

SUBSTANTIVE TRUTH VIA SUB-PROPOSITIONAL CORRESPONDENCE

Correspondence theories of truth are usually understood to hold that truth is a matter of there being a correspondence between a complete truth-bearer, such as a proposition, and some worldly item such as a fact. Nevertheless, there is an ambiguity in the concept of a proposition, or propositional claim, that allows for the possibility of a *sub-propositional* correspondence theory. Intuitively, a proposition is true just in case the way it claims the world to be corresponds with how it actually is. Understood sub-propositionally, the relevant truth-condition is that a *claimed* or *putative* fact corresponds with an *actual* fact. I provide some initial development of a sub-propositional theory--the *cognitive correspondence* theory (CCT)--that gives due recognition to the irreducibly cognitive nature of the relevant concept of a putative fact as: how a worldly fact is conceived of, or represented as, being.

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It might be thought that, over the long history of correspondence theories of truth since Aristotle, every possible macroscopic or large-scale avenue of explanation, development or refutation must have been already tried. However, I shall argue that there is at least one potentially plausible approach that is fundamentally different from previous approaches, and which yet remains to be defended, or even clearly characterized. It may be introduced after the following preliminary points.

To begin, it seems to have been universally assumed that any correspondence theory of truth would have to consist in an account of how a *complete* truth-evaluable unit--such as an indicative sentence, sentential speech-act, or proposition--corresponds with some worldly item such as an actual fact. Indeed, philosophical tradition has made this supposition seem to be so obvious as to be hardly worth stating--if truth is to be explained in correspondence terms, surely the relata of the correspondence relation would have to

be the *relevant complete truth-evaluable unit itself*--assumed to be a proposition, for convenience, from now on--and some worldly item such as a fact, for the theory to count as a correspondence theory of truth at all.

However, it should not be forgotten that a semantic theory of truth is, in addition to its philosophical centrality, also integrally connected with empirical science, and there are many ways in which to scientifically explain properties of complete or integral items, including truth-evaluable semantic units such as propositions. In particular, many scientific explanations appeal to the *internal structure* of relevant items in explaining their properties and relations. As a simple example, an explanation of the gravitational attraction of two mid-sized objects might best be given in terms of the sums of the attractions of their included molecules. I shall suggest that, in a roughly similar manner, truth-related correspondence for propositions might best be explained in terms of a correspondence relation holding *between items involved in, or entailed by, the internal structure of a proposition*, rather than as a relation directly holding between a complete proposition and a fact.

Thus the theory on offer will be, in this sense, a *sub-propositional* theory of truth-related correspondence. Consequently, in strict traditional terms, this might not count as a correspondence theory of truth at all, because it is not strictly a theory about the correspondence of a proposition with a fact. But since--as will become clear--it does give an integral role to *a substantive concept of correspondence* in explaining propositional

truth, it does provide a potentially significant kind of correspondence theory of truth, albeit an unconventional one.

Thus far we have distinguished traditional correspondence theories, which appeal to a correspondence relation between a proposition and a fact, from a novel kind of explanatory correspondence theory that instead invokes a correspondence relation between sub-propositional factors. The new theory may be introduced by pointing out an analogous kind of distinction, or ambiguity, between two ways of interpreting a fairly traditional expression of a correspondence theory.

Correspondence theories may be characterized in the following roughly equivalent ways [Kirkham 1992; Lynch 2001; David 2009]. Such theories hold that a proposition is true just in case the way in which the world is claimed to be by the proposition corresponds to the way it actually is. To take a stock example, the proposition 'snow is white' is true just in case what that proposition states or claims to be the case about snow corresponds to the relevant worldly fact, namely the fact that snow actually is white. So, correspondence is taken to hold between what the proposition claims to be the case about the world, and what the world actually is like in the relevant respect.

The relevant ambiguity is as follows. In traditional correspondence theories, a phrase such as 'what the proposition claims about the world' simply describes the full content of the whole proposition. On this standard interpretation, a full proposition is identifiable with, or just is, a truth-evaluable claim concerning how the world is in some respect.

However, there is another, distinctively *sub-propositional* way of interpreting the concept of 'what a proposition claims about the world'. On this interpretation, 'what the proposition claims about world' is a propositional way of envisaging or expressing *what the world would be like if the proposition were true*. But the relevant concept of 'what the world would be like' is a broadly *factual* concept, rather than a fully propositional, truth-evaluable concept. It picks out what will be described as a *putative fact* (PF), which--if the proposition were true--would correspond with the relevant actual fact, but which would fail to correspond with the actual fact if the proposition were false.

Consequently, my suggestion is that the concept of a 'propositional claim' is *ambiguous*. On the traditional conception, descriptions such as 'a propositional claim', or 'what the proposition claims about the world', are just a more comprehensive or explicit way of describing the full proposition itself. But a proposition also envisages or claims the world to be a certain way, or to have certain features--i.e., to involve what I am describing as a putative fact (PF)--which putative fact, or factual way the world might be, may or may not correspond with the way the world actually is. In a nutshell, this is the style of sub-propositional correspondence theory that I shall explain and defend here--one in which a claimed or envisaged PF either corresponds, or fails to correspond, with the relevant actual fact (AF).

Another way to identify a sub-propositional PF proceeds via the concept of representation. To quote McGinn [1996, p. 117], "It is characteristic of cognitive states to represent the world as being a certain way, and such a state can be judged correct

or incorrect according to whether the world is the way it is represented to be; the role of the cognitive is to *fit* the world." This very intuitive formulation arguably implies a correspondence account of truth or correctness that uses two broadly factual concepts: first, the concept of how the world actually is--i.e., an AF--and second, of how the world is represented to be, or as being--i.e., a PF. (Nevertheless, McGinn later describes his own correspondence theory of truth [2000] as one of "thick disquotationalism", even though he continues to endorse similar representational formulations [2000, pps. 91, 104] to the above--which to my mind suggest rather a view of the present kind).

The distinction between a non-truth-evaluable PF and a full propositional claim or proposition may be clarified as follows. Consider again the stock case of the proposition 'snow is white'. Whether or not snow actually is white, we certainly know what is being requested if someone asks us to *imagine* that snow is white, or to *conceive of* snow as being white. One is to imagine or conceive of a putative or possible state of affairs in which snow is white--in which there is, in the current terminology, a PF of snow being white.

Now clearly this conceived PF of snow being white is not itself a proposition, because it involves no full propositional claim that snow actually is white. Nevertheless, I claim, one cannot understand the full propositional claim that snow *is* white without being able to *conceive of* snow as putatively being white--i.e., in current terms, being able to conceive the PF of snow being white--because without the conceptual ability to envisage the PF of snow being white, one would be unable to grasp what is being claimed about

how the actual facts are with regard to the color of snow--namely, on the current theory, that the actual fact (AF) with respect to the color of snow does indeed correspond with the conceived PF of snow being white. On the current conception, that is what the relevant proposition *as a whole* is claiming--namely, that the relevant correspondence holds--and that complete or full propositional claim consequently must be distinguished from the non-truth-evaluable envisaged or putative fact (PF) itself, whose correspondence with the AF is the primary topic of the relevant full propositional claim.

This explanation shows that the current correspondence theory can also be closely integrated with a cognitive account of *the necessary conditions for a person to be capable of understanding or grasping a proposition or propositional claim*. We have to know what a proposition claims to be the case--i.e., which is the relevant PF that is being invoked--and also what aspect of the world, i.e., which AF, is such that its correspondence or non-correspondence with the relevant PF would determine whether or not the relevant proposition is true. Because of this integral connection of the current theory with such cognitive requirements for understanding or grasping a proposition, it is appropriate to characterize it as a *cognitive* correspondence theory of truth--and consequently to simply describe the current theory henceforth as the *cognitive correspondence theory* (CCT) of truth.

1. Perceptual Constraints on a Cognitive Correspondence Theory

At this stage it will be useful to examine a basic kind of cognitive processing, namely *perceptual* processing, to see what light it may throw on desirable features of a cognitive correspondence theory (CCT). In particular, an adequate CCT should integrate well with some acceptable solution to two traditional philosophical demands on a theory of perception--namely that it should adequately explain both the possibility of perceptual *illusion*, and of perceptual *hallucination*.

Cases of perceptual illusion cover both generic cases of non-veridical perception, in which a person acquires a false belief about some property F of a worldly object x on the basis of incorrect perception of x, as well as more specialized psychological cases in which an object x may persistently seem to have some property it does not actually have, even though knowledgeable perceivers would not necessarily acquire any false beliefs about it. For example, in the Muller-Lyer illusion, two lines enclosed in different arrowhead patterns, >---< versus <--->, persistently seem to be of different lengths, even though they are known actually have the same length.

In such a case, those familiar with the illusion will know that they are in an illusory perceptual state--namely, one of perceiving two lines as having a property of non-equality in length that they do not actually have. But because of the persistence of the illusion, it is hard to deny that this is a case in which a kind of perceptual content--

namely, of two lines seeming to be of different lengths--is perceptually entertained independently of any belief that things actually are so in the world [Evans 1982, p. 123]. In such a case it is appropriate to invoke a kind of perceptual content, namely (what I have been calling) a putative fact or PF, which is of a broadly factual rather than of a truth-evaluable kind.

This is not to deny that things thus perceptually seeming to be so--here conceptualized as a perceptual state whose content is a PF--normally provides evidence on the basis of which a perceptually derived, fully truth-evaluable belief is formed. It is rather that such unusual cases of persistent perceptual seeming in the face of disbelief as to its status provide salient reasons to distinguish, in general, the *putative factual content* of cases of perceptual seeming--which are not themselves truth-evaluable--from the perceptually derived, *truth-evaluable belief states* that normally result from them. So the theoretical construct of a PF can provide a basic element in a nascent theory of the content of any kinds of perceptual illusory states, whether of a persistent or fugitive kind--and consequently for non-illusory perceptual states as well.

Turning now to issues of perceptual hallucination, these are cases in which it seems to the perceiver as if she is perceiving some object, even though it turns out that in fact there is no such object that she is perceiving. In such cases it is clear that, if any appropriate perceptual content may be attributed to a perceiver at all, it cannot include an actual object, since there is no actual object that is perceived. This provides a strong theoretical reason for postulating that the supposed or putative object in a perceptual PF is always a

purely virtual object, since any state of perceptual seeming whatever might turn out to be a hallucinatory state in which no actual object is perceived.

The relevant issue can be more precisely characterized as follows. The object x' in a PF cannot be an actual object x , for the following reason. For any actual object y , it *necessarily* corresponds with some actual object x , because it is identical with some actual object x . On the other hand, it is a purely *contingent* matter whether the object x' in a PF does, or does not, correspond with some actual object x , since there are hallucinatory perceptual states in which the object x' in a PF would be a purely virtual object that did not correspond with some actual object x . Consequently, since actual objects x and PF-related objects x' differ in their modal properties with respect to necessity or contingency of correspondence, no PF-related object x' could be identical with any actual object x .

2. An Initial Account of CCT-Based Propositional Structure

An initial account of propositional structure according to the cognitive correspondence theory (CCT) can now be provided. The theory invokes concepts both of a putative fact (PF) $\langle x', G \rangle$, and of an actual fact (AF) $\langle x, F \rangle$. (For a more detailed account see Author article 1).

To begin, according to the CCT, the identity of a proposition is determined both by a relevant PF and by a relevant AF. Also, the truth-value of the proposition is determined by whether or not the relevant PF corresponds with the relevant AF. However, since all of these relations are determination relations, rather than identity or logical inclusion relations, it is undesirable to postulate that a proposition actually *includes* the relevant PF and AF as constituents--a weaker thesis of logical supervenience on those facts is all that is initially licensed. So initially a broadly Fregean rather than Russellian conception of a proposition is to be preferred, in which propositional components <PF> and <AF> are respectively determined by the relevant PF and AF, rather than including facts or their components. Nevertheless, it should be noted that on the current analysis the direction of determination is the inverse of that typically postulated by Fregeans--facts, to the extent that they are truthmakers, determine propositional components, whereas on a Fregean analysis it is instead a singular-term sense that determines a worldly reference.

These propositional components will be described as a PFD (PF-determined component) and AFD (AF-determined component) respectively. Next, it will be useful to define a primitive semantic relation of *signification*--a kind of pure pointing or indication--that holds either between a PFD and its relevant PF, or between an AFD and its relevant AF. So a PFD *signifies* a PF and an AFD *signifies* an AF. Thus, what is semantically signified by a propositional component is determined by the relevant PF or AF that it signifies.

These propositional components may provisionally be further analyzed as having an internal structure, such that a PFD is a structure $\langle\langle x' \rangle, \langle G \rangle\rangle$, and an AFD is a structure $\langle\langle x \rangle, \langle F \rangle\rangle$. The rationale for this provisional analysis is that, intuitively speaking, the concept of a fact is one that involves both an object-related component x and a property or predicate-related component F , so that an AF $\{x, F\}$ determines an AFD $\langle\langle x \rangle, \langle F \rangle\rangle$, and presumably also a PF $\{x', G\}$ would determine a PFD $\langle\langle x' \rangle, \langle G \rangle\rangle$.

However, there is as yet no basis for claims concerning more specific determination relations that might, or might not, hold between the components of an AF and those of an AFD, and between the components of a PF and those of a PFD. Nevertheless, for initial convenience and simplicity it will also be assumed that the components of a PFD or AFD signify or point to their respective components in a PF and an AF--so that an AFD $\langle\langle x \rangle, \langle F \rangle\rangle$ is regarded as involving an object pointer $\langle x \rangle$ that signifies the object-related component of the corresponding AF, and as involving a predicate pointer $\langle F \rangle$ that signifies the predicate-related component of the AF, with similar assignments for a PFD and a PF. Overall, then, a proposition has a structure of form $\{\text{PFD}, \text{AFD}\}$, or more specifically of form $\{\langle\langle x' \rangle, \langle G \rangle\rangle, \langle\langle x \rangle, \langle F \rangle\rangle\}$.

To be sure, some caution would be needed in interpreting these initial assignments of structural components to propositions. In particular, whatever the signification relation might be that holds between an object pointer $\langle x \rangle$ in an AFD and the object-related component x of an AF, it is not clearly a relation of reference as that concept is ordinarily understood, because strictly speaking, any sense in which a singular term may

legitimately be said to 'refer' to an object is applicable only in the analysis of full linguistic expressions that express full truth-evaluable propositions.

Turning now to the relevant correspondence relation, presumably it is a substantive rather than a trivial relation, because--as argued in the previous section--the virtual object x' in a PF cannot be identical with any actual object x in an AF, so consequently no PF $\langle x', G \rangle$ could be identical with any AF $\langle x, F \rangle$, even if correspondence holds and the relevant proposition is true. For example, if the analysis of perceptual cases in the previous section is applied to veridical cases, these would involve a PF $\langle x', G \rangle$ such that the way the virtual object x' perceptually seems to be--as having the property G --corresponds with an AF $\langle x, F \rangle$, in which some perceived actual object x has the same property ($G=F$) as the virtual object x' perceptually seems to have. But the relevant PF $\langle x', G \rangle$ and AF $\langle x, F \rangle$ remain distinct in spite of their correspondence, in virtue of the non-identity of x' and x .

Nevertheless, to repeat, presumably correspondence holds just in case properties G and F are either identical, or closely allied in some fashion. So to summarize, on this CCT analysis, a veridical, perceptually derived belief state would be one in which the proposition believed would be of form $\{\langle x' \rangle, \langle F \rangle, \langle x \rangle, \langle F \rangle\}$, while a non-veridical state would involve a proposition of form $\{\langle x' \rangle, \langle \sim F \rangle, \langle x \rangle, \langle F \rangle\}$.

In addition, perception of a PF $\{x', G\}$ may be related in the following intuitive way to a perceptually derived belief. Perception of a PF $\{x', G\}$ is perception of how some object

x' perceptually seems to be. Then the subsequent, perceptually derived belief is a belief that how object x' perceptually seems to be--namely, as being G--corresponds with how some actual perceived object x actually is--namely, as being F, with G=F--in an AF {x, F}.

On this account, a perceptually derived, truth-evaluable belief is a belief that the way that some object perceptually seems to be is, or more specifically corresponds with, the way some relevant actual object actually is in the world. Or, to generalize the matter to any cognitive states (on which see section 7), a truth-evaluable belief is a belief that the way some object is cognized as being corresponds with how some relevant object actually is. This account of what is involved in propositional belief also makes it explicit that the CCT is indeed an account in which *how something is cognized, or conceived of as being--* via the concept of a PF--plays a central role in the CCT conception of what is involved in propositional understanding or grasping.

3. The Cognitive Utility of the Concept of a PF

It is not hard to find evidence as to the cognitive utility of some such concept as that of a PF. The basic idea is that in order to possess a general concept, such as that of a color or a natural kind, one must be able to understand *what it would be for an object to satisfy or not satisfy the concept* [Evans 1982; Peacocke 1992; Fodor 1998]. For example, in order to possess the concept of redness--so that the concept is cognitively salient for oneself, as

one that one understands and can use in formulating truth-evaluable thoughts--one must understand what it would be like for a typical object either to be, or not to be, red. But this point may straightforwardly be translated into PF terminology, as the point that understanding the concept of redness requires one to be able to conceive of, or imagine, a PF of the relevant object being, or not being, red.

Also, as previously claimed, we should distinguish the required ability of being able to imagine an object *x* as putatively having a property *F*, from any propositional entertaining of, or belief in, a full proposition that an object *x* has property *F*. Also, on the CCT account, the ability to imagine or conceive of a PF--that may or may not correspond with an AF--may appropriately be viewed as being a more primitive or basic ability than the ability to entertain the relevant proposition, since the latter ability also requires understanding by a thinker of what it would be for the conceived PF to correspond with an appropriate AF. (Section 4 discusses a more functionalist sense in which PFs are more primitive than propositions).

Here is some evidence supporting the CCT assumption that the concept of a PF is more primitive or basic in some respects than that of a true proposition. There is an important distinction to be made between a *putative* (cognitively imagined or conceived) fact and a *modally possible* fact, where the relevant kind of possibility is broadly metaphysical or ontological. Arguably the concept of a possible fact, along with an associated concept of a possible world *P* in which the relevant fact *Z* would be actual, itself presupposes, or at least mutually entails, the concept of a true proposition, since such a possible fact *Z* just

is a fact that is the truthmaker for the true proposition 'fact Z obtains in world P' [Loux 1979]. But by contrast, a putative fact Z' is not guaranteed to correspond with a truthmaker for any true proposition in any world. Indeed, to imagine or conceive of an object x as being red need not involve taking any stand whatsoever on the modal status of an AF that would correspond with the relevant PF--whether as an actual, possible, impossible, or necessary fact.

A simple example is provided by PFs involving contradictory concepts, such as the concept of a round square. There could not be a possible world in which the combined concept was exemplified, so the relevant PF of an object being conceived of as being a round square corresponds to no possible AF. However, the relevant PF still is conceivable, in the relevant sense of *understanding what it would be for an object to be a round square*, because anyone who understands the concept would know that the following proposition is true, namely 'if an object was a round square, it would be both round and square'. In spite of the impossible antecedent of the conditional, the antecedent is nevertheless a perfectly comprehensible proposition, because it is understood as the fully meaningful claim that the relevant PF of an object being a round square corresponds with an AF of an object being a round square--which proposition, though necessarily false in view of the necessary non-existence of any such AF, is fully meaningful as a necessarily false sub-propositional correspondence claim. Consequently, meaningful inferences can be drawn based on the relevant round-square PF, such as the cited inference that any such object would be both round and square.

Some related evidence of significant ways in which issues of conceivability are independent from issues of possibility is provided by Gendler & Hawthorne [2002, eg. p. 7ff]. Of the various possible approaches to conceivability that they discuss, my claim would be that it is those kinds most relevant to providing evidence that persons possess the relevant conceptual abilities to conceive of appropriate PFs that are most apposite for present purposes. So again, once issues of correspondence and truth for propositions are properly integrated with issues concerning the cognitive salience of relevant factors for anyone who grasps those propositions and their sub-propositional factors, it can be seen that the CCT approach to these issues is at least an initially plausible one.

4. Functionalist Evidence for the Cognitive Relevance of PFs

Another way in which to show that the concept of a PF should play a central role in our understanding of truth-evaluable cognitive information-processing is to display its role as a basic element in a broadly functional approach to cognition and the mind. In a standard functional approach to the philosophy of mind [Block 1980, Levin 2009], at least three large-scale structural factors must be considered--perceptual inputs, internal cognitive processing, and behavioral outputs. In such a functionalist framework, a paradigm role for truth-evaluable beliefs about the world--i.e, for cognitive states whose propositional content is a complete singular proposition about some worldly object x--is to achieve correct classification of such worldly objects in order to facilitate appropriate behavioral interaction with them. For example, on this approach, the functional role of a

perceptually derived belief that an object x is red--having the proposition 'x is red' as its propositional content--is to facilitate appropriate output behaviour with respect to the color of object x, such as by putting object x in a box with other red objects. So, in functional terms, one result of acquiring a belief that a worldly object x is red would be the acquisition of a disposition to engage in red-related classificatory behavior with respect to object x--as evidenced by some appropriate, red-related behavioral output toward object x when the relevant disposition is activated.

However, clearly there would also have to be *preliminary* stages in internal processing of perceptual information, prior to the end result of a behavioral classification disposition--associated with a fully propositional belief state--as just discussed. One basic reason as to why this is so is simple. Any configuration of retinal data is potentially ambiguous between various possible interpretations, with respect to whatever worldly object/s or properties may have provided the data. So a cognitive system must generate one or more *initial* or *putative* factual hypotheses, on the basis of the retinal perceptual evidence, as to which specific object/s and properties most likely caused this specific retinal state, before committing itself to a particular belief about the actual causes. The concept of a PF is in part designed to capture the functional role of such putative factual hypotheses, or putative worldly facts, in these kinds of preliminary perceptual processing--that is, of one or more possible ways that something in the world might be, prior to the cognitive system committing itself to a definite belief in one of the possible alternatives.

In particular, it should be emphasized that a specific PF {x', G} could fail to provide correct information about the world with respect to either or both of its components. Not only might there be a currently perceived object x that does not have property G--so that the relevant PF {x', G} fails to correspond with a relevant AF {x, F} for that reason--but also there might be *no* relevant worldly object x to which property G could be correctly or incorrectly attributed. A preliminary classification of something x' as being G is indeed purely preliminary with respect to both components.

Also recall that such 'absent object' cases must always be possible because--as discussed in section 1--any given perceptual state might be a hallucinatory perceptual state in which no actual object is being perceived, so that there is no AF which either corresponds or fails to correspond with the relevant PF. For example, some retinal configuration might be mistakenly interpreted as a single coherent object, when in fact the relevant perceptual data are derived from miscellaneous parts of various overlapping objects. (Such cases are commonplace in activities such as birdwatching, when some configuration of parts of leaves and branches might temporarily look like a single bird from some angles of observation). Consequently, the object x' in a PF {x', G} must be regarded as a purely virtual object, in order that it may uniformly have the same functional role in all possible cases, including hallucinatory cases.

To return to the main functionalist theme of this section, the basic point is that both preliminary information (PFs) and full, truth-evaluable belief information (complete propositional information) must be included in a comprehensive functionalist account of

cognitive information processing that encompasses all three stages of perceptual inputs, internal processing and behavioral outputs. What the CCT provides is a way in which to relate the relevant preliminary, PF-based information to an improved kind of correspondence theory of truth, in which perceptually derived belief is explained as a belief that the preliminary information--provided by the PF--corresponds with a relevant worldly AF, and in which the belief state may, in turn, be explained in terms of relevant output classificatory behavioral dispositions. In this manner both the demands of a functionalist theory of mind, and of a semantic theory of truth, can be satisfactorily integrated and satisfied together.

5. A Representational View of CCT-based Substantive Correspondence

Another, broader way in which to support the postulated CCT propositional structure is as follows. To begin, it is generally agreed that a substantive correspondence relation can hold between two items only if they are genuinely independent in some respect or respects. In contrast, deflationary or non-substantive theories of truth deny that a substantive correspondence relation holds between independent items--as in Strawson's deflationary theory [1950], according to which facts are just what true statements state, rather than being genuinely independent worldly items to which propositions could substantively correspond.

A substantive correspondence theory could be developed by starting with structured items that everyone would agree are distinct, and then explaining correspondence or non-correspondence in terms of the relations of those distinct structures. As it happens, this is already the approach adopted by various similarity-based theories of representation, such as those of Cummins [1996], Millikan [1984], Grush [2004] and Waskan [2006].

Nevertheless, so far this group of representational theories has suffered from a generic problem of non-specificity--there are too many similarities or dissimilarities between distinct structures to explain which of them should count as genuine cases of representation, as opposed to which should not. Also, perhaps surprisingly, to date the implications of such substantive similarity-based theories of representation for issues of correspondence-based truth and propositional structure have remained underdeveloped. (Though Wittgenstein's picture theory of meaning in the *Tractatus* [1921] was one early attempt to provide such a theory).

Fortunately, however, the CCT provides one straightforward, and indeed fairly minimalist, way in which to develop such a specifically representational approach to truth. An initial requirement for a genuinely representational explanation of truth-evaluable representation, capable of supporting a concept of representational correctness or incorrectness, is that it requires specification of all three basic elements in the overall model--namely, two independent structures and a relation of correspondence or non-correspondence between them. Consequently, neither of the two structures, considered by itself, qualifies as providing a genuinely representational structure, independently of some specific respect in which they are claimed to correspond.

The concept of a model provides a useful intermediary in this discussion. We must distinguish the concept of a model of a generic kind of item X--which has a specific kind of model structure, but which nevertheless does not represent anything in particular--from the concept of a model of a particular kind of X, which can correctly or incorrectly represent some actual item X [Dilworth, 2010].

For example, a model car, such as a child's toy car, may have various typical features of a car, such as wheels, seats, doors etc. But unless it is a model *of* a particular actual kind of car, such as a model of a 1965 Ferrari 275 GTB, it cannot qualify as being a correct or incorrect representation of a car. This is because truth-evaluable representation requires specification of all three items--namely, a model structure, a particular actual structure, and relevant respect(s) in which the two structures correspond or fail to correspond. Since a typical child's car is just a generic model car, rather than a model *of* a particular kind of car, it fails to be genuinely representational.

Turning now to truth-evaluable mental representations, here too it must be possible to independently identify a mental model or structure on the one hand, some worldly structure on the other hand, and some appropriate kind of correspondence or non-correspondence between them. In the case of such similarity-based mental representations, it is evident both that *some* such concept as that of a PF is required--i.e., a structured item, independent of some relevant AF, that can serve as the relevant mental

structure or model--and that the PF, simply considered by itself, cannot qualify as a truth-evaluable representation of anything.

Consequently, a PF by itself cannot be a proposition, nor alternatively have a truth-evaluable propositional content. Also, since some relevant kind or kinds of correspondence relation must be established between a PF and an AF, the PF must have a broadly *fact-like* kind of structure--at least to the extent that its structure must be such as to allow some relevant correspondence relation to hold, or not to hold, between it and some relevant AF that does have a fact-like structure.

As a result of these requirements on mental, truth-evaluable propositional representations, it turns out that the structures postulated by the CCT implement no more than the bare minimum of structural organization required to adequately realize similarity-based, truth-evaluable representational relations in cognitive cases. So, though initially the CCT might seem a somewhat unusual or exotic theory of truth--such as with its postulation both of PFs, and of sub-propositional correspondence relations--it turns out that any similarity-based theory of representation would be committed to some such structural relations in any case. Consequently, the general effectiveness of this class of similarity-based representational theories in explaining various aspects of mental representation can provide some valuable extra support with respect to the plausibility of the CCT.

6. The Unproblematic Status of Putative Facts

Arguably the basic concept of a putative fact (PF) is a simple and indeed unavoidable one, informal examples of which are familiar to everyone. For example, conceiving of, imagining or drawing a five-sided figure is something that anyone could do, and all would agree that in so doing, they are imagining or drawing a five-sided object. But there would also be general agreement that in so doing, there need not be any actual or real object *x* that one is imagining to have five sides, so that consequently there need not be a true proposition 'object *x* has five sides' that is made true by an actual fact (AF) of an actual object *x* having five sides, simply in virtue of the fact that someone is imagining, or drawing etc., a five-sided object.

A traditional approach to this issue would interpret such cases as involving an *intentional object* [Jacob 2008] of the relevant imaginative act, and the current concept of a PF could be regarded as simply making it explicit that typically, in imagining such an object, one imagines it *as having some property* such as that of five-sidedness, so that it is a fact-like PF that one is imagining rather than simply a more generic, unstructured intentional object. Nor should this minimal supposition or postulation of PFs be regarded as initially being ontologically suspect--as a postulation of strange, possibly non-existent entities--for at least two reasons. First, the general ability to think about an item as having some property is simply an integral part of the intentionality of human thought, so PFs are no more problematic than intentional phenomena generally. They stand or fall with the whole body of intentional and cognitive abilities, so that an isolated attack on PFs as one

particular species of intentional object by opponents would be a strategically confused or misdirected attack.

And second, a bedrock argument of the following kind could be invoked. If the CCT sub-propositional approach to truth is correct, then the cognitive salience of an imagined or conceived PF is the salience of one factor in a *sub-propositional* cognitive act, which class of acts are indispensable in understanding full propositional claims. To be explicit, it is arguable that, according to the CCT, the very concept of a propositional claim that is true or false about the world depends on the cognitive availability of a relevant PF whose correspondence with a supposed AF is believed to hold by the person making the propositional claim. But then opponents of PFs are caught at least in a pragmatic contradiction if they attempt to make a fully propositional claim that PFs do not exist, since their claim presupposes the availability of a relevant PF to correspond to the relevant AF of PFs not existing.

Such critics could also be viewed as committing a category mistake, in that they would be attempting to treat the issue of the status of PFs as an issue about what *actual* facts (AFs) there are--i.e., as an issue concerning what actually does or does not exist. But the bedrock of sub-propositional structure postulated by the CCT provides a role for the concept of a PF that is distinct from the role of an AF, and the sub-propositional roles of both PFs and AFs must be distinguished from the over-arching cognitive role of full, truth-evaluable propositional claims about what exists in the world. Consequently, issues about the metaphysical status of PFs cannot be initially constrained as simple issues

concerning their existential status, because to do so would beg the question as to the overall viability of the CCT as a theory of truth.

Another, at least initial, way of thinking about PFs is in a deflationary manner--in terms of what are sometimes called something-from-nothing transformations [Schiffer 2003]. For example, Schiffer argues that propositions themselves could be interpreted in a pleonastic fashion, as a harmless form of semantic ascent from e.g. a claim that snow is white to a claim that the proposition that snow is white is true. Similarly, PFs could be regarded as a further element in such a pleonastic theory, roughly arising in order to simplify an explanation of what it is to have learned a concept and to have an ability to deploy it in expressing such propositions. On such a pleonastic view, a PF of x being F becomes cognitively salient and available for a person, such as during acts of conceiving or imagining, simply in virtue of the fact that they have acquired the concept of Fness, and thereby the ability to conceive of objects as having, or not having, Fness.

This kind of deflationary account of the potential cognitive salience of PFs, in terms of acquisition of a conceptual ability by a person, is also usefully applicable to more passive cases of conceptual competence, such as in perceptual cases. For example, arguably an object cannot perceptually *appear* to be red, or *seem* to be red, to a person until they have acquired a concept of redness for perceptible objects. Such cases of seeming or appearing also provide strong support for the basic, sub-propositional nature of PFs, in that clearly, a perceived object x can perceptually seem to be red--so that the relevant PF

of x being red is part of the person's perceptual content--without the person entertaining or believing the proposition that object x actually is red.

Perceptual illusions provide good evidence for the existence of such perceptual states having only a PF-style, sub-propositional content. For example, as discussed in section 1, in the Muller-Lyer illusion involving a line and arrowheads-- >---< and <--->--two lines that are actually the same length will obstinately continue to seem to be of different lengths to perceivers of them. But those who know of the illusory status of this appearance will not be tempted to entertain or believe a full proposition that the lines *are* of different lengths, in spite of their continuing PF-based perceptual content.

The possibility of PF-style sub-propositional content for perceptual states is also potentially significant for the resolution, or at least advancement, of disputes about the representational nature of perception. For instance, some, such as Travis [2004], have argued that perceptual content is not reducible to truth-evaluable propositional content, because perception simply presents us with a world of actual objects and properties, without any representation of them. However, the distinction of PF content from propositional content would permit a more moderate or nuanced view that is able to distinguish how things perceptually appear--PF-based content--from how they are truth-evaluably represented to be--propositional content. But pursuit of this interesting issue will have to await a more suitable occasion.

7. How the CCT Could be Generalized from Perceptual Cases to Cognitive Cases Generally

Sections 1 and 2 arrived at a CCT-based conception of propositional structure primarily via consideration of paradigm perceptual cases of cognition, with a special emphasis on the salience of cases of perceptual illusion such as the Muller-Lyer illusion, in which two lines can perceptually seem to be of different lengths--explained as cognition involving a PF--even though a knowledgeable perceiver's perceptually derived, truth-evaluable belief is instead that the seeming PF does not correspond with a relevant AF. This section briefly explains how this perceptually defended CCT account of propositional truth could be extended to truth-evaluable cognition generally.

As mentioned at the end of section 2, the basic extension required with respect to PFs is from perceptual seeming to cognitive seeming in general. Or, in terms of belief, on the CCT account, a truth-evaluable belief having a propositional content is a belief that the way some object is cognized as being--whether perceptually cognized, or cognized in some other way--corresponds with how some relevant object actually is.

Probably the simplest way in which to extend PF-based perceptual cases to cognition generally is via consideration of linguistically expressed propositions. Consider a proposition such as "the Eiffel Tower is in Paris". In a paradigm perceptual case this could be a perceptually derived belief, derived via seeing the Eiffel Tower with one's own eyes while walking around Paris. However, one could equally well come to believe the

relevant proposition--wherever one is located--by reading the sentence "the Eiffel Tower is in Paris" in a guidebook, and using one's knowledge of the English language to interpret the sentence as expressing the relevant proposition--which one then might believe on the basis of other beliefs one already has concerning the authoritative status of the relevant guidebook.

So in general, since natural languages are designed to be capable of expressing any cognizable, truth-evaluable proposition, the cognitive entertaining and believing of propositions is not confined to cases of direct perceptual acquaintance with the relevant facts, as long as a cognizer can read, or cognitively consider, the relevant sentences that express the propositions.

As to how PFs are associated with generic kinds of cognitive processing of sentences, presumably the process is analogous to the manner in which PF-related direct perceptual seeming operates. Indeed, in cases of reading a declarative sentence that expresses a proposition, there is a natural bridge to direct perceptual cases, in that of course the reading of the relevant words is itself a perceptual process. So, just as one could directly perceive the Eiffel Tower perceptually seeming to be in Paris, so also could one perceive the relevant words as meaningfully expressing the PF of the Tower seeming to be in Paris.

To be sure, this might be a relatively simplistic summary of this PF-related aspect of linguistic understanding. But it is undeniable that a reader of a passage of text can easily

distinguish, for each declarative sentence, what it claims to be the case--i.e, the PF--from whether or not he believes that the full truth-evaluable proposition expressed by the sentence is true or not. So the basic CCT structures persist both in direct perceptual and more miscellaneous indirect linguistic interpretation cases of propositional understanding.

8. The CCT Can Avoid Truthmaker Problems

Traditional correspondence theories of truth explain the truth of a singular proposition $p =$ 'x is F' in terms of its correspondence with the fact of x being F. In so doing, they can be regarded as thereby motivating a metaphysical *truthmaker* thesis, to the effect that the relevant fact of x's Fness *makes* p true, or *necessitates* the truth of proposition p [Lewis 2001, Armstrong 2004, David 2009]. However, truthmaker theses are now widely disputed, for a variety of reasons [Beebe&Dodd 2005, Lowe&Rami 2009]. Indeed, some, such as Merricks [2007], argue that, in particular, the insolubility of some basic truthmaker problems guarantees the falsity of *any* correspondence theory of truth.

Consequently, if it could be shown that the CCT can avoid such truthmaker problems, and any attendant threats to correspondence approaches to truth, this would supply some significant independent motivation for adopting the CCT, going beyond considerations already adduced. An initial demonstration of this kind will now be provided.

To begin, the CCT introduction of PFs could be motivated in truthmaking terms as follows. Consider a true proposition p ='wall x is white', which correctly reports on the whiteness of a particular wall x . In truthmaking terms, the fact of wall x being white is the truthmaker for proposition p . However, as is generally recognized, truthmaking theory must also give some account of what makes false propositions false, so relevant *falsemaking* facts must also be invoked in order to explain correspondence failures for false propositions.

But what kinds of falsemaking facts are there? In the case of proposition p ='wall x is white', it seems well-motivated to say that what would make its negation $\sim p$ ='it is not the case that wall x is white' false is the very same fact as that which makes p true--namely the whiteness of wall x . And in general, it is metaphysically more economical to appeal only to actual positive facts, rather than any supposed negative facts as well, as truthmakers or falsemakers, whenever possible.

Given this policy of preferring actual positive facts as truth or falsitymakers, consider the indefinite series of other, more specific false propositions about the color of wall x --such as q ='wall x is red', r ='wall x is green' etc. In line with the policy, presumably these are made false by that very same fact of wall x being white that makes the initial proposition p true. For otherwise we would have to appeal to a variety of distinct, specific *negative* facts, such as the fact of wall x not being red, of its not being green, and so on. These would be theoretically objectionable, both because of their negativity and their indefinite variety. Clearly the single actual positive fact of the wall being white is much preferable

as a truth or falsemaker. So, to be explicit, in truthmaker terms these specific false propositions q, r, ... about the color of wall x would be *made* false by the whiteness of wall x, in virtue of the failure of those propositions to correspond with that single positive fact.

Nevertheless, clearly these correspondence failures by propositions q, r, ... are not sufficient to individuate them as distinct propositions, since each makes a distinct claim about the color of the wall. Proposition q falsely claims that wall x is red, whereas proposition r instead falsely claims that the wall is green, and so on. So these correspondence failures individuate only the *truth-values* of propositions q, r, ..., not also their identity as distinct propositions.

It is at this point that distinct putative facts (PFs) may be introduced as independent determining factors that serve to individuate the relevant propositions. On this intuitive kind of view, since a proposition's correspondence or non-correspondence with the relevant positive fact is not sufficient to fully individuate it, it is necessary to appeal to some independent factor that can serve to individuate the manner in which each proposition q, r, ... makes a distinct claim about the relevant positive fact. The CCT provides one kind of theory in which such further, claim-related individuating factors can be provided for via the concept of a PF.

But in addition, there is a further significant benefit to be derived in resolving truthmaking issues in this CCT-based manner. Once concepts of both PFs and AFs are

available to a truth theory, a *fundamental theoretical re-orientation* becomes possible with respect to truthmaking issues. Arguably the basic truthmaking problems arise--as Merricks [2007] for one explicitly argues--because truth is explained in terms of a correspondence between a proposition and a worldly item such as a fact. The CCT framework enables a sub-propositional correspondence theory to be proposed in which no appeal at all is made to proposition-fact correspondence relations--and hence no appeal to truthmakers for such relations either.

An alternative, CCT-specific conception of truthmaking could hold that it is the correspondence between the relevant PF and AF that makes a proposition truth or false. On this approach, the relevant AF for a proposition *p*, by itself, is neither a truthmaker nor a falsemaker for *p*, so standard truthmaker problems for correspondence theories would be entirely circumvented by the CCT. Instead, the CCT framework could be regarded as, in effect, one that proposes a novel truthmaking framework. In this framework truthmaking and correspondence are still intimately related, but in a novel manner--in which the truthmaker or falsemaker for a proposition *p* is the holding or non-holding of a correspondence relation between the relevant PF and AF.

Another alternative CCT perspective on the issue of truthmaking is also potentially available. Rather than developing an alternate CCT-based truthmaking framework, as just suggested, the concept of truthmaking could be abandoned altogether, as a theoretically suspect, or even intractable, metaphysical residue of traditional correspondence theories. All that a CCT need hold is that the truth-value of a proposition

is determined by, or is supervenient on, the holding or non-holding of a relevant PF-AF correspondence relation as previously discussed. So, to summarize this section, the CCT gains some significant independent support in virtue of its potential to clarify, and perhaps even to resolve, some thorny truthmaking issues.

8. Summary

The cognitive correspondence theory (CCT) of truth is, in virtue of its sub-propositional correspondence structure, significantly different from previous theories of truth, whether correspondence-based or not. Nevertheless--as argued in the introduction--its genesis and basic structure may be economically derived from the recognition of a previously unacknowledged ambiguity in the concept of a proposition or propositional claim. Since a proposition claims or represents something to be a fact--but which claimed or represented fact may or may not actually be a fact--the structure of a proposition must depend on both a claimed or putative fact (PF), and an actual fact (AF), the correspondence or lack of which will determine the truth-value of the proposition. Also, this point can be considered as being simply a sub-propositional re-expression of the widespread intuition that it is *correspondence with a fact* that makes a proposition true. In re-expressed form, the intuition is that it is correspondence between how the proposition claims or represents the world to be (the PF) and how it actually is (the AF) that makes a proposition true.

Among the potential theoretical virtues of the CCT are that it provides a substantive theory of correspondence between independent items--PFs and AFs--that allows truth to be a genuine property of propositions. But at the same time it can also explain what is involved in *cognitively grasping* a PF or a proposition, in that the concept of a PF--of how something is conceived of as being--is itself an irreducibly cognitive one. As for propositions themselves, an initial account of propositional structure was provided in section 2, but the main emphasis in this initial outline of the CCT has been on justifying the introduction of the concept of a PF, plus of explaining how its semantic roles contrast with those of full propositions. It is to be hoped that these attempts have been adequate enough to justify further investigation of this unusual approach to truth.

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