least come to) play an *autonomous* role, independent of the (initial) *system* which includes nominalizing devices like ‘that’, and the operation: ‘... is true’. This is so that – regardless of what else it does, and how it comes to do it – an:

‘s’ means p .

of itself authorizes, or in some other (anthropologically interesting) way *brings about* a:

$\cdot p \mapsto ‘s’$

where ‘ \mapsto ’ indicates an *actual mapping* (in some discursive context) of $\cdot p$ ’s onto ‘s’*s*, for sentential variables s and p . While we can make this effect explicit by *symbolizing* the “actual mapping”, the much deeper point is that this account of *our* (collective) *use* of ‘...means...’ *tells us* what ‘...means...’ means.³⁴

³³The point can be illustrated simply. Suppose we are playing the “the floor is lava” game (all standing on our chairs now). Then the first of the moves illustrated above might be *expressed* by saying something like: “a ‘Timmy touched the floor’ means *Timmy touched the lava*’ brings about \cdot Timmy touched lava-*s* going to ‘Timmy touched the floor’*s* (in E)”. Such an *effect* is a prerequisite for imaginative games; otherwise in justifying our moves *in* the game (e.g. saying that Timmy is dead when Timmy steps off his chair), we would have to say Timmy touched *real* lava when he fell off his chair, rather the floor-lava, which is a *piece* in our game in the way that *the pawn* is a piece in the game of *chess*. In short, answers to ‘external questions’ would be off-limits to us *as* players of the game *when* playing the game (by moving *things* around); but these answers *are* available to us and that is precisely what enables one to *disengage* fiction from reality and then *re-engage* the world to *justify* a move *when playing* an imaginative game.

³⁴This recognition is the basic point of *departure* for Sellars’s theory of predication. The proper functioning of the ‘...means...’ rubric, along these lines, is taken as something like an “original quality of human nature” (c.f. *Hume*, T 1.1.5.6) for the purposes of philosophical semantics, and Sellars does not pretend to *explain* it, though he does attempt to *explicate* it. Compare his remarks in [36, §38]. Also, compare this account with Putnam’s in “The Meaning of ‘Meaning’” [27]. Putnam (as I understand him) gives us an account of what *I* (anyone) *do(es)* with ‘...means...’, and juxtaposes this with an account of what theoreticians (should) *mean* by the nominalized form, ‘meaning’; thus giving an account of “meaning explanations” as involving intention-internal empirical presuppositions on the part of individual speakers. Sellars, in contrast, gives us an account of *what* ‘...means...’ *does* – period – without relying on an invocation of “speaker meaning”. Consider in this regard Sellars’s response to Putnam, in a 1974 conference exchange: “Hilary is quite mistaken when he construes my theorizing about meaning as a theorizing about “individual competence”. I have always stressed that language is a social institution, and that meaning is to be construed in social terms... What a speaker’s words mean (to use a less ambiguous expression which has the additional advantage of pointing away from Gricean labyrinths) is no more to be defined in terms of his beliefs and purposes than is, for example, the legal significance of his actions. Any adequate philosophy of mind must, indeed, be concerned with the relation of an individual’s propensities for rule-governed behavior and the practices of his community. But this relation must be construed in such a way as to preserve, in a less metaphysical mode, something like Hegel’s distinction between individual minds and ‘objective spirit.’” [40, p. 460]

3.7 Conceptual Change: Variations on Peircean Themes

In the preface of *Science and Metaphysics*, Sellars sets up the project (subtitled “Variations on Kantian Themes”), by saying that chapter V “provides that missing ingredient, the absence of which from Peirce’s account of truth leaves the ‘would-be’ of the acceptance ‘in the long run’ of propositions by the scientific community without an intelligible foundation; a fact which has obscured the extent to which this gifted composer of variations on Kantian themes succeeded in giving metaphysics a truly scientific turn” [41].

Sellars then wanted to reconstruct the ‘Peircean dimension’ of the concept of truth; but these Peircean themes, picked up by James and then Dewey, came down to Sellars (in part) through C.I. Lewis.³⁵ Under the influence of time spent with Peirce’s manuscripts at Harvard, Lewis developed and defended a “pragmatic conception of the *a priori*”, most extensively in *Mind and the World-order*.³⁶ Sellars was interested in retaining something very much *like* Lewis’s pragmatic conception of the *a priori*, but he rejected Lewis’s equation of *a priori* with *analyticity* and in a move distinctive of his philosophy, Sellars wanted to do away with the (isolable) uninterpreted element in experience (Peirce’s *firstness*, Lewis’s *the given*). In brief, as of “Inference and Meaning” Sellars is committed to these core theses of his philosophical semantics:

Material transformation rules determine the descriptive meaning of the expressions of a language within the framework established by its logical transformation rules...³⁷ The role of the given is rather to be compared to the role of the environment in the evolution of species... [though] it is characteristic of modern science to produce deliberately mutant conceptual structures with which to challenge the world... There are an indefinite number of possible conceptual structures (languages) or systems of formal and material rules of inference, each of which can be regarded as a candidate for adoption by the animal which recognizes rules, and no one of which has an intuitable hallmark of royalty... In short, we have come with C.I. Lewis to a “pragmatic conception of the *a priori*.”³⁸ [39, pp. 353–354].

In *Science and Metaphysics*, Sellars then wants to clarify a sense in which concepts are objects as an entry-

³⁵Peirce uses ‘habit’ in a sense which is not unlike that of ‘convention’ used here. A *habit* in Peirce is an actual but not necessary pattern of occurrences. Among these are *habits of conduct*, that is, *patterns of performance* which (in the individual case) can be characterized as dispositions to behave. A *belief*, in the sense in which Peirce uses it (borrowed from British Empiricist Alexander Bain), is a habit of conduct which can be characterized as a disposition to *assert*. To believe *that-p* is in this sense to *hold that-p for true* in the ‘dialogue of the soul’, so to speak, and such a habit of conduct can be characterized by a disposition behave *as if p*. Peirce’s master idea was to use this conception of *belief* to track the “living comprehension” of a concept over time. See CP 6.481.

³⁶Lewis writes: “Those patterns of distinction and relationship which we thus seek to establish are our concepts... These must be determined in advance of the particular experience to which they apply in order that what is given may have meaning. Until the criteria of our interpretation have been fixed, no experience could be the sign of anything or even answer any question. Concepts thus represent what mind brings to experience. That truth which is *a priori* rises from the concept itself. This happens in two ways. In the first place, there is that kind of truth, exemplified most purely by mathematics, which represents the elaboration of concepts in the abstract, without reference to any particular application to experience. Second, the concept in its application to the given exhibits the predetermined principles of interpretation, the criteria of our distinguishing and relating, of classification, and hence the criteria of reality of any sort... For both these ways in which truth is fixed, independently of experience and in advance of it, it represents the explication or elaboration of the concept itself. *The a priori is not a material truth, delimiting or delineating the content of experience as such, but is definitive or analytic in nature.*” [17, pp. 230–231]

³⁷Sellars adds: “In traditional language, the ‘content’ of concepts as well as their logical ‘form’ is determined by the rules of the Understanding... There is nothing to a conceptual apparatus that isn’t determined by its rules, and there is no such thing as choosing these rules to conform with antecedently apprehended universals and connexions, for the ‘apprehension of universals and connexions’ is already the use of a conceptual frame, and as such presupposes the rules in question...”

³⁸Sellars continues: “I am convinced, however, that much of the current nibbling at the distinction between analytic and synthetic propositions is motivated by what I can only interpret as a desire to recognize the existence of synthetic *a priori* propositions.”

point into discussion of the *evolution* of conceptual schemes. He calls our attention to an “ambiguity in the use of the expression triangularity” and argues that his analysis of predication provides us with a disambiguation that reveals “the cash value of the medieval distinction between predicative and formal universals” [41, pp. 102–103]. The ambiguity, Sellars says, arises in comparing contexts like:

Triangularity is exemplified by Carol

Triangularity is an object

In that broad sense of ‘object’ in which any singular subject of a true predicative statement is an object, Sellars points out that one can say (in the material mode) that:

the wood tick is an object, specifically a distributive object

or equivalently (in the formal mode) that:

the ·the wood tick· is a singular term, specifically a distributive singular term

Likewise, there is a sense in which:

the pawn is an object, specifically a distributive object

which is to say:

the ·the pawn· is a singular term, specifically a distributive singular term

So we might then just as well say that:

Triangularity is an object, specifically a distributive object

but recognize this as equivalent to:

the ·triangular· is an object, specifically a distributive (linguistic) object

Then, in the contexts:

Equilateral triangularity is exemplified by Carol

Isosceles triangularity is exemplified by Carol

the nominalizing device ‘-ity’ can then be construed as modifying the prefixed determiner and adjective together, so that the logical subjects are construed as *being*:

the ·equilateral triangular·

the ·isosceles triangular·

which constitute “a fragment of a system of geometrical classification” [38, p. 117]. And, in the contexts:

Euclidean triangularity is exemplified by Carol

Riemannian triangularity is exemplified by Carol

the ‘-ity’ can instead be construed as nominalizing just the adjective, ‘triangular’, and the determiner as modifying a *functional sortal*, so that the logical subjects are construed as *being*:

the Euclidean ·triangular·

the Riemannian ·triangular·

which is to say, a *species of triangularity concept*, specified by affixing the *generic* illustrator with a determiner to indicate a *specific* way of functioning in some *theoretical* context. We might then say that:

the concept *triangular* is an object, specifically a distributive *linguistic* object

and one that *distributes over* Euclidean ·the ·triangular· ·s and Riemannian ·the ·triangular· ·s alike; but does not distribute over ·isosceles triangular·s or ·equilateral triangulars·s, which are linguistic things used to classify extra-linguistic things, nor over *triangles*, which are of course (for the most part) *extra-linguistic* things classified in various ways.

In sum, we thus get Sellars’s distinctive position on *conceptual change*:

Abstract entities, *pace* Plato, change. Obviously it is in no ordinary sense that they change, yet it is a legitimate one at that... The base language with respect to which abstract singular terms are introduced is part and parcel of the natural order, the world of ‘process’ or ‘becoming’. Its mode of being is as historical as that of the social institutions that it makes possible. The expressions which are embedded in abstract singular terms of the illustrating variety, reconstructed by our dot-quoting device, belong to a cross-section of the history of the language, though the cross-section need not be, in the ordinary sense, ‘contemporary usage’. [41, p. 124]

Now, Sellars is perhaps best known for his influential distinction between the *manifest* and *scientific* “images” of man-in-the-world. The former is, roughly, the conceptual framework of sophisticated common-sense, the *basic objects* of which are, roughly, persons and coloured middle-sized dry goods – paradigmatically, pink ice cubes – but also artifacts with specific functions-for-us, like hammers, nails, tables and chairs. The latter – scientific image – is, roughly, the conceptual framework of (ideal, unified) theoretical science, the *basic objects* of which are, roughly, *systems* of imperceptible entities (none of which are, *of themselves*, coloured, nor *of themselves* serve specific functions-for-us).

Sellars famously emphasized a “clash” of the images (at present), and as a defender of *scientific realism*, maintained that “in the dimension of describing and explaining the world, science is the measure of all things” [33, p. 173]. Yet, Sellars envisioned a “stereoscopic” synthesis of the images at the Peircean “end” of inquiry, wherein *persons* and *colours* are preserved (though transposed into a different key). One central issue, for Sellarsians since, is characterizing the relation between the manifest and scientific images in this stereoscopic vision. The *replacement* of manifest objects with systems of imperceptible entities is a touchy issue; for if Sellars’s project is to be successful, manifest objects must in some sense *survive* this refinement

of our global world-in-view, despite *pluralities* (of logical subjects) taking the place of *individuals* (singular subjects). To enter this dialogue beyond making a suggestive gesture in this direction would take us too far afield from Sellars’s philosophy of language; but I gesture as follows.

It is tempting to think of systems of imperceptible entities as coming to be *identified* with manifest individuals. Yet Sellars countenances the former as *real* and holds that the latter are (mere) appearances-to-the-mind. While *identity* is (by definition) a symmetric relation, the relation between appearance and reality cannot be so. Sellars is “prepared to say” that “the common sense world of physical objects in Space and Time is unreal” [33, p. 173] but maintains that “the individual concepts of the manifest image have counterparts in the scientific image which, however different in logical structure, can legitimately be regarded as their ‘successors’” [41, p. 141]. I propose to make sense of this *successor* relation (for Sellars) roughly as follows.

Sellars emphasized the flexibility, or context- and purpose-relative character of *functional classification*. Now, recall the argument of the prior section. As argued there, the function of functional classification at the sentential level, thus:

·‘s’ means *p*·

is to *bring about*, in some anthropologically interesting way, a:

·*p*· \mapsto ‘*s*’

where ‘ \mapsto ’ indicates an *actual mapping* (in some discursive context) of ·*p*·s onto ‘s’·s, for sentential variables *s* and *p*; and where by “actual mapping” is meant: collective adoption, by a *group* of participants who (individually) *understand* the expression ‘*p*’, of the same posture towards, or *pattern- and rule-governed responses to*, ‘s’·s as ·*p*· s. However, the ‘...means...’ rubric *also* works at the level of *names*. This is so that – letting ‘*n*’ and *n*’ be arbitrary names³⁹ – we can reason *explicitly* in alethic contexts:

- (i*) ‘*n*’ (in our L’) means *n*
 - (ii*) *n* is ϕ
 - (iii*) the ·*n*· is ϕ · is true_@ and ·*n*· \mapsto ‘*n*’
- Hence,
- (iv*) *n*’ is ϕ

Then as I understand it, the successor relation in question is to be determined by our own context- and purpose-relative classifications of expressions-in-use in more or less descriptively and explanatorily adequate iterations of our own theoretical vocabulary over time.⁴⁰ Manifest objects *survive* the stereoscopic synthesis, despite *turning out to be* mere appearances-to-the-mind, insofar as they are, and their successors remain, singular subjects of predication *in some contexts*. In short, *we* (in the broadest sense) remain an essential part of *any* adequate conception of man-in-the-world and, for practical purposes, continue to engage the ultimate constituents of reality *as* objects (whether individuals or aggregates) with specific functions for, and (ultimately) appearances to, *us*. In this sense, it is not the (causal) principles, but the *basic objects* of the manifest image which are “robust”.⁴¹

³⁹E.g. ‘*n*’ a contemporary *English* name for the table before me now, and ‘*n*’ a *Peirceish* name for a system of imperceptible entities, or designating expression for a “virtual class” of individuals, c.f. [41, p. 141].

⁴⁰In some contexts – when outside the study, or conversing with “the vulgar” – we would say that *n*’ (a system of imperceptible entities) *is a table*; but when in the study or conversing with experts, we would say that *n* (a table) *is a plurality of entities*. These remarks should be sufficient to indicate the relevance of the above argument form to Eddington’s infamous “two tables”.

⁴¹C.f. David Chalmers’s “The Matrix as Metaphysics” (note 12); <http://www.consc.net/papers/matrix.html>

Chapter 4

Pictorial Complexity

The ‘...means...’ rubric does much work for Sellars. So it is important to recognize the *hypothesis* that the ‘...means...’ rubric *functions properly* as a point of *departure* for his theory of predication.¹ If one then looks to the *terminus* of Sellars’s account of (positive) predication, it will be noticed that in *Science and Metaphysics* he is playing an interesting sort of *game* with the Idealist.² Ultimately, in considering “matter-of-factual truth”, where “we are haunted by the ideal of *the* truth about the world”, Sellars distinguishes between *pictorial* from *logical* complexity, in the following passages:

The mode of composition by virtue of which a number of atomic statements join to make a complex picture must not be confused with the mode of composition by virtue of which a number of atomic statements join to make a molecular statement. In other words, we must distinguish ‘pictorial’ complexity from ‘logical’ complexity.

The S-assertibility of molecular statements which are neither tautologies nor self-contradictory is a function of the syntactical moves which connect them with non-negative and non-competing atomic statements, and of the S-assertibility of these conjunctive complex statements *qua* complex pictures.

Logical connectives and quantifiers do not occur *as such* in pictorial complexes... the connectives, though physically present, no longer function as such, but become so to speak mere punctuation. [41, pp. 115–117]

We need a better handle on this distinction.³ Here, I will argue that the distinction stems (primarily) from

¹To reiterate, the proper functioning of the means rubric is taken as something like an “original quality of human nature” (c.f. *Hume*, T 1.1.5.6) for the purposes of philosophical semantics, and Sellars does not pretend to explain it, though he does attempt to *explicate* it. Compare [36, §38].

²He *delays the moment* of truth at every turn. The result is that the reference of ‘our’ can be first *shifted* then *expanded* in the interval between an initial (propositional) content attribution and a ‘truth-making’ performance which ‘cashes out’ this the occurrence of a sentence-token in a sentence-sentence for a sentence-token which is the real (natural-order) product of a *positive* predication (*qua* act; and so *move* in the “space of reasons”). This enables Sellars to “distinguish between the conceptual structure to which a proposition *belongs* and the conceptual structure structure *with respect to which its truth is defined*” [41, p. 128].

³Particularly, because Sellars then implies that by exploiting the “purely formal aspects of logical syntax, when they have been correctly disentangled” [41, p. 133], he has located an *Archimedean point* outside the series and actual and possible beliefs which Peirce had failed to secure. Sellars relativizes truth-evaluation to a conceptual scheme (CSP, for C.S. Peirce) which, *considered as*

a disagreement with Wittgenstein of the *Tractatus*, and yields a response to Irad Kimhi’s criticisms of compositionalist picture-theoretic accounts of propositional complexity.

4.1 Judgement and Complexity

In Fregean semantics, connectors of ascription, e.g.: ‘...says...’, ‘...thinks...’ and ‘...believes...’, are analyzed as relations, which relate *cognitive agents* and *propositional contents*. They are taken to differ from ordinary relational predicates and the logical connectors by creating contexts wherein expressions have their (customary) sense as their reference, and the sense of ‘the thought, ...’. So in the context:

I think that *p*

the possible intellect does not *transition* of necessity from *the thought* to the *truth value*, which is external to the thought. This has as its upshot that *I* can be understood as apprehending, or *entertaining* various atomic propositions, and *combining* these (in some way) to form a *complex* which may be asserted by me as the (empirical) result of a judgement. That this mode of combination is *truth-functional* has (historically) been taken for granted, so that in thinking:

Alice is left of Carol and above Bob

I can be understood as having recognized and (truth-functionally) combined two atomic propositions (first-level thoughts) expressed by:

Alice is left of Carol

and

a “method of projection”, enables *its* users to *form* ideally adequate *pictures* of objects, and tells us that “Peirce himself fell into difficulty because, by not taking into account the dimension of “picturing,” he had no Archimedean point outside the series of actual and possible beliefs in terms of which to define the ideal or limit to which members of this series might approximate.” [41, p. 135]

A historical note: Peirce emphasized in his logical theory that “ ‘Real’ is a word invented in the thirteenth century to signify having Properties, i.e. characters sufficing to identify their subject, and possessing these whether they be anywise attributed to it by any single man or group of men, or not” (CP 6.453). At the core of his response to Kant is this recognition: “the idealistic argument turns upon the assumption that certain things are absolutely “present,” namely what we have in mind at the moment, and that nothing else can be immediately, that is, otherwise than inferentially known. When this is once granted, the idealist has no difficulty in showing that that external existence which we cannot know immediately we cannot know, at all” (CP 1.137). But Peirce’s peculiar form of *Scholastic Realism* (all tied up with the doctrine of *synechism*) led him to advocate a form of *Objective Idealism*; and so he often credited *Berkeley* as the original author of *Pragmatism* (later *Pragmaticism*). This expresses *my* general frustration with him (and one which I think Sellars shared): Peirce recognized that “the very origin of the conception of reality shows that this conception essentially involves the notion of a community, without definite limits, and capable of a definite increase of knowledge”; but he inferred from this that “those two series of cognition – the real and the unreal – consist of those which, at a time sufficiently future, the community will always continue to re-affirm; and of those which, under the same conditions, will ever after be denied” (CP 5.311).

It is in this context – and as a response to Peirce, rather than Berkeley – that we should understand this otherwise puzzling passage in the notorious chapter V of Sellars’s *Science and Metaphysics*: “*the concepts* of these [extra-linguistic] objects are, of course, relative to a conceptual scheme, but the form of these concepts is not... We must not repeat Berkeley’s mistake when he wrote ‘... but it does not show that you can conceive it possible the object of your thought may exist without the mind: to make out this, *it is necessary that you conceive their existing unconceived or unthought-of, which is a manifest repugnancy*’ (*Principles of Human Knowledge, XXIII*)” [41, p. 131]. Sellars, in the preface of *Science of Metaphysics*, himself emphasizes that six lectures became seven chapters by the addition of ch. V, now thought to be “the heart of the enterprise”, wherein the separation of picturing from semantical notions of reference and predication, enables him to give “a definition of ‘reality’ and ‘ideal truth’ in terms of *adequate representation*” [41].

Alice is above Bob

to form a *molecular* proposition by *conjunction*, and in thinking:

Carol is not left of Alice

I can be understood as having recognized the atomic proposition (first-level thought) expressed by:

Carol is left of Alice

and formed its contradictory by *negation*. But, as a result of this construal of negation and indirect discourse, Fregean functionalism (as a theory of propositional complexity) cannot, Irad Kimhi [14] argues, “adequately show” (for arbitrarily complex p) that inferences like the following are valid:⁴

(I) A thinks p	(I') A thinks p
(II) p	(II') not- p
(III) So, A thinks truly that p	(III') So, A thinks falsely that p

In the *Tractatus* (5.475–5.5423), Wittgenstein rejects this conception of negation as external to the proposition, and sketches a constructional approach to propositional complexity.⁵ Wittgenstein *also* rejects the analysis of connectors of ascription as relational predicates forming intensional contexts. He tells us that:

A says p

A thinks p

and

A believes p

are all really of the form:

' p ' says p

and that here we have “no co-ordination of a fact and an object, but a co-ordination of facts by means of a co-ordination of their objects” (5.541-5.5421).

Sellars, recall, rejects the Fregean analysis of propositional attitude ascriptions; but not the conception of negation as external to the proposition. He (roughly) wants to invert the order of explanation in Fregean

⁴One cannot “identify (2), on any logical basis, as specifying the truth conditions of – or being the truth-maker of – (1)” [14, p. 94]. The problem – in a nutshell – is that in the oblique context of e.g. (1) a ' p ' occurs as referring to its customary sense, i.e. *the thought*, rather than with its customary (assertoric) sense (as referring to T/F). Then, in (2) a ' p ' occurs again, but this time *asserted* (i.e. as referring to T/F). So *the content* of ' p ' in (2) cannot be (non-arbitrarily) *identified* with the content of ' p ' in (1). To do so is to identify the *truth-value* of the content of ' p ' as named in (1) with the truth-value of the content of ' p ' as *asserted* in (2), but the content as named in (1) cannot wear on its sleeve the judgement, nor (as in Sellars's reconstruction) the act of assertion.

⁵He says that *names* are (really) like *points* and *propositions* like *arrows* (3.144), that the “logical operation signs are punctuation” (5.4611), and that determining “the number of necessary fundamental operations” is just “a question of constructing a system of signs of a definite number of dimensions – of a definite mathematical multiplicity” (5.475).

semantics with his *Verbal Behaviourism* (VB), according to which: “thinking ‘that-*p*’, where this means ‘having the thought occur to one that-*p*’ has as its *primary* sense *saying* ‘*p*’, and a *secondary* sense in which it stands for a short term proximate propensity to say ‘*p*...’⁶ [38, p. 82]. The implication is that “ascribing a certain thought to a person by the use of ‘indirect discourse’ is not simply analogous to, but identical with, saying what someone has said (or was disposed to say)” [38, p. 82].⁷

4.2 Varieties of Factualism

Consider again *Tractatus* 3.1432:

We must not say, “the complex sign ‘*aRb*’ says ‘*a* stands in relation *R* to *b*’”; but we must say, “That ‘*a*’ stands in a certain relation to ‘*b*’ says that *aRb*” (3.1432)

and in particular, the positive claim:

we must say, “That ‘*a*’ stands in a certain relation to ‘*b*’ says that *aRb*”

Kimhi argues that this can be read in either of two ways: as a statement of *compositionalist factualism* (c-factualism), or as a statement of *non-compositionalist* factualism (propositional, or p-factualism). His arguments against c-factualism and for a variety of p-factualism rely on a distinction between *factualist* and *functionalist* conceptions of predicative unity generally.⁸ Kimhi draws the distinction as follows:

From a functionalist point of view, a simple propositional sign is a complex entity, and given the context principle, the identification of a component in a proposition, e.g., a name or a predicate, is a description of the complex that tracks its possibilities of occurrence in valid arguments. [14, p. 99]

⁶Sellars continues: “Propensities tend to be actualized (a logical point about the term); when they are not, we speak of them as, for example, ‘blocked’. The VB I am constructing sees the relevant inhibiting factor which blocks a saying that-*p* as that of not being in a thinking-out-loud frame of mind... Again, a thinking-out-loud that-*Fa* is to be construed as a candid utterance (by one who speaks a regimented PMese language) of ‘*Fa*’ which realizes a fragment of the conceptual functions of ‘*F*’ and ‘*a*’ and is related to their other conceptual functions, as placing of a pawn on a chess board in the course of a game *realizes* a fragment of the function of a pawn and is related to its other chess functions.”

⁷Note, Sellars complements this account with an argument to the effect that in order to be an *apt* subject of ascription of a *logically complex* assertion or “attitude”, one must *already* be capable of functionally classifying (so, *regulating*) their *own* (‘atomic’) utterances and inscriptions, i.e. employing the ‘...means...’ rubric at the sentential level. An inter-generational procedure for bootstrapping competence with semantic vocabulary (and an I-We self-conception) can be found in “Some Reflections on Language Games” [42]. We get a sketch of this argument in *Naturalism and Ontology*: “Only when the child has got the hang of how his utterances function in the language can he be properly characterized as saying ‘This is a book’ or ‘It is not raining’ or ‘Lightning, so shortly thunder’... The functioning which gives the utterances of one who has learned a language their meaning *can* exist merely at the level of uniformities as in the case of the fledgling speaker. Those who train him, thus his parents, think about these functionings and attempt to ensure that his verbal behavior exemplifies them... The trainer knows the *rules* which govern *correct* functioning of the language. The language learner begins by *conforming* to these rules without grasping them himself. Only subsequently does the language-learner become a full-fledged member of the linguistic community, who thinks thoughts (theoretical and practical) not only about *non-linguistic* items, but also about *linguistic* items, i.e., from the point of view of VB, about *first level* thoughts” [38, p. 84].

⁸And this on a distinction between *complexes* and *facts*. Complexes are (Kimhi says) *internally articulated*, in the sense that each of the parts and the whole are possible subjects of possible predications. Facts, on the other hand, have their internal articulation *displayed* or *revealed* in true predications. See [14, p. 100].

On the other hand:

Factualism is the view that a propositional sign is a determination of the names in it, and thus a proposition is the fact that, as components of the propositional sign, the name or names stand in a certain way. [14, p. 99]

so, Kimhi writes:

A recognition of propositional complexity, according to the factualist, is a judgment concerning names and is not primarily about the complexes in which the names occur. [14, p. 100]

Factualism then characterizes a sort of *picture theory* of propositional complexity. A picture theory, generally, commits one to the view that the propositional sign *depicts* (i.e. is an isomorphic image of *something*). Then a recognition of propositional complexity, as *judgement* concerning names, is in some sense a recognition of *pictorial* complexity in the *sign* or *symbol*.⁹ If to *depict* is to be an isomorphic image of *something*, then to be *true* (or false) must be something *else*, and picture theorists struggle to account for the difference between *positive* predication (affirmation) and *negative* predication (denial) within the constraints of the theory. When it comes to accounting for *error* (and analyzing true simple negative statements) the approach typically “wrecks itself by assuming the existence of the non-existent” [31, p. 58], as Russell put it.¹⁰

One proposal – which Kimhi traces back to Aristotle – is that *combination* and *separation* might be taken to correspond to atomic positive and simple negative predication, respectively. Kimhi’s *compositionalist* (c-) factualist then takes the truth (or falsity) of an (atomic positive or simple negative) *proposition*, *qua combination* of names in the propositional sign, to depend on a corresponding *combination* (or separation) of *things* (i.e. name-bearers) [14, pp. 101–102]. On the c-factualist account:

that Alice is above Bob is true

and

that Carol is left of Alice is false

each depend on a corresponding *combination* and *separation* of name-bearers in (2.1). The p-factualist, in contrast, holds that “a simple propositional sign both depicts (reveals) a possible determination of name bearers by being a determination of their names, while also being negatable”¹¹ [14]. So on this view:

Carol is left of Alice

⁹“The sign is the part of the symbol perceptible by the senses” (TLP 3.32), and “in order to recognize the symbol in the sign we must consider the significant use” (TLP 3.326).

¹⁰Something like this puzzled Wittgenstein, who famously (early on) defended a sort of picture theory, and Kimhi has in mind here two passages from Wittgenstein’s notebooks. The first expresses what Kimhi (answering McDowell) calls ‘the deep puzzle’: “How can one think what is not the case? If I think King’s College is on fire when it is not, the fact of its being on fire does not exist. Then how can I think it?” [51, p. 31]. In the second, young Wittgenstein describes ‘the mystery of negation’: “This is not how things are and yet we can say *how* things are *not*” [50, p. 30]. Ruth Millikan, I think, gives an apt account of the dilemma faced in giving a picture-theoretic account of negation: “True negative sentences cannot have nonexistent world affairs as real values, for the real value of a sentence must figure in an explanation for proper functioning of that sentence. But nonexistent world affairs would surely have no powers in the causal order, hence could not play roles in Normal explanations... [so] either true negative sentences must map *real* world affairs or else they do not map world affairs at all, hence are not representations.” [20, p. 221]

¹¹Kimhi adds: “Moreover, p-factualism holds that these two roles cannot be dissociated”

as a propositional sign (complex) depicts a *possible* determination of things in (2.1), while also being negatable; thus the affirmation:

that Carol is left of Alice

and the denial:

that Carol is not left of Alice

are *internal poles* of a propositional *unit*, the negative being a modification of the positive, so the positive *prior* to the negative, and the negative having no additional *content* over and above that which is provided by the positive. So, Kimhi tells us:

According to p-factualism, there is a crucial asymmetry between the positive and negative predications. While the positive proposition depicts or reveals how things are determined if it is true, and displays the judgment (*viz.*, *says*) that they are so determined (see, e.g., TLP 4.022), the negative proposition depicts or reveals how things are if it is false and displays the judgment (*viz.*, *says*) that they are not so determined. [14, p. 105]

Kimhi argues that a *failure* of c-factualism as a theory of judgment can be traced to a reliance on *spatial models*. He writes that “the c-factualist lacks the means to describe the propositional sign ‘*aRb*’ as displaying a judgment, for he cannot say why the fact that ‘*a*’ stands in a certain relation to ‘*b*’ (flanking *R* from left to right) displays “*that aRb*” rather than its contradictory” [14, p. 103]. Generally, the diagnostic thesis is that:

The c-factualist’s appeal to spatial models as capable of displaying, in a primitive manner, the way that propositional signs are supposed to represent, rests on a misunderstanding of the use of a complex of items as a representation, i.e., a model... [I]n seeing a complex as a model, we incorporate it into a negatable proposition of the form: things stand thus (“thus” is to be understood as latching onto the complex here). [14, pp. 105–106]

Kimhi mentions in passing that *Sellars* adopted some version of c-factualism.¹² But I will argue that Kimhi’s criticisms of c-factualism miss the mark when it comes to the account Sellars gives of *pictorial* complexity. In short, to characterize Sellars as a c-factualist is to ignore the essence of his *criticism* of a thesis made *explicit* in the *Tractatus*:

The propositional sign consists in the fact that its elements, the words, are combined in it in a definite way.

The propositional sign is a fact. (3.14)

4.3 The ‘fact pictures fact’ Model

Sellars argued that Wittgenstein had *wrecked* his own theory of predication, by tying it too closely to the:

¹²He writes “[c-factualism] is adopted in some form by Wilfrid Sellars on the basis of what I take to be a misreading of that work” [14, p. 99].

fact pictures fact

model, and that as a result Wittgenstein's notion of *picturing* collapses into *translation*.¹³ To do justice to the propositional form of our linguistic analogues of 'simple ideas', let us take an expression in Jumblese for our example which we now understand:

ac

and again consider a *recognition* of propositional complexity.¹⁴ First off, we are conspicuously presented with the task of *parsing* the above. Wittgenstein maintains that "to perceive a complex means to perceive *that* its constituents are combined in such and such a way" (T 5.5432, my italics). What is the c-factualist to say? Something like this:

That 'a' is red says (displays the assertion or judgement) that Alice is circular

and:

That 'c' is blue says that Carol is triangular

and

That 'a' is left of 'c' says that Alice is left of Carol

and:

That 'c' is right of 'a' says that Carol is right of Alice

Notice the occurrence of fact-expressions on either side, and so the correlation of facts *about* linguistic things with facts *about* extra-linguistic things. Sellars wanted to avoid precisely this occurrence of fact-expressions in an (initial) *expansion*, in the logical order, of a natural-linguistic *thing* into a *projection-into-language* of

¹³Sellars then *responded* to Wittgenstein, critically, and presented his own version of the 'Tractarian' thesis, in a pair of papers; "Truth and 'Correspondence'" and "Naming and Saying". In these papers Sellars is clear that he is onto something *else* with his notion of picturing, concerning *systems* of atomic propositions, "over and above the feature summed up in the slogan that an *n*-adic configuration of names pictures an *n*-adic configuration of objects" [46, pp. 212–213]; and for which he looks (in this first paper) to Hume. In "Truth and 'Correspondence'", Sellars criticizes *Hume* for "failing to do justice to the propositional form of what he calls 'ideas' and... to take into explicit account the fact that the 'subjects' of these propositional ideas are individuated by virtue of the spatiotemporal relationships in which they stand" [46, p. 216]. In "Naming and Saying", Sellars goes to great lengths to determine whether Wittgenstein would have been willing to countenance *monadic atomic facts*, and finds no reason why Wittgenstein would be barred from doing so. Sellars [37, p. 235] cites TLP 4.24 as his best evidence for thinking Wittgenstein *would* have; but leaves the issue, and goes on to show that it *can* be done (thus, Jumblese is born). One might even take TLP 6.3751 as an *endorsement* of the use of *colour* in constructing a symbolism.

¹⁴Notice, counterparts of spatial relations and monadic characteristics (of things) are "directly instantiated" in the Jumblese notation; but we need to take better stock of the observation that "the compositionality of relations in a notation which instantiates relations directly provides a natural means for simultaneously representing multiple relations in a complex or conjoined system without requiring any additional representational machinery" [12, p. 260]. As Gangle et al. are rightly pointing out, Sellars wants to show that *empirical* features of the Jumblese notation are formally sufficient to model the emergence of properly, or at least *nearly* logical notions like *pictorial* combination, without additional representational machinery, as part of a broader project of bootstrapping purely formal elements of cognition with inductive generalizations from empirical features of a language-in-use. Most importantly, one can in Jumblese simultaneously instantiate a spatio-temporal relation and its natural converse in a single propositional sign-design.

extra-linguistic things.¹⁵ If one identifies *complex particulars* (things) with (bundles of) *facts* from the outset, then in *expanding* the natural-linguistic object (coloured inscription) above into a projection of things, the propositional sign (type) must be identified by listing some number of (what Kimhi calls) *propositional facts*, i.e. stated by fact expressions (truth-functional combinations) concerning occurrences of names in (a generic token of) the propositional sign. It is these *propositional facts* which determine a *purely formal* correspondence of the *descriptive adicity* of the (atomic) propositional sign (*qua* fact) – i.e. the *number* of simple signs in it – and the descriptive adicity of some *state of affairs* (i.e. *number* of things in a group), through some *form* of representation (c.f. TLP 2.15-2.171). But the purely formal thesis does not get one a *specific*, i.e. logico-syntactically *contingent* correspondence relation.

One observation at work in Kimhi’s argument is that there is nothing *necessary* in a symbolism – even a “cartographical” one like Jumblese – that can on logico-syntactic grounds *guarantee*:

that ‘c’ is right of ‘a’ (< ac >) says *that* Carol is right of Alice

This is simply because considered from a *purely formal* perspective, e.g.:

that ‘a’ is right of ‘c’ (< ca >) says *that* Carol is right of Alice

and:

that ‘c’ is left of ‘a’ (< ca >) says *that* Carol is right of Alice

work equally well. Things *could have been otherwise* with the symbolism (whether Jumblese or English). ‘a’s *could* have been correlated with Carol (‘Alice’s too) and the Jumblese *could* have written things the other way round. This should come as no surprise. As Wittgenstein puts it, the “*form* of representation is the *possibility* that the things are combined with one another as are the elements of the picture”, and “what the picture *must* have in common with reality in order to be *able* to represent it *after its manner...* is its *form* of representation”, so “the picture *can* represent every reality whose form it has. The spatial picture, everything spatial, the coloured, everything coloured, etc.” (TLP 2.151–171, my italics). But in determining *what is said* by:

ac

one’s resources are not restricted to *purely formal* constraints on “cartographical” representation, which can be elucidated by interrogating the Jumblese propositional sign with a descriptive vocabulary. We are not burdened with the task of demonstrating that *Carol is right of Alice* is what *must* be said by the above, but with showing *how* this *is* what is said. In that regard, one can interrogate – again with a descriptive vocabulary – the sign *token* as a concrete, spatio-temporally localized particular, belonging to a spatio-temporally extended *lineage* of *determinate repeatables* (‘copies’), each *in principle* descriptively distinguishable, *at very least* by difference of spatio-temporal location.

Kimhi’s c-factualist, in relying on spatial models of *states of affairs*, lacks the resources to specify *which* member of a contradictory pair (affirmation or denial) is “displayed” by a combination of names:

¹⁵He writes: “We must be careful *not* to follow Wittgenstein’s identification of complex objects with facts. The point is simple, but, for our purposes, a vital one... even if we construe the relation between the referring expression ‘C’ and the fact that O_1 and O_2 are related in a certain way as tightly as possible... it nevertheless remains logical nonsense to say that the complex C is the fact that O_1RO_2 . The most one is entitled to say is that statements containing the referring expression ‘C’ are, in principle, unpackable into statements about O_1 and O_2 and that among these statements will be the statements ‘ O_1RO_2 ’. It is, however, the *statement* ‘ O_1RO_2 ’ that occurs in the expansion, not the *fact-expression* ‘that O_1RO_2 ’ ” [38, p. 142].

ac

because understood as representing an isomorphic image of a (possible) *state of affairs* (determination of things), the combination (determination of names) can be used to make contradictory claims. But in response to this *fault* in the ‘fact pictures fact’ model, Sellars adopted an ontology of *complex particulars* (including ‘natural-linguistic objects’) of varying *degrees* of complexity, that does not anywhere introducing a causal-order difference in *kind* separating parts from wholes.¹⁶ He wants to construe *picturing* not as a relation of *facts* about linguistic objects (generic tokens of a type) and *facts* about extra-linguistic objects (as above), but as a relation of natural-linguistic and extra-linguistic *objects* or *groups of objects*. Picturing as a natural-order relation of linguistic and extra-linguistic *things* (Sellars says) must be specified by ground floor descriptive statements *about things* like this:

ac

without identifying this complex particular in the natural order (coloured inscription, or diode emitted light) with a bundle of (atomic) facts, or a (complex) fact amounting to a truth-functional combination of atomic state of affair intensions.¹⁷

For resources required over and above the *purely formal* thesis advanced by c-factualists (and often attributed to Wittgenstein), Sellars looked to the “ontology of the subject”. He writes: “It was, indeed, a significant achievement to show that it is *n*-adic configurations of referring expressions that represent *n*-adic states of affairs. But of itself this thesis throws no light on the crucial question: What is there about *this specific n*-adic configuration of referring expressions that makes the configuration say that the items referred to are

¹⁶There is however an ambiguity in the notion of *seeing a complex as a model*, which – I think – Kimhi has seized on, but which – I think – Sellars noticed and wanted to *exploit* with his ontology of complex particulars. Consider a simple *non-linguistic* model, not *of* something but *for* some *thing*: a stone tool (of some sort). Surely *a stone* can be brought into view as an instance of a tool-form, i.e. the *embodiment* of a *technique*, thus subject to evaluation. So a carpenter brings *a hammer* into view *as a hammer*, sailors bring *a ship* into view *as a ship*, and both will tell you how the thing *qua* embodiment of a technique could be *better*. But *the stone* can equally be brought into view as a concrete particular with various empirical characteristics, which is to be *re*-produced by chipping away at another stone. In the wild, the woodsman brings the axe-handle into view as something to (re-)made by *using the axe*; meanwhile sailors bring *the hull* into view as something to be (re-)made *at the next port*. We likewise bring our language into view as something to be (re-)made by *using the language*.

¹⁷Sellars is committed to an analysis of *fact-talk* as meta-linguistic. So, if these statements about complex natural-linguistic things (sentences) are taken instead to be *about facts*, in the sense of containing fact-expressions (as the c-factualist maintains), then (letting ‘C’ refer to the coloured inscription above) “while ostensibly referring to a complex naturalistic object, ‘C’ would actually refer to the statement which describes its complexity, and statements to the effect that certain natural-linguistic objects are pictures of other objects in nature would only ostensibly be about *natural-linguistic* objects... and would actually be about statements in the full sense which involves the conception of norms and standards” [46, p. 211].

This can be illustrated by considering the structure of this very document. Were we to *identify* the *Jumblese* propositional sign above, *qua type*, with a (generic) *description* of the propositional sign (*qua* token), and to identify the *extra-linguistic* objects – who we know as Alice, Bob and Carol – with the (complex) *fact*, *that* Alice (the circle), Bob (the square) and Carol (the triangle) are *thus* arranged on the page (as in 2.1), then *picturing* would at once collapse into *translation*. It would be the *fact-stating description* (initially given of these things *in English* in (2.1)) which would determine that the above natural-linguistic object *pictures a* (Alice) and *c* (Carol) (*we* would say, *correctly*). This description *is* (roughly) what has (up to this point) determined that the above (*qua* instance of a type) *means* what it does (when our background language is English); and the above (*qua* concrete particular) *does* in fact *picture* Alice and Carol (as a result of some engineering) – in short, it *represents* things *as* they (in fact) *are*. But Sellars is after a definition of picturing as a relation of *natural-linguistic* and *extra-linguistic* objects, quite distinct from *semantic associations* of expressions (*qua types*) with (inferential) *roles*. Statements which specify a (contingent) *picturing* relation in the natural order (as opposed to logical order) must be *object language* statements which, though meta-linguistic in the sense that they are *about* natural-linguistic objects, are (Sellars tells us) to be sharply distinguished from statements of logical semantics, which are formulated in a semantic meta-language (i.e. meta-representational subsystem).

related in *that specific n-adic way?*” [46, p. 212]. The suggestion, I take it, is that we *track*, with a descriptive vocabulary, the *token-replicative lineages* in virtue of which e.g. (for the purposes of illustration) *this*:

ac

as belonging to a *system* of ‘atomic’ representations, has *over time* come to represent *things* (namely, Alice and Bob) *as they are*,¹⁸ whereas *this*:

ab

as belonging to the same system, has come to represent things *after their manner* (c.f. TLP 2.17), but *as other than they are* (and so, we say, does not *correctly* picture the things). I will now argue that tracking token-replicative lineages enables one to identify the placing of an ‘a’ left of a ‘b’, i.e. *formation* of a:

ab

with the claim *that* Alice is left Bob, rather than its contradictory, and to determine that the above form does not *correctly* picture the things in (2.1).

4.4 Configurations of Names

Sellars responded to Wittgenstein that “the cartographically relevant fact that one dot is between the other two is the counterpart of the statement viewed as a triadic configuration of names”, and that it is only the latter on which logical operations are performed [46, p. 212]. So, we would do well to have an account of *what it is* to view a natural-linguistic object *as* an *n-adic* configuration of *names*. Take for example (the Jumblese):¹⁹

abc

Having *classified* the ‘a’, the ‘b’ and the ‘c’ as *names*, we can *parse* this as monadically composed. This is a red name, an orange name and a blue name; so putting this association graphically:²⁰

$$\begin{array}{ccc} a & , \dots , & b & , \dots , & c \\ \text{that-}p_a & , \dots , & \text{that-}p_b & , \dots , & \text{that-}p_c \end{array}$$

we get *complex objects* in the real order (top) and *atomic propositions* in the logical order (bottom). This is equally an ‘a’ left of a ‘b’, a ‘b’ left of a ‘c’, and an ‘a’ left of a ‘c’, so we can also parse this as *dyadically* composed. Again, we get *complex objects* in the real order (top), and *atomic propositions* in the logical order (bottom):

$$\begin{array}{ccc} ab & , \dots , & bc & , \dots , & ac \\ \text{that-}p_f & , \dots , & \text{that-}p_g & , \dots , & \text{that-}p_h \end{array}$$

¹⁸Or as *it* is, if one prefers to talk freely about the “external” relations here as “internal” articulations of the mereological sum of the planar figures “on” the page in (2.1).

¹⁹We of course know that this *means* Alice, who is circular, is left of Bob, who is square and left of Carol, and *thus* between Alice and Carol.

²⁰I will employ the indices below later in the argument; these subscripts are non-arbitrary.

Notice, employing a description (in English) to parse the sign as *dyadic*, each initial name-token is *replicated twice*, and in virtue of the Jumblese typography, each of the corresponding “relational propositions”, as (syntactic) *unit*, must “contain” (bind) a *converse pair* (*viz.* say *both* that *x* is left of *y* and that *y* is right of *x*; though these are, from the perspective of a user of Jumblese, *one claim*). Finally, we can parse this as *triadically* composed, getting again a *complex object* in the real order (top), and *atomic proposition* in the logical order (bottom):

$$\begin{array}{c} abc \\ \text{that-}p_{\leftrightarrow} \end{array}$$

In considering the vertical:

$$\begin{array}{c} a \\ b \\ c \end{array}$$

since this too is a red name, an orange name and a blue name, we again get:

$$\begin{array}{ccc} a & \text{,...,} & b & \text{,...,} & c \\ \text{that-}p_a & \text{,...,} & \text{that-}p_b & \text{,...,} & \text{that-}p_c \end{array}$$

Since this is an ‘*a*’ above a ‘*b*’, ‘*b*’ above a ‘*c*’, and ‘*a*’ above a ‘*c*’, here we also get:

$$\begin{array}{ccc} a & & b & & a \\ b & \text{,...,} & c & \text{,...,} & c \\ \text{that-}p_i & \text{,...,} & \text{that-}p_j & \text{,...,} & \text{that-}p_k \end{array}$$

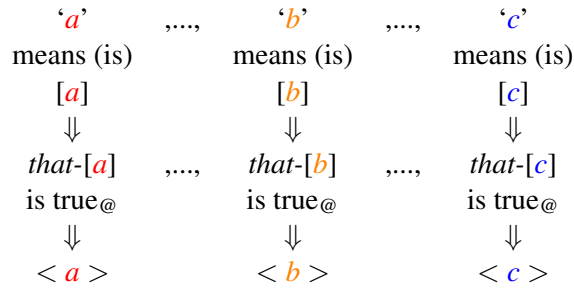
And again, in virtue of the Jumblese typography, each of the corresponding “relational propositions”, as (syntactic) *unit*, must “contain” (bind) a *converse pair* (*viz.* say *both* that *x* is above of *y* and that *y* is below *x*; though these are once again, from the perspective of a user of Jumblese, *one claim*). Finally, we can parse the sign as *triadically* composed:

$$\begin{array}{c} a \\ b \\ c \\ \text{that-}p_{\updownarrow} \end{array}$$

To recap, for Sellars ‘*that*’ functions as a *nominalizing device* which transforms *illustrators* (syncategorematic expressions), from sortals specialized to *translatory* contexts, into meta-linguistic distributive singular terms specialized to *alethic* contexts. And, in the latter contexts, Sellars (by *Science and Metaphysics*) says occurrence of a sentence-token in a sentence-token which *is* a propositional truth attribution, *of itself* authorizes *re-production* of a token of the embedded sentence (type). So, an initial *expansion*, in the *logical* order, of the initial inscription, yields (unto one who *uses* Jumblese) a *projection* into the *real* order of *linguistic possibilities*.²¹ Letting square-brackets hereafter take on the role of Sellars’s dot-quotes, thus indicating that the contained expression is functioning as a *syncategorematic* illustrator, and keeping in mind the analysis of semantic vocabulary presented in the last chapter, we can diagrammatically represent *projections*, in the

²¹As Wittgenstein puts it: “We use the sensibly perceptible sign (sound or written sign, etc.) of the proposition as a projection of the possible state of affairs. The method of projection is the thinking of the sense of the proposition... the proposition is the propositional sign its projective relation to the world.” (TLP 3.11-3.12).

sense in which I am using the term, in their full (“mechanical”) complexity. In, for example, the monadic case, with something like:



4.5 Type-Identity Commitments

Kimhi acknowledges that “in factualism but not in functionalism, a notion of a form of a particular belongs to logic itself” [14, p. 99]; but he does not take the idea seriously, as Sellars does. The purely formal aspects of the logical syntax of *names* need to be disentangled from a corresponding notion of the form of a particular, and for that some first hand reflection on *naming* is in order. Roughly, in *classifying* part of a complex natural-linguistic object (spatio-temporally localized utterance or inscription) as a *name*, one *asserts* that the part is a *token* of a unique simple sign-*type*; that is, a *determinate repeatable* belonging to a (temporally extended) *token-replicative lineage*. But in attributing *content* to that part as a *name (qua type)*, one *supposes* that tokens of the type are (matter-of-factly, spatio-temporally) correlated with a unique (typically, extra-linguistic) entity.²² This is simply an observation about what it is to say of a spatio-temporally localized utterance or inscription that it is a *name*, and the observation is a good one I think. Call this dual-undertaking a *type-identity commitment*.

For illustration, imagine reading a mystery novel (autobiography of sorts) wherein the reader is at first led to think of two men as one by way of an overlapping partial description, then (say, around the middle of the first chapter) is led to infer – by a spatio-temporal incompatibility – that there are two characters with the same name: Joe – lest Joe (singular) be in two places at once. Roughly, the novel begins:

I, Joe, am...

until reader encounters something like:

Joe was at XYZ at *t*, and saw *o*

then something like:

Joe was at X'Y'Z' at *t*, and saw *o*

and so is led to infer that the *sign*:

²²Whether an individual, or aggregate of individuals.

Joe

is (matter-of-factly) correlated with distinct individuals.

If this is a coherent narrative structure (as I think it is), then to ‘keep with’ the *story*, so form two *symbols* (names) from *one* (fixed center of reference), the reader must come to *know* something about the *book*, and form two (terminal) *signs* from *one* (initial) token-replicative lineage. The reader must be led by the author via order of inscriptions in the book and the spatio-temporal structure of event-chains in the story written, to retract – at the “branch-point” – an initially correct type-uniqueness assertion pertaining to the *sign* (that which is perceptible in this: Joe), and to *assert* (hold) that there are two ‘Joe’-*signs* (token-replicative lineages) from that point forward in their reading, *in order* to form two *symbols* for *characters* of the *same name*. To ‘get’ the author’s gambit – recognize the significant use in this: Joe – and so the *story* in the *book*, the reader must at this point *also* recognize the *failure* of their earlier supposition of a unique (real) correlate for *things* that *look like* this: Joe; and *suppose* from this point forward that *up to* this point in the story, there *were* (at least two) distinct *Joes*, i.e. persons, which satisfied a certain description correlated with the sign: Joe.²³ The lesson is that for us readers of the ‘world story’ (the story of *it*, which rains), “names of objects have a function which, like that of the point of origin of a coordinate system, is to be a *fixed center of reference*, a peg, so to speak, on which to hang descriptions”²⁴ [38, p. 129].

4.6 Token Replication

We might take the concept of an *array* and the concept of a *transformation* as primitive, and consider the full array of (logically possible) pairwise co-occurrences (in some linear order) of tokens of (these) Jumblese names: ‘*a*’, ‘*b*’, ‘*c*’, but we do *not* need to consider the *full* array in order to determine the full range of Jumblese *representations* of the things in (2.1). Each name in this dialect of Jumblese *represents* some (unique) thing in the real order. So we are *guaranteed* the success of the *suppositional* part of our type-identity commitments when using Jumblese, and taken together, our type-identity commitments rule out all possibilities on the diagonal (a thing cannot be beside itself; so too for its Jumblese name):

²³The fictional example can be misleading, however. It is slightly less misleading if one, again, imagines the story to be an *autobiographical* mystery, hand-written by *Joe* (in the first person, beginning “I, Joe, am writing this book...”); but such that *which* ‘Joe’ this is (which terminal sign-token lineage is bound to the initial token of ‘I’), is not revealed til the very end of the book, whereupon we resolve the binding problem introduced at the branch point, and learn (via the story) whose handiwork we have been leafing through from the beginning (i.e. which Joe produced the book).

To further clarify: the reader must be *correct* in their initial type-uniqueness assertion *up to* the “branch” point in the story-book, there being up to that point a single reproductive lineage of tokens that look like this: Joe ; and *incorrect* after this point, there being from this point forward distinct token-reproductive lineages of what was *formerly* a single *sign* (type; *that which* is perceptible in this: Joe). These are plainly assertions about the *book*; concerning a sign-token lineage that must be “forward-branching” in time (i.e. the sensory-motor side of the cognitive activity of the reader) in order for the gambit to work. Yet, the *reader* (as cognitive agent) must also *learn* at this branch point that their *initial* object-uniqueness presupposition (correlated with a now-incorrect type-uniqueness assertion) *fails* (lest some thing be in two places at once), and subsequently – while tracking distinct sign-token lineages in the book – must suppose that there were *distinct* characters, in the *story*, correlated *up to* the branch-point with what we (and the reader, on reflection) know to be a single token-replicative lineage. These are plainly presuppositions that *constitute* the *story*; which (considered for its form) must have a narrative structure that is “backward branching” in time (i.e. the *referential* side of the cognitive activity of the reader), in order for the author to turn the “objectual-identity” trick which is the central theme.

²⁴Sellars is quick to add: “I certainly do not mean to imply that a system of names is immune to revision.”

	<i>a</i>	<i>b</i>	<i>c</i>
<i>a</i>	$\langle aa \rangle$	$\langle ab \rangle$	$\langle ac \rangle$
<i>b</i>	$\langle ba \rangle$	$\langle bb \rangle$	$\langle bc \rangle$
<i>c</i>	$\langle ca \rangle$	$\langle cb \rangle$	$\langle cc \rangle$

The upshot of insisting that only *things* play a role in the *causal* order is that there cannot be linguistic pictures of non-existent, or possible but not actual things. To be an *n-adic* picture is *at least* to be a *thing* matter-of-factly correlated with, and *brought about* in some (causal, historical) way by, *n*-many things pictured. This is just basic to the ‘picturing’ analogy; its main thrust, so to speak. But then to be a *linguistic picture* of some thing is to be a *token*, i.e. something to be ‘met with in space’. So, the Tractarian *Nominalist* demands that type-identity commitments be *ultimately* cashed out in *arrays of tokens*. In other words, that *type* identity reduce to *token* identity, so that a “projection” of linguistic possibilities be made to reduce to a (spatio-temporally localized) complex *wherein* a single token goes proxy for each simple sign *type* (name).²⁵

The demand that type-identity reduce to token identity places an important *constraint* on the derivation (construction) of complex Jumblese *representations*. Each name-token at a stage in the constructive process must – given limited initial *empirical resources* – be a *re-production* of an earlier name-token in a *token-reproductive lineage*, and each ‘ancestral’ name-token must be *re-presented* at the terminus of each of its lineages.²⁶ So, we retain what is, I think, correct in Hume’s ‘copy principle’: *natural inference* operates on finite representational resources, which are (by default) preserved under (token) *replication* (over time).

4.7 The “Logic” of Representation

4.7.1 Derived Forms

It is tempting to think of:

a b c

as expressing something *like* what is expressed by truth-functional combination in building up a complex FOL expression, which we know to be a *conjunction*:

²⁵For Sellars, the ‘world-story’ of a language plays an interesting theoretical role. It is a complete schematic history of the world-cum-language formulated *in* the language, but here there is an ambiguity. Jeffrey Sicha characterizes its dual role in Sellars’s philosophy as follows: “A world-story is composed of sentences as types. But a world-story *as tokened* is spatio-temporally located and, in one way or another, the sentences of the world-story can be spatio-temporally indexed... [A world-story] is a vast spatially and temporally extended complex entity, a picture of the entire world... which is at one and the same time a spatio-temporal item as tokened and a system of atomic sentences in a language... Sellars’s ‘formal’ concept of a language user is, so to speak, that of the language localized in a spatio-temporal framework... [and] the world-story is developed by the dispositions of the language user being actualized by causal activity of objects (including the language user as such an object)” [39, pp. 54–56]. From this perspective, we can view an inter-linguistic ‘propositional framework’, or conceptual scheme, from ‘outside’ as it were; thus, Sellars writes: “We might, to begin with, look at Peirceish ‘externally,’ and construe the semantical uniformities it involves in terms of the electronic propensities of Peirceish robots, by means of which their tapes are filled with ‘information’ reflecting their environment and reflected in their behaviour” [41, p. 133].

²⁶Generally, we hypothesize that where *S* symbolizes the *descriptive adicity* of the sign under consideration, and *n* the number of things identified as names in an initial complex, in deriving *projections* from the complex, in order to preserve the status of the projection as a *representation*, tokens must be replicated and complexes transformed so as to preserve the exponential: $S^n : n \geq 1$; i.e. so that for each element of some empirical character in the initial complex, there are S^n tokens of a sign of that character for some $n : n \geq 1$ in the projection.

$$aLb \wedge bRa \wedge bLc \wedge cRb \wedge aLc \wedge aRc$$

and (letting ‘ \check{A} ’ mean *below*), to think of:

$$\begin{array}{c} a \\ b \\ c \end{array}$$

as expressing something like:

$$aAb \wedge b\check{A}a \wedge bAc \wedge c\check{A}b \wedge aAc \wedge c\check{A}a$$

so as to think of:

$$\begin{array}{c} a \\ b \\ c \end{array}$$

as expressing a conjunction of these conjunctions. But we are not *guaranteed* (by descriptive coverage of FOL) an interpretation of ‘ L ’ and ‘ R ’ as (denoting) a converse pair of transitive asymmetric relations, so fail to *validate* the pairs (rather, ‘system’) of enthymematic inferences:

$$\begin{array}{l} I) \quad aLb \quad \wedge \quad bLc \quad \Rightarrow \quad aLc \\ \quad \quad \Downarrow \quad \quad \Downarrow \quad \quad \Downarrow \\ I') \quad bRa \quad \wedge \quad cRb \quad \Rightarrow \quad cRa \end{array}$$

nor of ‘ A ’ and ‘ \check{A} ’, and so fail to validate:

$$\begin{array}{l} II) \quad aAb \quad \wedge \quad bAc \quad \Rightarrow \quad aAc \\ \quad \quad \Downarrow \quad \quad \Downarrow \quad \quad \Downarrow \\ II') \quad b\check{A}a \quad \wedge \quad c\check{A}b \quad \Rightarrow \quad c\check{A}a \end{array}$$

On the other hand, each of the translations of these expressions into *Jumblese* wears a *generic* “form of representation” on its sleeve, so to speak (c.f. TLP 2.171-172), and a *specification* of this form is the *only* variable, i.e. logico-syntactically relevant contingency. The (perceptible) structure of the symbolism – its direct instantiation of spatial relations by juxtaposition of simple signs on a sheet of assertion – guarantees descriptive coverage for the enthymematic “inference”:

$$\begin{array}{c} ab \quad \cdot \quad bc \\ \quad \quad \Downarrow \\ \quad \quad ac \end{array}$$

where the *dot* – though *like* a conjunction – amounts to a full stop. Noting that we have seen (and parsed) these Jumblese forms already in (4.4), we might express this with the more familiar form:

$$\text{that } p_f \text{ and } p_g \Rightarrow \text{that-}p_h$$

but it must be remembered that the ‘and’ here functions as *punctuation*. The dot (full stop) simply permits *duplicate* name-tokens to occur in (horizontal) linear order, enabling us to represent co-occurrence uniformities resulting from ‘cartographical’ constraints on the formation of Jumblese signs as (formation) *rules* which pick out *things* of the same description as this:

$a \quad b \quad c$

to have specifically *predicational* (as opposed to truth-functional) form.²⁷ Moreover, the (perceptible) structure of the symbolism guarantees descriptive coverage for the enthymematic “inference”:

$$\begin{array}{c} a \\ b \\ \cdot \\ b \\ c \end{array} \Rightarrow \begin{array}{c} a \\ c \end{array}$$

where again, the dot is a full stop that permits *duplicate* name-tokens to occur in (vertical) linear order, enabling a user of Jumblese to represent co-occurrence uniformities as formation rules that pick out e.g.:

a
 b
 c

as having predicational form; though again *we* might express this with the more familiar form:

that p_i and $p_j \Rightarrow$ *that*- p_k

Now, considering that (in general) we are also guaranteed descriptive coverage for *combinations* of dyadic pictorial complexes, along the lines of:

$$\begin{array}{c} x \\ y \end{array} \cdot x y \Rightarrow \begin{array}{c} x \\ y \end{array}$$

it should be clear that we are guaranteed descriptive coverage for the enthymematic “inference”:

$$\begin{array}{c} a \\ b \\ c \end{array} \cdot a b c \Rightarrow \begin{array}{c} a \\ b \\ c \end{array}$$

which we might express with the more familiar form:

that p_{\uparrow} and $p_{\leftrightarrow} \Rightarrow$ *that*- p_{\uparrow}

noting that here we *derived* a new propositional form for the Jumblese symbolism, indexed to p_{\uparrow} . The effect of introducing *punctuation* (full stops) into Jumblese is not to be underappreciated. The real *resource* it makes available to one who *uses* the symbolism, is freedom to *duplicate* name tokens, and so to string together *atomic propositional representations* with “synthetic” implications concerning *arbitrary* particulars.

²⁷Sellars writes: “The formation rules of the language pick out items having certain *empirical* form to have *logical* form in the sense of *predicational* form, i.e. they function as atomic sentences, but do not, *as functioning in this stratum*, have logical form in the sense of undergoing logical operations (truth-functional combination, quantification), although, as constituents of a *representational system*, they are *subject to* these operations either directly (by wearing, so to speak, another hat) or *indirectly* by being correlated with (translatable into) other designs which are directly subject to these operations.” [38, pp. 75–76]

4.7.2 Context and Generality

It is difficult to square the thesis that it is only atomic statements which picture, with Wittgenstein’s claim that “one can describe the world completely by way of completely generalized propositions, *i.e.* without from the outset co-ordinating any name with a definite object” (TLP 5.526). But we can use the earlier reflections on type-identity commitments and token-replication to elaborate a sense in which “the form of a name reflects the form of the name-bearer, namely, the ways the name-bearer can be” [14, p. 100]. If *names* are fixed centers of reference – “pegs” on which descriptions hang – then *arbitrary* names are *points* in logical space, distinguishable *only* by numerical identity *of the sign* (type), as is *asserted* in undertaking a type-identity commitment (c.f. TLP 5.523).

For context, suppose the Jumblese adopt the following conventions. One may surround any *name* (token) with a “context markup”, along the following lines:

$$\begin{array}{c} \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad n_i \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array}$$

Every *name* (token) is associated with *m*-many *copies* (tokens) of a unique simple sign-type (*variable*), where *m* is the number of dimensions in which the symbolism articulates. Given that the fragment of Jumblese under consideration is restricted to two *spatial* dimensions (ways for things to fail to coincide *on the page*), for our purposes each name is associated with two copies of a variable; roughly:

$$\begin{array}{c} \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad n_i \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} * \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad x|x \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array}$$

One may at any time transform the context markup for associated variables, by projecting in a straight line one copy of the variable to each of the boundaries closest to the upper-left dot which ‘anchors’ the markup, and replacing the line dividing copies of a variable with a syntactic indicator, *, which marks the origin of a projected variable; or reverse this procedure. Roughly:

$$\begin{array}{c} * \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad x|x \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad \cdot \quad x \quad \cdot \quad \cdot \\ x \quad \cdot \quad \cdot \quad * \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array}$$

For any two names, n_i and n_j , associated with variables x and y (respectively), in an overlapping context-markup (i.e. co-occurrence in context) copies of x and y may be projected back from the boundary of the markup to blank spaces not filled by a *; vertically projected names written to the right, horizontally projected names to the left, along the lines of:

$$\begin{array}{c} * \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad n_i \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} * \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad x|x \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad y|y \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad \cdot \quad x \quad \cdot \quad y \quad \cdot \quad \cdot \\ x \quad \cdot \quad \cdot \quad * \quad \cdot \quad \cdot \quad \cdot \\ y \quad \cdot \quad \cdot \quad \cdot \quad * \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad * \quad \cdot \quad xy \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad yx \quad \cdot \quad * \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array}$$

The resulting two-place open-sentences may then be replaced by propositional variables indexed in accordance with this imperative: enumerate names on the diagonal from the anchor-point out, then in scanning the context from left-to-right, if n_1 is associated with x and n_2 with y , where an x occurs left of y , write p subscripted with a ‘1’ left of a ‘2’, and so on, along the lines of:

$$\begin{array}{c} \cdot \quad \cdot \quad xy \quad \cdot \quad \cdot \quad \cdot \\ yx \quad \cdot \quad * \quad \cdot \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad * \quad \cdot \quad * \\ * \quad n_1 \quad \cdot \quad p_{1,2} \quad \cdot \quad \cdot \\ * \quad p_{2,1} \quad \cdot \quad n_2 \quad \cdot \quad \cdot \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array}$$

Then *generally*, we can make the following moves:

$$\begin{array}{c} \cdot \\ n_1 \cdot - \cdot - \\ - \cdot n_2 \cdot - \\ - \cdot - \cdot n_3 \end{array} \Leftrightarrow \begin{array}{c} * \\ x|x \cdot - \cdot - \\ - \cdot y|y \cdot - \\ - \cdot - \cdot z|z \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad x \quad y \quad z \\ x \cdot * \cdot - \cdot - \\ y \cdot - \cdot * \cdot - \\ z \cdot - \cdot - \cdot * \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad * \quad xy \quad xz \\ yx \cdot * \cdot yz \\ zx \cdot zy \cdot * \end{array} \Leftrightarrow \begin{array}{c} \cdot \quad * \quad * \quad * \\ * \quad n_1 \cdot p_{1,2} \cdot p_{1,3} \\ * \quad p_{2,1} \cdot n_2 \cdot p_{2,3} \\ * \quad p_{3,1} \cdot p_{3,2} \cdot n_3 \end{array}$$

Now, I *could* have put the naming ceremony on the other end of *this* chain instead:

$$\begin{array}{c} * \\ x|x \cdot - \cdot - \\ - \cdot y|y \cdot - \\ - \cdot - \cdot z|z \end{array} \Rightarrow \begin{array}{c} \cdot \quad x \quad y \quad z \\ x \cdot * \cdot - \cdot - \\ y \cdot - \cdot * \cdot - \\ z \cdot - \cdot - \cdot * \end{array} \Rightarrow \begin{array}{c} \cdot \quad * \quad xy \quad xz \\ yx \cdot * \cdot yz \\ zx \cdot zy \cdot * \end{array} \Rightarrow \begin{array}{c} \cdot \quad * \quad p_{1,2} \cdot p_{1,3} \\ p_{2,1} \cdot * \cdot p_{2,3} \\ p_{3,1} \cdot p_{3,2} \cdot * \end{array} \Rightarrow \begin{array}{c} \cdot \\ n_1 \cdot - \cdot - \\ - \cdot n_2 \cdot - \\ - \cdot - \cdot n_3 \end{array}$$

I also could have put the naming ceremony with which we started on the other end of this essay instead; that is, given a *purely hypothetical* “logical construction” of *the world* – talking about *the circle*, *the square* and *the triangle*, without ever *naming* them, only to say *at the end* of the essay, “the circle is Alice”, etc. Had I expressed identity of the object by identity of the simple sign *type* (variable), and allowed myself to freely replicate *tokens* from the outset, rather than expressing identity of the object by the demand that identity of the sign *type* (ultimately) reduce to the identity of the sign *token*, then I could have said *after* the expression, “there is exactly one *x*, which...”: and this *x* is *n*₁ (rather, *a*, c.f. TLP 5.526). But again, it would then have been the *fact-stating description*, given in English (in 2.1) which would have determined that, e.g. ‘*a*’s represent Alice – which is to say (mean), *the circle in* (2.1); and we would be left with a fact-fact correspondence but no “feelers”.

4.7.3 Sense and Nonsense

Consider again, *in full generality*, our three “derived rules”:

$$\begin{array}{c} x \\ y \\ \cdot \\ y \\ z \end{array} \Rightarrow \begin{array}{c} x \\ z \end{array} \quad \text{and} \quad \begin{array}{c} xy \quad \cdot \quad yz \\ \Downarrow \\ xz \end{array} \quad \text{and} \quad \begin{array}{c} x \\ y \end{array} \cdot xy \Rightarrow \begin{array}{c} x \\ y \end{array}$$

and, the *specific* derivation (by pictorial combination) of a propositional form:

$$\begin{array}{c} a \\ b \\ c \end{array} \cdot abc \Rightarrow \begin{array}{c} a \\ b \\ c \end{array}$$

Now, suppose *instead* of associating each *name* (token) with two copies of a *variable* and projecting these copies to the boundaries of the markup, we simply permit *duplication* of the initial *names* (tokens). Then consider the simplified constructions:

$$\begin{array}{c} \cdot \\ a \cdot - \cdot - \\ - \cdot b \cdot - \\ - \cdot - \cdot c \end{array} \Rightarrow \begin{array}{c} * \\ a|a \cdot - \cdot - \\ - \cdot b|b \cdot - \\ - \cdot - \cdot c|c \end{array} \Rightarrow \begin{array}{c} \cdot \quad a \quad b \quad c \\ a \cdot * \cdot - \cdot - \\ b \cdot - \cdot * \cdot - \\ c \cdot - \cdot - \cdot * \end{array} \Rightarrow \begin{array}{c} \cdot \quad * \quad ab \quad ac \\ ba \cdot * \cdot bc \\ ca \cdot cb \cdot * \end{array}$$

and an *interpretation* of the contextualized sign, given what we know of the Jumblese:

$$\begin{array}{c} \cdot \\ a \cdot - \cdot - \\ - \cdot b \cdot - \\ - \cdot - \cdot c \end{array} \text{ means (is) } \begin{array}{c} \cdot \quad * \quad * \quad * \\ * \quad a \quad + \quad + \\ * \quad \sim \quad b \quad + \\ * \quad \sim \quad \sim \quad c \end{array}$$

That, for users of this dialect of Jumblese, everything below the diagonal is *nonsense*, is guaranteed by *diagonal* juxtaposition of the *names*, and the conventions thus far established.²⁸ Observe that in the above arrays, the *dots* had the function of dividing *columns* thus encouraging a reading of the array from left to right. It should be increasingly clear that the above arrays can however be read in two dimensions. Try this: rotate your head ninety degrees counter-clockwise, and imagine the simple signs rotating with it to view the vertical. The result of the reverse *translation* (from vertical to horizontal), is the following construction:

$$\begin{array}{c} \cdot \\ - \cdot - \cdot a \\ - \cdot b \cdot - \\ c \cdot - \cdot - \end{array} \Rightarrow \begin{array}{c} * \\ - \cdot - \cdot a|a \\ - \cdot b|b \cdot - \\ c|c \cdot - \cdot - \end{array} \Rightarrow \begin{array}{c} \cdot \\ a \cdot c \cdot b \cdot a \\ b \cdot - \cdot * \cdot - \\ c \cdot * \cdot - \cdot - \end{array} \Rightarrow \begin{array}{c} \cdot \\ ca \cdot ba \cdot * \\ cb \cdot * \cdot ab \\ * \cdot bc \cdot ac \end{array}$$

So, we might imagine that the Jumblese read:

$$\begin{array}{c} a \\ b \\ c \end{array}$$

like we read this:

$$\begin{array}{c} * \cdot ab \cdot ac \\ ba \cdot * \cdot bc \\ ca \cdot cb \cdot * \end{array} \text{ is } \begin{array}{c} \cdot * * * \\ * a \cdot + \cdot + \\ * \sim \cdot b \cdot + \\ * \sim \cdot \sim \cdot c \end{array} \text{ and } \begin{array}{c} \cdot \\ ca \cdot ba \cdot * \\ cb \cdot * \cdot ab \\ * \cdot bc \cdot ac \end{array} \text{ is } \begin{array}{c} \cdot * * * \\ * \sim \cdot \sim \cdot a \\ * \sim \cdot b \cdot + \\ * c \cdot + \cdot + \end{array}$$

But notice, from the Jumblese perspective, in:

$$\begin{array}{c} \cdot * * * \\ * - \cdot - \cdot a \\ * - \cdot b \cdot - \\ * c \cdot - \cdot - \end{array}$$

the diagonal juxtaposition of names again ensures that everything below the diagonal is *nonsense*. Unto the Jumblese, the vertical array looks rather like this:

$$\begin{array}{c} \cdot \\ * \quad a \quad \cdot \quad a \\ \quad b \quad \cdot \quad c \\ \quad \quad \cdot \quad \cdot \\ b \quad a \quad * \quad b \\ a \quad \quad \cdot \quad c \\ \cdot \quad \cdot \\ c \quad \cdot \quad c \\ a \quad \cdot \quad b \quad * \end{array}$$

So, the correct *construction* is instead:

$$\begin{array}{c} \cdot \\ * \quad a \quad b \quad \cdot \quad a \quad c \\ \quad \quad \cdot \quad \cdot \\ b \quad a \quad \quad * \quad \quad b \quad c \\ \cdot \quad \cdot \\ c \quad a \quad \cdot \quad c \quad b \quad \quad * \end{array} \Rightarrow \begin{array}{c} \cdot \\ * \quad a \quad \cdot \quad a \\ \quad b \quad \cdot \quad c \\ \quad \quad \cdot \quad \cdot \\ b \quad a \quad * \quad b \\ a \quad \quad \cdot \quad c \\ \cdot \quad \cdot \\ c \quad a \quad \cdot \quad b \quad c \quad \quad * \end{array}$$

²⁸That we give this interpretation is (the dull edge of) what is *contingent* in a symbolism; it gives us a “bit” of information. The Jumblese *could* have written an ‘x’ right of a ‘y’ / ‘y’ left of an ‘x’ to say *that* x is left of y; and the propositional *sign*: *ab*, understood *just* as an isomorphic image of *something* (a possible *state of affairs*), *can* be used to make contradictory claims. This is just to say that *which* claim *is* made is a matter of *historical* contingency, traceable through a description of the token-reproductive lineages it terminates to their collective genesis in (2.1).

and an *interpretation* of the contextualized sign, given what we know of the Jumblese, looks rather like this:

$$\begin{array}{c} a \text{ ---} \\ \text{---} b \text{ ---} \\ \text{---} \text{---} c \end{array} \text{ means (is)} \begin{array}{c} \cdot \quad * \quad * \quad * \\ * \quad a \quad + \quad \cdot \quad + \\ * \quad \sim \quad b \quad + \\ * \quad \cdot \quad \cdot \quad \cdot \\ * \quad \sim \quad \cdot \quad \sim \quad c \end{array}$$

That everything *below and left of* the diagonal in this construct is *nonsense*, is again guaranteed by the diagonal juxtaposition of the names. Thus, the simple demand for a reduction of *type-identity* to *token-identity* enables us to differentiate – by application of our derived rules – between *sense* and *nonsense*.

Perhaps further clarity can be arrived at by considering the specifically propositional form of our linguistic analogues of *simple ideas*. Consider this construction instead:

$$a \cdot b \cdot c \cdot \begin{array}{c} a \\ b \\ c \end{array} \cdot a b c \Rightarrow \begin{array}{c} a \\ b \\ c \end{array} \cdot a b c \Rightarrow \begin{array}{c} a \\ b \\ c \end{array}$$

We cannot here use our derived rules together with a context markup to construct an interpretation-in-context of the final inscription, because we are not left with *names*, or *variables*, but items with *monadic atomic propositional form* (“monadic atomic facts”). However, we *can* employ the initial indexing in (4.4) to *decompose* these forms into *non-arbitrary names* with which to construct a predicational form; and we thereby obtain an “Archimedean point”, of sorts. In *parsing* the initial signs monadically, we indexed this: *a* – to this: p_a ; this: *b* – to this: p_b ; and this: *c* – to this: p_c . So, co-indexing these with individual constants to form *non-arbitrary names*, n_a, n_b, n_c , (with the sense of “*the circle*”, etc.) we can construct the “nominal reduction”:

$$a \cdot b \cdot c \cdot \begin{array}{c} a \\ b \\ c \end{array} \cdot a b c \Rightarrow \begin{array}{c} a \\ b \\ c \end{array} \Rightarrow \begin{array}{c} n_a \\ n_b \\ n_c \end{array} \Rightarrow \begin{array}{c} \cdot \quad * \quad * \quad * \\ n_a \quad a \cdot b \quad a \cdot c \\ \quad \quad n_b \quad b \cdot c \\ \quad \quad \quad \quad n_c \end{array}$$

Again, I leave it up to the world to determine *that* (for users of *this* dialect of Jumblese), the other side of the diagonal is *nonsense*. In parsing the (horizontal) sign dyadically, we indexed this: *ab* – to this: p_f ; and this: *bc* – to this: p_g ; and this: *ac* – to this: p_h . And in parsing the (vertical) sign dyadically, we indexed this: $\begin{array}{c} a \\ b \\ c \end{array}$ – to this: p_i ; and this: $\begin{array}{c} b \\ c \end{array}$ – to this: p_j ; and this: $\begin{array}{c} a \\ c \end{array}$ – to this: p_k . So, *we* might translate the above as:

$$(p_a \wedge p_b \wedge p_c) \wedge (p_i \wedge p_j \wedge p_k) \wedge (p_f \wedge p_g \wedge p_h) \Rightarrow p_{\downarrow} \wedge p_{\leftrightarrow} \Rightarrow p_{\uparrow}$$

thus abstracting away from the *shapes* of the things in (2.1) by dropping the reference to p_a, p_b and p_c .

But we must not abstract away from the *specificity* of the three designs we traded for three (subscripted) tokens of ‘*n*’ in the above reduction. In this dialect of Jumblese, the *material* incompatibility of, e.g. *red* and *blue* as monadic characteristics of a simple thing – or in traditional terms, the *compresence* of Redness and Blueness in a (simple) particular – *corresponds* in an interesting way to the incompatibility of *triangular* and *circular* as determinations of a thing – or in traditional terms, the *compresence* in a particular of Triangularity and Circularity (whether I, you, or anyone ever encounters it); thus ensuring that the *discernability* of a thing *represented* corresponds to the *discernability* of the sign-tokens which *are* its linguistic representatives. We are *guaranteed* the success of the *suppositional* part of our type-identity commitments in attributing content to the Jumblese simple signs by the very structure of this document (with *the* extra-linguistic world restricted to 2.1). So the effect of the reduction above, is better represented in the following:

$$a \cdot b \cdot c \cdot \begin{matrix} a \\ b \\ c \end{matrix} \cdot a b c \Rightarrow \begin{matrix} a \\ b \\ c \end{matrix} \Rightarrow \begin{matrix} \cdot & * & * & * \\ n_a & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} \\ n_b & & & \\ n_c & & & \end{matrix}$$

where the ‘o’s represent objects which are *supposed* to be matter-of-factually correlated with tokens of (distinct) simple sign-types, and differences in colour represent differences in (monadic) descriptive characteristics (shape) by which the *things* in 2.1, that (by hypothesis) played a causal-historical role in the generation of token-reproductive lineages ‘a’, ‘b’ and ‘c’, are distinguishable. Again, given the initial indexing in 4.4 we might *translate* this along the lines of:

$$(p_a \wedge p_b \wedge p_c) \wedge (p_i \wedge p_j \wedge p_k) \wedge (p_f \wedge p_g \wedge p_h) \Rightarrow (p_a \wedge p_b \wedge p_c) \wedge (p_{\uparrow} \wedge p_{\leftrightarrow}) \Rightarrow p_a \wedge p_b \wedge p_c \wedge p_{\dagger}$$

where the ‘^’s function as mere punctuation. And again, I had a *choice* to make at the outset of this essay in setting up the Jumblese conventions, but leave it up to *the world* to determine *that* we (now) construct complex representations of things in accordance with the schema:

$$\begin{matrix} a & - & - \\ - & b & - \\ - & - & c \end{matrix} \text{ means (is) } \begin{matrix} \cdot & * & * & * \\ n_a & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} \\ n_b & & & \\ n_c & & & \end{matrix}$$

and so in effect rule out:

$$\begin{matrix} \cdot & * & * & * \\ n_a & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} \\ n_b & & & \\ n_c & & & \end{matrix} \quad \text{and} \quad \begin{matrix} \cdot & * & * & * \\ n_a & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} & \begin{matrix} o \cdot o \\ o \cdot o \end{matrix} \\ n_b & & & \\ n_c & & & \end{matrix}$$

as *nonsense*.²⁹ Yet, the *extra-linguistic* world has here been restricted to a few figures on the page; so I leave it to the *reader* to track *how* this is so, with “feelers” (that is, token-replicative lineages) reaching through (4.4) and (2.3) all the way back to the *things* arrayed in (2.1).

4.7.4 Error

Wittgenstein ends his notebook entry for 11/26/1914 with the following remark:

It is the dualism, positive and negative facts, that gives me no peace. For such a dualism can’t exist. But how to get away from it?

All this would get solved of itself if we understood the nature of the proposition.

The following day, he picked where he left off:

²⁹The Jumblese *could* have written an *orange* name, or a *blue* name, to say that the thing named is *circular*, and a *red* name or a *orange* name to say that the thing named is *triangular*, etc. Again, this is just so say that *which* claim is made by, e.g.: *c*, is a matter of *historical* contingency.

The dualism of positive and negative that I feared does not exist, for $(x).\phi x$ etc. etc. are neither positive nor negative... By making a distinction – as we do in any possible notation – between $\sim aRb$ and $\sim bRa$ we presuppose in any notation a particular correlation between argument and argument place in the negative proposition; the correlation gives the prototype of the negated positive proposition...

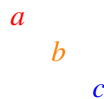
Can one negate a *picture*? No. And in this lies the difference between picture and proposition... In short: I can only deny that the picture is right, but the picture I cannot deny.

By my correlating the components of the picture with objects, it comes to represent a situation and to be right or wrong. (E.g., a picture represents the inside of a room, etc.) [50, pp. 33–34]

Here is how I think we should make sense of this over-night insight. By tracking the token-replicative lineages it terminates back to their collective genesis in (2.1/2.3), one may check that:



represents things *as other than they are*. The positive (atomic) predication, *qua* act in which a natural-linguistic object is produced, *fails* in this case *because* Carol is triangular. *Triangular* and *circular* are incompatible determinations of a thing, *so* (we say) Carol is *not* circular.³⁰ But the simple negative is a much *weaker* claim. Some thing (arbitrary simple particular) which is *not* circular, *must* be triangular, *or* square, *or...* etc.³¹ Yet, the defeater of the atomic positive predication (*qua* productive act) is not *the fact* that things are *not* as the sign depicts them, but *the things*, which are *other than* as the sign depicts them. Again one may check – by tracing these *names* back to (2.1) – that:



represents things *as other than they are*. That is *because* e.g. *the square* (in 2.1), while left of *the triangle* and below *the circle* which is left of the triangle (as correctly depicted above), is also *below* the triangle. So, we say, the inscription (or diode emitted light) above *represents* things, but does not *correctly picture* them; the sign tells it *aslant*, as it were.³² *The square* is *not* above *the triangle*; but this is again a much weaker claim. In a two-dimensional world, *some thing* (arbitrary particular) which is *not* above another thing, *must*

³⁰Millikan writes: “Unless we can show that a negative state of affairs is other than the non-existence of a positive state of affairs, we will only have come round in a circle... What it is for one thing not to be the case is, always, for something or other *else* to be the case... For one thing not to be the case is for some contrary thing to be the case. [20, p. 222]

³¹Sellars writes: “Basic factual predicates come in families of competing predicates, one or the other of which must be satisfied by *every* object which *can* satisfy a predicate of that family. If *a* is not F_1 it must be F_2 or F_3 ... Thus one misses the point if one argues that a contradiction picks out all pictures on the grounds that “a contradiction implies every proposition... contradictions pick out no pictures for, to use a metaphor and an Irish Bull, the pictures they pick out are red and green all over.” [41, p. 115]

³²“To say that a linguistic object *correctly* pictures a nonlinguistic object in the manner described above is not to say that the linguistic object is *true*, save in that metaphorical sense of ‘true’ in which one geometrical figure can be said to be a “true” projection of another if it is drawn by correctly following the appropriate method of projection... If it is objected that to speak of a linguistic structure as a *correct* projection is to use normative language and, therefore, to violate the terms of the problem, which was to

be left of it, *or* right of it, *or* above it, or some combination of these, and it is up to *us* to determine which. I then agree with Millikan’s analysis:

The negative operates upon the logical predicate of a sentence only and does not affect the sense – the mapping rules for – its logical subject term or terms... The operator ‘not’ customarily reverses the sense of that part of the logical predicate of a sentence that is contained in its grammatical predicate, so that this part now must correspond to a contrary of its ordinary *in re* value. But it is clear that there is no *particular* contrary of this *in re* value that the negative sentence must map. ‘Not’ turns a definite predicate into an indefinite one. [20, pp. 227–228]

Finally, I am in a position to conclude this Sellars-inspired response to Kimhi’s criticisms of c-factualism. Recall, Kimhi objected to the c-factualist’s reliance on *spatial models*. I have argued that Sellars is *not* a c-factualist, but explicitly a *nominalist* for whom *fact-talk* is material mode meta-linguistic speech. However, I have retained a certain emphasis on *spatial models* in offering an alternative view from the ontology of the subject. Recall, Kimhi claims that:

The c-factualist’s appeal to spatial models as capable of displaying, in a primitive manner, the way that propositional signs are supposed to represent, rests on a misunderstanding of the use of a complex of items as a representation, i.e., a model... [I]n seeing a complex as a model, we incorporate it into a negatable proposition of the form: things stand thus (“thus” is to be understood as latching onto the complex here). Hence, spatial models cannot be taken as primitive representations that, through their simplicity, disclose the nature of propositional representations. [14, pp. 105–106]

But this construal of the appeal to spatial models is, frankly, not fair to the c-factualist’s *ends* in taking the *truth* (or falsity) of a proposition, *qua combination* of names, to depend on a corresponding *combination* (or separation) of *things* (i.e. name-bearers) [14, pp. 101–102]. When the c-factualist (or Tractarian Nominalist) says things stand *thus*:

a b c

they do not simply want to deny that things do *not* stand thus. In taking the truth (or falsity) of an *empirical* proposition to depend on a correspondence between combinations of *names* and combinations of *things*, one wants to capture what is *contingent* in a symbolism, so that *things-in-the-world* get into it from the start. The impulse is this: if I say (mean), *things stand thus*, I am wrong *because* things stand *else*, and because one *ought* (for practical purposes) figure out how things are, and form the *correct* picture of them. From a *description* of (2.1), e.g. in Jumblese:

a · b · c · $\frac{a}{c}$ · $\frac{c}{b}$ · ac · bc

define “picturing” as a relation *in rerum natura*, the answer is that, while to say of a projection that it is *correct* is, indeed, to use normative language, the principle which, it will be remembered, I am taking as axiomatic [i.e. that semantical rules are reflected in uniformities of performance] assures us that corresponding to every espoused principle of correctness there is a matter-of-factual uniformity in performance. And it is such uniformities, which link natural-linguistic objects with one another and with the objects of which they are the linguistic projections, that constitute picturing as a relation of matter of fact between objects in the natural order.” [46, p. 220]

I can (and should, as if *our* next meal depends on it) re-construct the *correct* pictorial complex, making the *names*, like the *things*, stand *otherwise*, and reducing type-identity to token identity in the course of constructing (deliberately producing) this complex representation:³³

$$a \cdot b \cdot c \cdot \frac{a}{c} \cdot \frac{c}{b} \cdot ac \cdot bc \Rightarrow \frac{a}{c} \cdot ac \cdot bc \Rightarrow \frac{a}{b} c$$

This, I think, is more fair a reading of the *ends* shared by the c-factualist and Tractarian Nominalist. In saying: *things stand thus*, one is at least denying that things stand *else*, and in denying that things stand thus, one is at least asserting that things stand else. The real *claim* then is that “thus, or else” is distinct from, and more primitive than, “thus, or not thus”. In saying *things stand thus:...*, one does not (from this perspective) bring the propositional sign (qua complex) into a *negatable* propositional form (‘thus’ latching onto the complex), but into the *defeasible* form of a judgement concerning the *correctness* of a picture. That is, a judgement concerning how the names *ought to be*, which specifies a complex representation, or projection-into-language of *things*, generated in accordance with a fantastically complex method of projection.³⁴

³³Ultimately, then, to appreciate the (“inflationary”) dimension of picturing in Sellars’s systematic philosophy of language, one must take into account a distinct “sub-game” in addition to his analysis of semantic vocabulary, as is remarked on by Devries in characterizing the connection of *truth* and *picturing* in Sellars. Devries writes: “It is a role of first-level, atomic, matter-of-factual statements to picture... In general, we pronounce sentences true when they are authorized by the rules of the language game, but an empirically meaningful language game must contain a subgame, the rules of which effectively require the construction of a map, a representation of the world related to the world in naturalistically respectable ways... [as for Sellars] any empirically meaningful language must be embodied in structures in the world, parts of which bear an non-intentional representation relation to the rest of the world” [8, pp. 55–56].

³⁴The apparent simplicity of names once again draws attention away from the hidden complexity of our type-identity commitments; and so the fact that a judgement about *names* is a judgement concerning spatio-temporally localized utterances and inscriptions *qua* determinate repeatables belonging to a *system* of atomic representations.

Chapter 5

Concluding Summary

I have drawn out Sellars's arguments against certain influential views about the nature of propositional form and content which guided inquiry into *meaning* (generally) and *meanings* (plural) in twentieth century analytic philosophy. At the core of this enterprise was a *diagnostic* thesis:

The standard theory has been pursuing single-mindedly the idea that in '*Fa*', the '*F*' and the '*a*' stand in distinct and autonomous semantic relations to extra-linguistic reality. The former stands for something, the latter for something else. The former something is predicated of the latter something else. [45, p. 39]

It was argued (by Sellars) that Wittgenstein failed to appreciate the significance of the observation that one can only say that aRb by placing names for a and b in a conventional dyadic relation; and that while Russell first *applied* the idea to evade Bradley's regress, he began with "too rich an ontology" [38, p. 34]. Sellars maintained that the predicate terms of our own subject-predicate language are, in principle, dispensable in a symbolism. This thesis, and its implications, have been illustrated by the use of Jumblese throughout.

Though there are in Jumblese no syntactic objects corresponding to the predicate terms of FOL, we were able to semantically associate Jumblese expressions by identifying *names* and then translating at the sentential level. While Jumblese expressions are then capable of expressing propositions, it was argued that for a sentence to *mean* something (i.e. express, or stand for a proposition) is for it to function in specific ways – in other words, that to say what a sentence means is to give a functional classification of an utterance or inscription, involving a special "illustrating" use of an expression in a background language with which participants in a discourse are presumed to be familiar. Again, on this analysis "meaning is not a relation for the very simple reason that 'means' is a specialized form of the copula" [35, p. 431]. In drawing out this analysis of semantic vocabulary, I called attention to a shift in Sellars's thinking, from construing propositional disquotation as a 'trans-level inference' to construing it as a *move* which is of itself authorized by occurrence of a sentence token in a sentence token in the context of a truth-attribution; and I argued that the key to resolving a tension in Sellars's theory of *truth* (which is by contemporary lights both inflationary and deflationary) is the view that statements occur in meaning statements "as statements *to be made* (on a certain hypothesis)" [46, p. 205].

It was argued that by exploiting the "Janus-faced character" of languagings as "belonging to the causal order and the order of reasons", Sellars wanted to explain how "purely logical elements of cognition... might emerge from, roughly, inductive generalizations of empirical features of practical language use" [12,

p. 260]. The success of this enterprise was questioned in connection with the apparently inexplicable function of functional classification, i.e. the ordinary sense of a (propositional) content attribution. However, I argued that Sellars wanted to resist the temptation toward construing content attributions as expressing propositions, in favor of a causal, anthropological account of the proper functioning of ‘...means...’. On the account I gave, the content attribution (as act) must be construed as of itself authorizing or in some other anthropologically interesting way *bringing about* collective adoption, by a group of participants who individually understand the background language expression held up for illustration, of the same posture toward (or patterned responses to) tokens of the target (functionally classified) expression type as (typical, non-illustrative) tokens of the background language expression (type). The connection of this view with Sellars’s account of *conceptual change*, and its place in his “synoptic vision” of man-in-the-world, could only be hinted at within the constraints of this paper, though here we met with variations on Peircean themes, arrived at by way of clarification of a sense in which concepts are objects (specifically, distributive linguistic objects).

Finally, it was argued that a distinction Sellars draws in ch. V of *Science and Metaphysics* between pictorial complexity and logical complexity stems from a disagreement with a claim made explicit in the *Tractatus*: that the propositional sign is a fact; and that in regarding the propositional sign as a complex particular, the Sellarsian alternative yields a response to Irad Kimhi’s criticisms of compositionalist picture-theoretic accounts of propositional complexity.

By considering the dimension of picturing, one does obtain an Archimedean point, of sorts, which Sellars thought Peirce had failed to secure, and which makes possible an account of *error* that does not “wreck itself” by assuming the existence of the non-existent (c.f. Russell [31, p. 58]). The Tractarian Nominalist (as I understand the position) then not only evades the pitfalls of compositionalist factualism, but in rejecting the “fact pictures fact” model and demanding the (“ultimate”) reduction of simple sign *type* identity to *token* identity, has I think tapped a much deeper vein. On that note, I leave the last word to Sellars:

In the case of atomic matter-of-factual statements the core of assertability is contributing to a map of the world in which we find ourselves. The concept of linguistic representation is basic to the concept of a linguistic map. But in a deeper sense, the basic concept is that of finding ones way around. [45, p. 321]

Bibliography

- [1] Bradley Armour-Garb and James A Woodbridge. “Sellars and Pretense on “Truth & ‘Correspondence’” (with a detour through meaning attribution)”. In: *Discusiones Filosóficas* 13.21 (2012), pp. 33–63.
- [2] Tyler Burge. “Belief and Synonymy”. In: *The Journal of Philosophy* 75.3 (1978), pp. 119–138.
- [3] Rudolf Carnap. *Meaning and Necessity: A Study in Semantics and Modal Logic*. Vol. 30. University of Chicago Press, 1988.
- [4] Lewis Carroll. “What the Tortoise Said to Achilles”. In: *Mind* 4.14 (1895), pp. 278–280.
- [5] Alonzo Church. “Intensional Isomorphism and Identity of Belief”. In: *Philosophical Studies* 5.5 (1954), pp. 65–73.
- [6] Alonzo Church. “On Carnap’s Analysis of Statements of Assertion and Belief”. In: *Analysis* 10.5 (1950), pp. 97–99. DOI: <https://doi.org/10.1093/analys/10.5.97>.
- [7] Donald Davidson. *Truth and Predication*. Harvard University Press: Belknap, 2005.
- [8] Willem DeVries. *Wilfrid Sellars*. Vol. 7. McGill-Queen’s Press (MQUP), 2005.
- [9] Keith S Donnellan. “Proper Names and Identifying Descriptions”. In: *Semantics of Natural Language*. Ed. by Donald Davidson and Gilbert Harman. Synthese, 1972, pp. 356–379.
- [10] Keith S Donnellan. “Reference and Definite Descriptions”. In: *The Philosophical Review* 75.3 (1966), pp. 281–304.
- [11] Gottlob Frege. “The Thought: A Logical Inquiry”. In: *Mind* 65.259 (1956), pp. 289–311.
- [12] Rocco Gangle, Gianluca Caterina, and Fernando Tohme. “The Logic of Picturing: Wittgenstein, Sellars and Peirce’s EG-beta”. In: *Model-Based Reasoning in Science and Technology: Inferential Models for Logic, Language, Cognition and Computation* 49 (2019), p. 256.
- [13] David Hume. *A Treatise of Human Nature*. Ed. by David Fate Norton and Mary J. Norton. Oxford University Press UK, 2011. ISBN: 9780198751724.
- [14] Irad Kimhi. *Thinking and Being*. Harvard University Press, 2018.
- [15] Saul Kripke. “Identity and Necessity”. In: *Perspectives in the Philosophy of Language: A Concise Anthology*. Ed. by Robert Stainton. Broadview, 2000, p. 93.
- [16] Saul A Kripke. “Naming and Necessity”. In: *Semantics of Natural Language*. Ed. by Donald Davidson and Gilbert Harman. Springer, 1972, pp. 253–355.
- [17] Clarence Irving Lewis. *Mind and the World-order: Outline of a Theory of Knowledge*. 1929.
- [18] Leonard Linsky. “Some Notes on Carnap’s Concept of Intensional Isomorphism and the Paradox of Analysis”. In: *Philosophy of Science* 16.4 (1949), pp. 343–347.

- [19] John MacFarlane. “Logical Constants”. In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Winter 2017. Metaphysics Research Lab, Stanford University, 2017.
- [20] Ruth Garrett Millikan. *Language, Thought, and Other Biological Categories: New Foundations for Realism*. MIT press, 1984.
- [21] Ruth Garrett Millikan. “Meaning, Meaning, and Meaning”. In: *Language: A Biological Model*. Oxford University Press, 2005, pp. 53–75.
- [22] Ruth Garrett Millikan. “The Son and the Daughter: On Sellars, Brandom, and Millikan”. In: *Language: A Biological Model*. Oxford University Press, 2005, pp. 77–91.
- [23] Charles Sanders Peirce. “The Collected Papers of Charles Sanders Peirce. Electronic Edition.” In: ed. by Charles Hartshorne and Paul Weiss. Vol. 1-6. Charlottesville, Virginia: IntelLex Corp., 1994.
- [24] Hilary Putnam. “Comment on Wilfrid Sellars”. In: *Synthese* 27.3/4 (1974), pp. 445–455. ISSN: 00397857, 15730964. URL: <http://www.jstor.org/stable/20114937>.
- [25] Hilary Putnam. “Explanation and Reference”. In: *Philosophical Papers Vol. 2*. Cambridge University Press, 1975, pp. 196–214.
- [26] Hilary Putnam. “Peirce the Logician”. In: *Historia Mathematica* 3 (1982), pp. 290–301.
- [27] Hilary Putnam. “The Meaning of ‘Meaning’”. In: *Philosophical Papers Vol. 2*. Cambridge University Press, 1975, pp. 215–271.
- [28] Stephen Read. “The Unity of the Fact”. In: *Philosophy* 80.313 (2005), pp. 317–342.
- [29] Michael Rescorla. “Predication and Cartographic Representation”. In: *Synthese* 169.1 (2009), pp. 175–200.
- [30] Bertrand Russell. *Principles of Mathematics*. Routledge, 2009. ISBN: 9780203864760.
- [31] Bertrand Russell. *The Philosophy of Logical Atomism*. Routledge, 2009.
- [32] Bertrand Russell and Alfred North Whitehead. *Principia mathematica to 56*. Vol. 2. Cambridge University Press Cambridge, UK, 1997.
- [33] Wilfrid Sellars. “Empiricism and the Philosophy of Mind”. In: *Science, Perception, and Reality*. Ridgeview; Atascadero, 1963, pp. 129–194.
- [34] Wilfrid Sellars. “Hochberg on Mapping, Meaning, and Metaphysics”. In: *Midwest Studies in Philosophy* 2 (1977), pp. 214–224.
- [35] Wilfrid Sellars. “Meaning as Functional Classification”. In: *Synthese* 27.3-4 (1974), pp. 417–437.
- [36] Wilfrid Sellars. “Mental events”. In: *Philosophical Studies* 39.4 (1981), pp. 325–345.
- [37] Wilfrid Sellars. “Naming and Saying”. In: *Science, Perception, and Reality*. Ridgeview; Atascadero, 1963, pp. 223–245.
- [38] Wilfrid Sellars. *Naturalism and Ontology: The John Dewey Lectures for 1974*. Ridgeview; Atascadero, 1979. ISBN: 0-917930-16-9.
- [39] Wilfrid Sellars. *Pure Pragmatics and Possible Worlds: The Early Essays of Wilfrid Sellars*. Atascadero: Ridgeview, 1980. ISBN: 0-917930-06-1.
- [40] Wilfrid Sellars. “Reply”. In: *Synthese* 27.3/4 (1974), pp. 457–466. ISSN: 00397857, 15730964. URL: <http://www.jstor.org/stable/20114938>.

- [41] Wilfrid Sellars. *Science and Metaphysics: Variations on Kantian Themes*. Ridgeview; Atascadero, 1967. ISBN: 0-924922-11-7.
- [42] Wilfrid Sellars. "Some Reflections on Language Games". In: *Philosophy of Science* 21.3 (1954), pp. 204–228.
- [43] Wilfrid Sellars. "The Identity of Linguistic Expressions and the Paradox of Analysis". In: *Philosophical Studies* 1.2 (1950), pp. 24–31.
- [44] Wilfrid Sellars. "The Structure of Knowledge". In: *Action, Knowledge and Reality: Studies in Honor of Wilfrid Sellars* (1975), pp. 295–347.
- [45] Wilfrid Sellars. "Towards a Theory of Predication". In: *How things are*. Ed. by James Bogen and James E. McGuire. Springer, Dordrecht, 1985, pp. 285–322. ISBN: 978-94-009-5199-0.
- [46] Wilfrid Sellars. "Truth and "Correspondence"". In: *Science, Perception, and Reality*. Ridgeview; Atascadero, 1963, pp. 195–222.
- [47] Lionel Shapiro. "Sellars on the Function of Semantic Vocabulary". In: *British Journal for the History of Philosophy* 22.4 (2014), pp. 792–811.
- [48] Brian Skyrms. "Tractarian nominalism". In: *Philosophical Studies* 40.2 (1981), pp. 199–206.
- [49] Ludwig Wittgenstein. *Culture and Value*. Ed. by G.H. Von Wright and Heikki Nyman. Trans. by Peter Winch. Oxford: Basil Blackwell, 1980.
- [50] Ludwig Wittgenstein. "Notebooks, 1914-1916". In: *The Collected Works of Ludwig Wittgenstein. Electronic Edition*. Ed. by G. H. von Wright and G. E. M. Anscombe. Vol. 1. University of Chicago Press, 1998.
- [51] Ludwig Wittgenstein. "The Blue and Brown Books". In: *The Collected Works of Ludwig Wittgenstein. Electronic Edition*. Vol. 4. 1998.
- [52] Ludwig Wittgenstein. *Tractatus Logico-Philosophicus*. Ed. by Charles Kay Ogden. Oxford, Benediction Classics, 2017.