Synthetic Identificationism and the Normativity of Epistemic Justification

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Scientific naturalists hold that the methods and instruments of science are sufficient to detect every real property and fact. To respond to a pair of influential criticisms, recent scientific naturalists must (and do) argue that (1) ostensibly irreducibly normative properties are actually identical (rather than merely eliminatively reducible) to descriptive properties, and that (2) this identification is 'synthetic' rather than 'analytic.' This paper argues that to maintain the ultimate epistemological requirements of scientific naturalism, naturalists must reject either the 'synthetic' or the 'identificationist' parts of synthetic identificationism. The result is that the aforementioned criticisms remain potent after all.

1 Scientific Naturalism and the Detection Requirement

Scientific naturalists hold that all facts, states of affairs, and properties are in-principle knowable and detectable through the methods and instruments of science.[1] In other words, all objects, properties, and facts are 'scientific' entities. The world, then, is the way the best or ideal science would say it is.[2] In general, naturalists attempt to reduce or eliminate normativity, hoping to replace normative facts or properties with descriptive facts or properties. Scientific naturalism may thus be seen as adding an epistemological component to naturalism per se, but the arguments here apparently apply to both positions.

Initially it seems to follow from scientific naturalism that *universal descriptivism* is true: that there are no such things as normative or prescriptive properties or truths; the only things that exist

[1] See Quine 1969 for the landmark initial presentation, and helpful discussion in Kim 1988 and Putnam 1983. Harman 1977: 17 describes the view as one according to which all facts are natural facts, which is consistent with this description. See also Feldman 2009, according to which this view is 'substantive naturalism,' when conjoined with the view that 'natural' facts are facts that science will acknowledge.

[2] Jenkins 2007 prefers this description.

in the world are various descriptive or factual properties and truths. After all, one is hard-pressed to find many irreducibly normative claims in the scientific literature, and it is very difficult to see how any scientific instrument or method could detect an irreducibly normative property, since irreducibly normative properties are of course irreducible to the descriptive properties that scientific instruments detect.[3] To put it crudely, wrongness and rightness do not look or smell like anything. To be sure, some philosophers have attempted to argue that occasionally, one can just 'see' a normative property, such as when one just sees that torturing an animal is wrong.[4] But this sort of move is straightforwardly dispensed with by a 'knowledge' argument. Notice that the ethically salient situation would look just the same if the animal's torture were permissible; intuitively one could know every empirical fact about the scene and yet learn something new when one learned that torturing the animal was wrong. A strong intuition that takes place *upon making* an empirical observation is not the same as empirically observing the *content of* that strong intuition.

In addition, the mere supervenience of normative facts upon descriptive facts will not satisfy the scientific naturalist's underlying reductivist aims, since these normative facts might still be "spooky" or otherwise uncongenial to or undetectable by the natural sciences.[5] After all, ghosts might supervene upon the physical facts about the deaths of humans, and one can even define in-principle scientifically unobservable properties that nevertheless supervene upon empirically observable events. The notion of supervenience need not describe any real reduction or elimination of the mysterious entities that naturalists doubt exist. Instead, one might add a genuine item to one's ontological budget by adding in normative facts that supervene upon descriptive facts. The naturalist will find this inadequate, since it makes room for spooky entities after all. Something stronger than

[3] See Huemer 2005: 6 and 66 on 'reduction.' The most natural description of reducibility is that *x* is reducible to *y* just in case one can explain what *x* is in terms of *y*. See also Cuneo 2007: 29-31 for further useful discussion.
[4] Compare Harman 1977.
[5] Jenkins 2007: 4 points this out.

supervenience is needed; there must be some kind of reduction of normative facts in order to remain consistent with naturalism.

One influential criticism of scientific naturalism and its attendant descriptivism about epistemic justification is due to Kim and his followers.[6] The idea is that the concepts of justification, belief, and maybe even truth have essentially normative components, and thus a 'naturalized epistemology' actually abandons the traditional pursuits of epistemology. This also throws the justification of scientific naturalism itself into doubt; not only do many scientific naturalists want to speak of epistemic appropriateness or justification, but also, if they have admitted from the outset that it is never epistemically appropriate (in a genuinely prescriptive sense) to hold the position of scientific naturalism (or any other position), it becomes very puzzling why and how they would argue for scientific naturalism in the first place.[7] Call this the *Normativity Problem*. This problem has troubled naturalists for decades, but recent naturalists have proposed an interesting solution. The answer to this problem, according to these naturalists, is to maintain the belief in normative facts, but to say that they are *identical to* (rather than merely eliminatively reducible to) descriptive facts.[8] Thus normativity can be preserved, but the naturalist can insist that all facts are still scientific in the important sense, since they are *also* descriptive facts, and thus these facts are open to observation by our 'best science.' Perhaps the naturalist can have her cake and eat it too; perhaps she can describe the world in purely scientific terms, but retain a place for normativity as well.

The second problem for naturalism discussed here is relevant if the naturalist maintains that this identification or reduction is *conceptual* or *semantic*, that when philosophers speak of ostensibly normative properties such as justification or moral wrongness, they really just intensionally *mean* various descriptive properties such as the facts about the belief's genesis or the action's likelihood to

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[6] Kim 1988, Putnam 1983, BonJour 1998: 85-8, and as recent as Cuneo 2007: Chapter Seven. See also Maffie 1995: 12-3, which identifies related but distinct criticisms of a 'scientistic' worldview that (*inter alia*) rejects normativity.
[7] Jenkins 2007: 2.
[8] Jenkins 2007: 3.

contribute to the well-being of one's tribe or species.[9] This inspires the *Semantic Problem*: relatives of the "open question" argument against analytic naturalism in metaethics are available against this scientific naturalism.[10] The Moorean open question argument in metaethics reminds us that 'wrong' cannot analytically mean, say, 'fails to maximize pleasure,' since one can nevertheless sensibly ask, 'I understand that this fails to maximize pleasure, but is it wrong?' In a parallel way, one might oppose an analytic reduction of epistemic properties by suggesting other allegedly open questions, for example, 'I understand that this belief was formed by the proper functioning of my belief-forming mechanism, but is it reasonable to believe it?' The best answer to the open question style of argument against this form of naturalism borrows a tactic from synthetic naturalism in metaethics. The naturalist can hold that while normative properties are identical to descriptive properties, this identity is *synthetic* rather than *analytic*.[11] Consider the analogous identity of water and H_2O. No one could use an open question argument to argue that water is not H_2O, and similarly, open question arguments are probably unavailable against synthetic identificationism or reductionism.[12] So far, the naturalist is in good shape.

One can call the naturalism that adopts these tactics 'synthetic identificationism.' And indeed, it is difficult to see how scientific naturalists could respond to the Normativity Problem and the Semantic Problem *without* adopting synthetic identificationism. Apparently, the main alternatives are biting various bullets, by admitting (for example) that no one really ought (in any sense of 'ought') to be a scientific naturalist, or by suggesting that epistemic agents actually have quite unreliable access to the intensional contents of their own concepts. Another approach would be to attempt to reduce epistemic justification to pragmatic or prudential justification, but that might require admitting that in various situations, one is 'epistemically' justified in believing something that

[9] For example, Maffie 1989: 336, which calls this "naturalist definism."
[10] Cuneo 2007: 220-1 and n. 56, Huemer 2005: Chapter Four, and Jenkins 2007: 4-5.
[11] Huemer 2005: § 4.2, plus Jenkins 2007: 4-5.
[12] See Heathwood (unpublished) for substantial further discussion.

turns out to be intuitively highly unjustified from an epistemic point of view. For example, suppose a deity promised an epistemic agent 1,000 true beliefs in exchange for her believing that the number of stars in the universe is odd.[13] The naturalist who employs the present instrumental reduction must hold that the belief that the number of stars in the universe is odd would be *epistemically* justified for the agent in question. These are difficult positions to defend, so the naturalist would do well to adopt identificationism or synthetic reductionism. But this paper argues that despite initial appearances, neither of these moves is ultimately friendly to the scientific naturalist. Indeed, by becoming a synthetic identificationist, the scientific naturalist has undercut the central epistemological motivation for her position, leading to an unacceptable tension that requires rejection of synthetic identificationism or the rejection of scientific naturalism itself. Call the following the 'Detection Requirement':

> If scientific naturalism is epistemically justifiable, then epistemic properties must be detectable through the methods and instruments of science.[14]

If some position *P* is justifiable, then epistemic properties, whatever they are, must be detectable according to *P*, since a position according to which epistemic justification is undetectable is, itself, epistemically unjustifiable. This is apparently true given any plausible analysis of epistemic justification, reductive or expansive, internalistic or externalistic.

2. Identificationism and the Normativity Problem

Once again, the point of adopting identificationism (instead of eliminative reductionism) is to answer the Normativity Problem: to avoid an eliminative reduction of normative facts, while

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[13] Compare Foley 1987, who is unaware of this sort of objection.

[14] Maffie 1989: 334 describes the non-naturalistic viewpoint: "Epistemic properties enter the world autonomously, i.e. as brute, fundamental facts unconnected with the descriptive properties of beliefs. As such they are cognitively inaccessible via scientific methods." Thus the scientific naturalist must have a story to tell about how to detect these ostensibly normative properties.

maintaining the scientific naturalist's conviction that all facts are scientific facts, open to the methods and instruments of science to discover.[15] Thus the naturalist could argue that it is true that one ought to be a naturalist, and yet deny that this fact is anything unobservable by science. To see the untenability of the alternative, suppose the naturalist proposes to identify epistemic justification or appropriateness with some purely descriptive property *D*, and holds that there is no further normative component. Any argument for scientific naturalism could be summarized as

> If *p*, then scientific naturalism has *D*;
>
> *p*;
>
> therefore, scientific naturalism has *D*.

The opponent need only respond, in the spirit of an open question argument,

> I understand that scientific naturalism has *D*, but does that mean I really ought (in the prescriptive epistemic sense) to believe in scientific naturalism?[16]

Of course, the consistent naturalist *must* say 'no,' since for her, there is no further normative fact to the effect that positions with *D* are eo ipso epistemically justified in the prescriptive sense. The scientific naturalist can give no prescriptive reason to adopt her position.

The solution, then, according to recent naturalists, is to *identify* normative facts with descriptive facts, but nevertheless to retain these facts' normativity. Jenkins writes:

> The strategy … is supposed to be a way of maintaining that epistemic normativity is a genuine, distinctive and noninstrumental kind of normativity, that claims of epistemic normativity are true, and that they are made true by facts in the world.[17]

This would be a non-eliminative reductionism. But two difficulties occur when the naturalist takes this approach. The first is that it is difficult to find plausible descriptive candidates for this

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[15] Supervenience alone is unsatisfactory; see Jenkins 2007: 4.
[16] Compare Cuneo 2007: 221, n. 56.
[17] Jenkins 2007: 6.

identification. This throws into doubt whether the project has any ultimate hope of success. The second is that by maintaining the existence of normative properties, the naturalist has betrayed epistemological requirements of scientific naturalism. Specifically, she has removed the possibility of scientific instruments or other empirical observation detecting epistemic justification after all, and the Detection Requirement proves unsatisfiable.

2.1 Reduction Candidates

While it would be impossible in the space here to survey all potential candidates for a descriptive reduction of epistemic justification, an examination of the most promising proposals suggests that no plausible candidate is likely to appear.[18]

The prevailing suggestion among naturalist identificationists is to identify epistemic justification with a sort of descriptive probability.[19] For example: 'S is justified in believing that *p* iff *p* is probable for S.' This initially seems unobjectionable, but deeper difficulties lie in the sense of 'probability' the naturalist requires. Purely descriptive senses of probability, such as the frequency or propensity interpretation, satisfy the naturalist's goals, by presenting a genuine descriptive identification, but fall prey to traditional objections to naïve externalism about epistemic justification. This can be seen clearly when one considers a less sophisticated proposal: 'S is justified in believing that *p* iff *p* is true.' The naturalist can hold that truth is a purely descriptive notion,[20] and so this would satisfy the scientific naturalist's aim. But it is obvious that the scientific naturalist has

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[18] Kim 1988: 390 and *passim*. Jenkins 2007: 8 suggests the existence of other candidates, but does not provide specific examples, and it is likely that such candidates will be the other ones considered here, or relatives of them. And pp. 11-12 implies that there are a lot of ways to make this reduction, despite not finding a workable proposal in her canvass. One option absent from these considerations is instrumentalism about epistemic norms, as in Maffie 1989. Jenkins 2007: 14 rejects this view in a defense of naturalism. (The basic problem is that it always seems possible to describe an intuitively unjustified belief that nevertheless satisfies one's instrumental goals.) A very helpful discussion here is Fumerton 2001: 54-6, which criticizes the Foley (1987) account of epistemic rationality. His ultimate suggestion is that such attempts to analyze epistemic rationality end up with an inextricable epistemic component, unanalyzable in terms of other forms of justification or rationality. See also Fumerton 1995: 12.

[19] Compare Jenkins 2007: 11.

[20] *Pace* Putnam 1983.

ceased to discuss anything like the traditional notion of epistemic justification, since it is almost universally accepted that there can be justified, false beliefs.[21] Now, returning to the case of objective, descriptive probability: Why should one care that people who form this particular belief given this particular evidence have so far been correct? It might have been a fluke, or they might be victims of trickster deities, and so on.[22] This is surely not the place to launch into an extended critique of metaepistemological externalism, but one can at least note that many externalists accept that probability is insufficient for epistemic justification.[23] Note also that if the scientific naturalist's proposal is incompatible with internalism, this is a strike against it, since scientific naturalism would be dialectically stronger if it were compatible with more of the popular positions in epistemology rather than fewer. And finally, it is puzzling why a scientific naturalist who happened to be an externalist would be concerned to maintain the existence of irreducible normativity in the first place, since paradigmatic externalist views are arguably or explicitly compatible with descriptivism about epistemic justification.[24] In other words, if one is willing to be an externalist, one is likely to be independently unsympathetic to non-eliminative identificationism about the normative. The concept of *normative* epistemic justification—the concept the identificationist wants to preserve—is arguably internalistic. Indeed, this can be seen simply by considering leading internalists' and externalists' proposals for the nature of epistemic justification. The former tend to identify justification with the presence of the right kind of *good* reasons,[25] and the latter identify justification with descriptive properties, such as a belief formed by a mechanism objectively likely to produce true beliefs, or

[21] Jenkins 2007: 9, for example, agrees; Littlejohn (unpublished) is one of the few to deny it.
[22] Putnam 1983, BonJour 1985: 45.
[23] See for example Goldman 1986: 62-3, 11-12 and Bergmann 2006: 175-7. Why not identify epistemic justification with undefeated reliability? The answer is that this seems to build in a normative component after all in the concept of *defeat*.
[24] For example, Goldman 1986 and Bergmann 2006.
[25] Bonjour and Sosa 2003: 5.

properly functioning where this concept of functioning being "proper" is analyzed ultimately descriptively, by facts about the origin of the mechanism.[26]

On the other hand, the arguably normative senses of probability, such as 'epistemic' probability or credence, could provide a sense of 'justification' that avoids the criticisms offered against externalism. The requirement has to be more than just that some epistemic subject S *treats* her evidence as making some proposition *p* probable, since she could be *wrong* for treating her evidence this way.[27] Indeed, one would have to require, in order to remain true to the commonsense notion of internalistic epistemic justification, that S interpret her evidence *correctly*. But of course this proposal fails to deliver a descriptive sense of epistemic justification, and thus cannot be the right *descriptive* identification—if there is such a thing as the right descriptive identification.

Another option would be to describe epistemic justification in terms of *representation*, that is, whether one's experiences or evidence 'represent' the world as being a certain way. Yet parallel problems occur. Some experience might represent the world as being a certain way, in an 'objective' sense, meaning that as a matter of fact, when an experience as of *x* occurs, *y* tends to be the case, even if *x* does not resemble *y* in any way relevant to justifying beliefs. (For example, this would be the case if unbeknownst to all, everyone began suffering from inverted spectra. An image of a red tomato would represent the world as if a green tomato were present.) But this property of objective justification seems unrelated to epistemic justification, in a way reminiscent of the aforementioned objections to externalism. After all, if no one knew that everyone suffered from inverted spectra, then commonsensically, an image of a red tomato would still justify the belief 'red tomato here.' This is just an analogue of the 'new evil demon problem' for externalism. In contrast, one might say that *x* 'subjectively' represents the world as if *y* when one would be justified in concluding that *y*, given the experience that *x*. But once again, this analysis builds in an inextricable normative component.

[26] Bergmann 2006, Goldman 1986.
[27] Compare Bergmann 2006: 19-21.

This proposal preserves the intuitions toward (at least a partial)[28] metaepistemological internalism, but at the cost of requiring the instantiation of a normative property. The concept of representation, then, will not identify a descriptive fact identical to the facts of epistemic justification or appropriateness.

There is space to consider one more possibility. Perhaps epistemic justification occurs when some fact is the 'best explanation' for some experience or evidence, and the 'goodness' of the explanation is evaluated in some descriptive terms. Once again, however, familiar difficulties present themselves, akin to those that plague externalism about epistemic justification. If an explanation is the best explanation, but that goodness is descriptive, then the only plausible candidates to analyze this 'goodness' recur to describing probability or representation. For example, an explanation might be 'good' just in case the explanans actually tends to occur with the explanandum, or just in case the explanans correctly represents a world in which the explanandum occurs. But of course the foregoing paragraphs suggest that descriptive probability and representation fail to describe epistemic justification. In contrast, if one returns to a normative reading of 'best,' the problems disappear, but so do the prospects for a naturalistic reduction or identification.

These three proposals are clearly the most promising, but none seems to deliver a plausible descriptive sense of epistemic justification. This throws the identificationist's project into serious doubt.

2.2 Intensional and Extensional Normativity, and Bridge Facts

Suppose that these objections are nevertheless incorrect, and that the scientific naturalist really can identify epistemic justification with descriptive properties. As mentioned, the identificationist

[28] Here "partial" refers to no-believed-defeater requirements. Jenkins 2007: 9 expresses sympathy for a mixed view, and see also note 21 above.

naturalist still maintains that normativity exists. The problem now is that these normative properties, and thus the property of epistemic justification itself, are closed off from scientific observation.

Recall that these facts about epistemic justification are (somehow) both normative and descriptive at the same time. Now, it is clear that irreducibly normative facts are empirically unobservable, and thus beyond the reach of scientific methods and instruments.[29] Presumably this is why naturalists find descriptivism congenial; otherwise, they apparently could not detect facts about epistemic justification, and thus could in principle never defend their own position. The Detection Requirement would be unsatisfiable. After all, any argument naturalists offer would be self-defeating if intended to justify (normatively justify, that is) naturalism. So scientific naturalists, if they are to present a persuasive case, must hold that facts about epistemic justification are descriptive. Now, can an epistemic faculty that detects only descriptive facts also detect facts that are both descriptive *and* normative? Presumably so, since these facts are the same fact, even if (unbeknownst to the epistemic agent) the detected fact is also a normative fact. But it is still difficult to see how, if scientific naturalism is true, an epistemic agent could learn *that* the fact in question *is* some type of normative fact as well, such as a fact about epistemic justification. Suppose that Venus has not yet been discovered to be a planet, and someone sees (with the naked eye) what looks like the "Morning Star." She thereby learns, say, a 'Morning Star fact,' that some bright spot is in the morning sky. Unbeknownst to her, she has also discovered a 'Venus fact.' The knowledge she has acquired is, as it were, *intensionally* a Morning Star fact but *extensionally* a Venus fact. But surely we cannot attribute any knowledge of Venus to her yet, except in a very limited sense. She cannot know, for example, that Venus is much smaller than a standard star, or even that Venus exists as such at all. Merely learning some *extensionally F*-fact is insufficient to learn an *intensionally F*-fact. After all, ancient humans would not know how to answer the question, 'Is pure H_2O flammable?' All of their science would be

[29] Huemer 2005: 86-7 ably criticizes the rare view to the contrary.

insufficient to provide an answer, since their best efforts could only detect facts that are intensionally about water and merely extensionally about H_2O.

Thus one might say it is possible to learn some extensionally normative fact, without thereby learning any corresponding intensionally normative fact. What would be required is some type of 'bridge fact,' akin to 'that bright spot is the planet Venus.' For scientific naturalists, it would be 'descriptive fact *D* is a fact about epistemic justification.' But crucially, that fact is *intensionally* normative. It is not an explicitly descriptive fact that is, unbeknownst to some cognizer, normative as well. Instead, it is explicitly normative. And since the methods and instruments of science can only justify extensionally (not intensionally) normative beliefs, no such bridge fact is even in principle justifiable according to the scientific naturalist's epistemological commitments.[30] In the end, by maintaining the existence of irreducibly normativity, the scientific naturalist has betrayed the epistemological requirements of scientific naturalism itself. The Detection Requirement, once again, cannot be satisfied. The only alternative is to reject identificationism, thereby recalling the Normativity Problem in full force.

2.3 Truthmakers

Because of these criticisms, the naturalist might retreat to a position according to which normative facts are not identical to descriptive facts, but instead, descriptive facts or properties are *truthmakers* for normative facts. The notion of truthmakers is of course perfectly independently philosophically respectable. Truthmakers help to explain how direct reference is possible, by identifying *what* one is saying when one makes some assertion. And many philosophers think that true propositions cannot, so to speak, simply "float" above the world, making no difference in it. Or in other, still

[30] The only exception is when these facts are analytically identical, which is discussed in the next section. Compare also Huemer 2005: 86-7.

metaphorical terms, truth cannot "hang on air."[31] In addition, it is worth noting that there are some serious questions concerning the truthmakers for normative facts; perhaps the naturalist can answer these questions by holding that descriptive facts make normative facts true.

However, this proposal is unlikely to solve the underlying problems identified in this section. To know that some object or fact is a truthmaker for some irreducibly normative proposition, one must apparently still know the (normative) bridge fact that connects these entities in the truthmaker relationship. For example, someone who did not know that a particular animal was actually, say, an American bison, apparently would have to fail to know that the object in question made it true that 'there is an American bison here.' And if someone lacked the scientific instruments to observe bacteria, she could not know, even given the observation of the truthmaker for 'bacteria here' (the truthmaker might be a colony of bacteria, one visible to the naked eye), the proposition 'bacteria here.' Similarly, if the normative fact is indeed irreducibly normative, it is closed to scientific observation. If the normative fact is ultimately descriptive, the Normativity Problem recurs. In addition, there are similar worries to those discussed above concerning supervenience. To say simply that descriptive objects or facts are truthmakers for normative facts is not enough to remove these facts' potential mysteriousness. The normative facts might remain spooky in the way the naturalist wants to resist. After all, many naturalists are skeptical of objective moral facts, but for the moral realist, 'there is a human in this room' might plausibly be a partial truthmaker for the proposition 'it is objectively, irreducibly normatively morally wrong to kill every human in this room.' The naturalist or ethical nihilist would presumably criticize this position, despite the fact that the position names a descriptive truthmaker. The problem, for the naturalist, is that the position also names an irreducibly normative fact, one non-identical (so far) to any descriptive fact. Indeed, the position adds a non-descriptive object into the ontological budget, which is precisely what provokes opposition in

[31] Compare Armstrong 2004.

naturalists. The naturalist would only be satisfied by adding a descriptive item to the ontological budget, one that also (if identificationism is true) happens to be normative.

The truthmaker approach thus inherits the same problems as the other identificationist attempts, and indeed provokes new questions. So far, no reduction, identification, or truthmaker relationship satisfies the commitments and requirements of naturalism.

3. Synthetic Reductionism and the Semantic Problem

The other component of synthetic identificationism is the 'synthetic' feature: that the identification or reduction in question is not an identity of concepts, but instead an identity of substances or types.[32] Yet this produces another epistemological problem for scientific naturalism, one akin to the difficulties identified in the previous section.

Suppose the identity between epistemic properties and natural properties were an analytic identity, that is, a conceptual or semantic identity. If that were so, then it would be possible for the naturalist to detect epistemic properties with the use of scientific instruments and methods; the Detection Requirement would be straightforwardly satisfiable. After all, human beings have relatively uncontroversial access to the intensional meanings of most terms in their vocabulary. So if naturalists know that by 'justified' they intensionally *mean* some scientific property *D*, and vice versa, then merely detecting *D* is enough to detect the property of epistemic justification. In the terminology of the previous section, an uncontroversial 'bridge fact' would be epistemically available after all. On the other hand, if the identity were opaque to introspection, as the identity of water and H_2O is, then merely knowing that one has detected water is insufficient to know one has detect H_2O. So the route for the scientific naturalist to satisfy the Detection Requirement would be to

[32] See Jenkins 2007: 5-6.

detect a descriptive fact, employ her knowledge of conceptual identity, and conclude that this is also a normative fact, such as a fact about epistemic justification.

Recall the Semantic Problem for analytic identificationism or reductionism: There are open question arguments available to show that some normative term *N* simply does not intensionally *mean* the same thing as some descriptive term *D*.[33] This pushes the naturalist toward synthetic identificationism to avoid the Semantic Problem. Yet now that the identity between these normative facts and descriptive facts is opaque, rather than introspectively transparent, merely detecting some intensionally descriptive (and extensionally normative) fact is insufficient to justify the scientific naturalist in believing the intensionally normative fact. Epistemic justification is undetectable after all, given synthetic identificationism or reductionism. The scientific naturalist could return to *analytic* identificationism or reductionism, but this presents the Semantic Problem all over again. Justified beliefs in bridge facts were possible when the bridge facts were analytic, since epistemic agents generally have access to the intensional contents of their concepts. But the scientific naturalist must ultimately settle upon synthetic identities and thus synthetic bridge facts, undermining the last hope to satisfy the Detection Requirement.

4. Conclusion

Scientific naturalists face a pair of dilemmas, between analytic and synthetic identificationism or reductionism on one hand, and between identificationism and eliminative reductionism on the other. The answer to one dilemma pushes the naturalist toward the second dilemma.

First dilemma: Is the reduction or identification of normative properties analytic or synthetic? If analytic, the Semantic Problem occurs; open question arguments seemingly conclusively disconfirm the position. If the reduction is neither analytic nor synthetic, then reductionism itself is

[33] Compare Heathwood (unpublished).

false, and the scientific naturalist must adopt nonnaturalism (if normative properties exist) or nihilism (if they do not); thus in the end scientific naturalism becomes unmotivated. [34] So 'synthetic' is the only way for the naturalist to answer the first dilemma. This brings the naturalist to the *second dilemma*: Do normative properties exist? If they do exist, then (given synthetic reductionism), the Detection Requirement remains unsatisfiable, since there are no plausible descriptive reduction candidates and intensionally normative synthetic bridge facts are scientifically unjustifiable. If they do not exist, then the Normativity Problem persists.

Analytic identifications and reductions are vulnerable to open question arguments; synthetic identifications and reductions fail to satisfy the Detection Requirement. And if no identification or reduction is available, but the scientific naturalist wishes to satisfy commonsense motivations and platitudes about epistemic justification,[35] and to be able to argue that scientific naturalism itself is (prescriptively) justified—that non-naturalists have a genuine reason to adopt naturalism—then the scientific naturalist must *abandon* naturalism for non-naturalist realism. The methods and instruments of even the ideal science are in principle incapable of detecting all the properties and facts in the world, including the all-important facts of epistemic justification.[36]

[34] Compare Cuneo 2007: Chapter Seven.
[35] Again, see Cuneo 2007: 31 and *passim* on these "platitudes."
[36] The author wishes to thank Chris Heathwood for helping him to see some of the points employed here.

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