

CRITICAL NOTICE

FURNISHING THE MIND

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According to Fiona Cowie's blurb, "*Furnishing the Mind* is the most important work on concepts since Locke's *Essay*".¹ Undoubtedly, Prinz's book is ambitious: its goal is to articulate a "modernized version of concept empiricism" which redeems Locke's discredited thesis that "all concepts . . . are the products of experience" by showing that it "can be reconciled with, and even supported by, the findings of cognitive science" (pp. 1–2). It's important to realize that Prinz's is quite different from twentieth-century versions of empiricism. Unlike "epistemological forms" of it, "it makes no mention of conditions for justification"; unlike "semantic empiricism", it doesn't claim that "meanings must be reducible to perceptual verification conditions" (p. 109). Instead, it "is a thesis about the nature of mental representations or the *vehicles* of thought". As such, it's even "incompatible" with another form of empiricism, behaviourism. It seems fair to say that, if Prinz were right, more than a shadow would be cast upon most contemporary philosophical reflection (both empiricist and not) on concepts and related topics.

Prinz begins with a "neutral characterization of concepts" as "constituents of thoughts" (p. 2), and presents a list of desiderata for a theory of them (Ch. 1). His contention is that no existing theory satisfies them all, as he tries to show in Chs. 2–4. Then, he articulates his proposal (Chs. 5 and 6) and tests it against the desiderata (Chs. 6–11). As he notes (p. 317), the argumentative strategy is similar to that of Fodor's *Concepts*. Actually, concepts and thoughts being theoretical entities, it seems to be the only strategy that may be adopted to defend substantive claims about them.

Prinz's list of seven desiderata is interesting, though their characterization would have sometimes benefited from more accuracy. First, *scope*: a theory of concepts must be able to "accommodate the large variety of concepts that we are capable of possessing", which ranges "from the sensory to the abstract" (p. 3). Second, *intentional content*: it must account for the fact that "concepts represent, stand in for, or refer to things other than themselves". Third, *cognitive content*. As Frege's cases on the one hand and Putnam's Twin Earth cases

1. *Furnishing the Mind: Concepts and Their Perceptual Basis*, by Jesse J. Prinz (MIT Press, 2002. x + 358pp. \$45.00 cloth, \$25.00 paper).

on the other show, “concepts cannot be individuated by intentional content alone” (p. 6). As a matter of fact, a theory of them “should explain how coreferential concepts can differ and how divergently referential concepts can be alike” (p. 8). According to Prinz, this amounts to saying that it should account for their “cognitive content”, since “cognitive content is what allows two coreferential representations, be they terms or concepts, to seem semantically distinct to a cognitive agent” (p. 7), and two non-coreferential representations to “seem alike” (p. 8) to him. It’s difficult not to agree about the substance of the desideratum, but Prinz’s way of phrasing it is questionable: not everybody would acknowledge that what Frege’s and Putnam’s cases ask for is more *content*. Fourth, *acquisition*: “a theory must ultimately support a plausible explanation of how concepts are acquired”, both ontogenetically and phylogenetically. Fifth, *categorization*: it must account for how “a person identifies the category under which an object belongs” (“category identification”, p. 9) and for how “a person identifies which attributes an object possesses if it is a member of a given category” (“category production”). As Prinz himself recognizes, this is controversial: whereas by psychologists “concepts are often stipulated to be the cognitive mechanisms by which we categorize” (p. 11), some philosophers hold that “the constituents of thoughts . . . may have little to do with the mechanisms by which we classify objects” (p. 10). Perhaps, a more cautious formulation, according to which a theory of concepts must be compatible with the best account researchers will find of categorization, would please everybody. Sixth, *compositionality*: to account for our “boundless capacity for unique thoughts” (p. 12), a theory of concepts must take them to be compositional (both in intentional and cognitive content). Seventh, *publicity*: “concepts must be capable of being shared by different individuals and by one individual at different times” (p. 14; also, this too must happen “along two dimensions”, that is both in intentional and cognitive content). The reasons adduced are that concepts “play a pivotal role in linguistic communication” (“if no two people associate the same concepts with their words, then communication is impossible”), and that they “are implicated in intentional explanations of behavior” (“if intentional explanations generalize, concepts must be sharable”, p. 15). In the final section of the chapter, Prinz explains why his list doesn’t include desiderata regarding language. He rejects “the meaning desideratum”, according to which concepts must turn out to be the meanings of words, because “reference-based semantics are both highly popular and incompatible with [it]” (p. 18). Then he criticizes Wittgenstein’s argument in favour of the claim that “public language is necessary for the possession of concepts” and affirms that “nonhuman animals engage in behavior that is sophisticated enough to warrant ascriptions” of them.

Having presented the desiderata, Prinz uses them “to measure the comparative success of various theories of concepts” (p. 22). In Chapter 2 he surveys two “traditional philosophical accounts”, imagism and definitionism. In Chapter 3 he goes into the two “similarity-based accounts” that emerged in psychology in the 1970s as a reaction to definitionism, the prototype theory and the exemplar theory. Finally, in Chapter 4 he discusses the “maximal and minimal accounts”, namely the theory theory and informational atomism,

which have gained support respectively in psychology and in philosophy since the 1980s. *Imagism*, according to which “concepts are perceptually derived mental images” (p. 25), “incorporates a theory of ontogenetic acquisition of concepts” (p. 26), “has an advantage in explaining phylogenetic acquisition” (p. 27), “offers an account of cognitive content”, and “can . . . be used to explain certain kinds of categorization”, but it has “a problem with publicity” (“if my DOG concept was generated by perceptual encounters with rottweilers and yours was generated by perceptual encounters with chihuahuas, our concepts consist of very different images”, p. 30) as well as with compositionality (“first, there is often no systematic way to build complex images from simpler ones”; “second, images of complex things often cannot be decomposed into obvious components”, p. 32). Its account of intentional content, according to which “images refer by resemblance” (p. 30), is plagued by many problems. Finally, it “does not satisfy the scope requirement” (“how do we form an image of justice?”, pp. 28–9). *Definitionism*, from Plato through Frege to Rey (well criticized by Prinz) and Peacocke, maintains that “concepts can be identified with sets of individually necessary and jointly sufficient features or conditions” (p. 32). It satisfies the cognitive-content desideratum, seems “to do well with the publicity requirement” (p. 38), and “offers an ostensibly promising explanation of intentionality” and of intentional compositionality by appealing to “satisfaction” (p. 37), but in fact it lacks an account of the intentionality of primitives (thus, it “postpone[s] the problem of intentionality rather than solving it”, p. 40); moreover, it “fails to provide an adequate account of concept acquisition” (it has been ascertained that “definitions are not easy to learn by observation”, p. 42), is “ill equipped to explain certain facts about categorization”, such as “basic-level categorization” and “typicality effects” (pp. 42–3), and, finally, it “is most seriously threatened by the scope requirement” (p. 41), as “it is extremely difficult to find concepts that have plausible definitions”. We can only conclude that “definitions are not psychologically real” (p. 43). The situation is different for the two similarity accounts, the *prototype theory*, according to which a concept is a prototype, i.e. “a representation that summarizes the central tendency of a category” (p. 64), and the *exemplar theory*, according to which “concepts are constituted by collections of representations of exemplars”. Here psychological reality is not questioned, because there are experiments showing that “both prototypes and [representations of] exemplars exist” (p. 73). Unfortunately, many arguments “challenge any attempt to identify them with concepts”: both theories “account for certain categorization results” and for acquisition and cognitive content, but they “face . . . serious problems with intentionality and compositionality”, as well as with publicity and scope. The *theory theory*, which tries to account for the fact that “much more knowledge is brought to bear in conceptual tasks than prototype and exemplar theories had recognized” (p. 75) by construing concepts as “mini theories of the categories they represent” (p. 76), has an “account of categorization” (p. 83), “wide scope” and “a story to tell about cognitive content”, but it “fails to provide an adequate account of intentional content” (“our mini theories do not specify necessary and sufficient conditions for category membership”, and they “often contain false information”, p. 86),

hence “it is not able to explain intentional compositionality”. It also has a problem with cognitive compositionality (“theories, in all their cumbersome complexity, are not the kinds of things that can be easily combined”, p. 87), and it “fails to satisfy the publicity requirement” (“it is very unlikely that any two people have exactly the same theories of the categories they represent”). Finally, (Fodor’s) *informational atomism*, according to which “(almost) all lexical concepts are unstructured symbols . . . that obtain their identity, in part, by carrying information about aspects of the environment” (p. 89), “provides an approach to intentionality that is more promising than its competitors” (p. 101), it handles compositionality well, and it “has a distinct advantage when it comes to scope” (p. 94), but, as for the acquisition desideratum, it “skirts the issue by saying that most concepts are not acquired” (p. 95), and it has a problem with publicity and “a major shortcoming” (p. 99) involving categorization (“unstructured mental representations simply cannot explain how we categorize”). This last charge seems false to me. Conceptual atomism is a thesis about the identity of concepts, not about their ‘life’; it doesn’t deny that concepts enter into relations with other concepts (after all, they are the constituents of thoughts), but only that these relations constitute their identity. Consequently, atomists can simply say our abilities in categorizing are explained by our thoughts involving particular concepts. This would also explain the fact, not so easy to explain for other theories, that people whom we would like to attribute the same concept to rarely perform exactly in the same way in categorization tasks. Apart from that, however, I find Prinz’s discussion of existing theories stimulating. He’s careful not only to criticize them but also to stress their assets—in fact, he plans to take advantage of many of them in setting his own theory (cf. pp. 313–4)—and his evaluations seem well motivated. For these reasons, I recommend this part of the book to whoever is interested in deepening their knowledge of the field.

It emerges from Prinz’s discussion that “the intentional-content desideratum [is] an Achilles heel for most of the accounts” (p. 123). The exception is informational atomism, which “gets over the problem of intentionality by proposing that concepts refer in virtue of standing in nomological relations to their referents”. If its “informational component constitutes the most promising account of intentionality”, however, its “atomistic component” is a “serious shortcoming”, because “it prevents the atomist from providing satisfying accounts of acquisition, cognitive content, cognitive compositionality, cognitive publicity, and categorization”. What the atomist gives up, *structure*, is what is needed to address these issues. Prinz suggests that “perhaps we can accommodate all of the desiderata if we combine the informational component of informational atomism with a nonatomistic theory of conceptual structure”, by identifying concepts “with semantically structured entities that get their intentional contents through informational relations”. What kind of entities? According to informational atomism, a concept is an *indicator*, that is “an unstructured entity that falls under the nomological control of some property”. It carries out its function by “merely” indicating that “something has been detected” (p. 92). However, an informational theory must also assume the existence of mechanisms that, mediating “the relation between an indicator

and the property it indicates” (p. 124), “actually do the detecting” (p. 92). These *detectors* “are structured entities that enter into nomological relations with properties, and they do so in virtue of their structure” (p. 124). So, Prinz says, why not identify them with concepts, dispensing altogether with indicators?

Before testing the proposal against the desiderata, we must say something more about it. Let’s call ‘concept empiricism’ the thesis that “all (human) concepts are copies or combinations of copies of perceptual representations” (p. 108), where “copying is properly conceived as a causal process”, and “a perceptual representation is just a representation indigenous to our senses” (p. 113). Let’s also assume that the senses are (not necessarily passive) “*dedicated input systems*” (p. 115): *systems*, because “they each consist of their own sets of operations and representations, housed in separate neural pathways”; *input systems*, because they “receive inputs from outside of the brain” (p. 116); *dedicated*, because “each sense responds to a proprietary input class” (p. 117) and different senses “use different kinds of representations”. Note, in passing, that, if this is true, concept empiricism entails what Prinz calls “The Modal-Specificity Hypothesis”, according to which “concepts are couched in representational codes that are specific to our perceptual systems” (p. 119); and that this hypothesis is “inconsistent” with both “common-code rationalism”, according to which “all mental systems share a ‘common code’” (p. 117; Prinz’s references are to Leibniz and Pylyshyn, but Fodor’s language of thought hypothesis seems to be the main contender), and “central-code rationalism”, according to which “thought is couched in a code not shared by any modality” (pp. 119–20). Now, according to Prinz saying that concepts are detectors is making a commitment to concept empiricism, because “in order for detection mechanisms to establish [a] content-conferring causal-relation [between] concepts and the external properties that concepts denote, they must be perceptual” (p. 126). The reasoning, however, isn’t convincing. If some detection mechanisms are perceptual, many others surely aren’t. Consider, for example, how physicists detect electrons: a lot of theory does play a role. Obviously, perception is also involved—I take it as true that “causal relations between our inner states and external properties are mediated by the senses”—but this doesn’t suffice to make the relevant mechanism perceptual. So, even if concepts were to be identified with detectors, there would be, in my opinion, reasons to be suspicious of concept empiricism.

In Chapter 6 Prinz articulates his proposal. He notes that “traditionally, concept empiricists have been imagists” (p. 139). As we saw, imagism has many flaws. According to Prinz, then, “to bring concept empiricism up to date, one must abandon the view that concepts are conscious pictures” (as well as the view that they represent by way of resemblance). Help comes from contemporary cognitive science, whose accounts of perceptual processing assume the existence of “a rich variety of highly structured, unconscious perceptual representations”. These representations “can be stored in long-term memory”, “modified and updated over time”, and “grouped” together in various ways to form “long-term memory networks” which “come to store various kinds of information about commonly encountered categories” (pp. 144–6). We can’t identify concepts with such networks, because concepts

are constituents of thoughts, “thoughts are occurrent states” which “are stored, for their brief duration, in working memory”, and “working memory does not have the capacity to activate an entire network” (“if I entertain the thought that dogs wag their tails, I cannot call up all of my dog knowledge”, pp. 148–9). The “natural solution”, suggested by the psychologist Larry Barsalou, whose research Prinz aims to extend, is to identify them with “perceptually derived representations that can be recruited by working memory to represent a category” (p. 149). Prinz calls these representations “proxytypes” (Barsalou’s term is ‘perceptual symbols’), “because they stand in as proxies for the categories they represent”. Unfortunately, it’s far from clear what a proxytype is taken to be. All we are told is that it “can be a detailed multimodal representation, a single visual model, or even a mental representation of a word”, and that it’s a “concise subset” from a “long-term-memory network of perceptual representations”, where “context determines what proxytype is used in working memory on any given occasion” (“the way one represents a fish depends on whether one is in a restaurant or scuba diving”, p. 153). Prinz only adds that “tokening a proxytype is generally tantamount to entering a perceptual state of the kind one would be in if one were to experience the thing it represents”, and that, as a consequence, “thinking is a simulation process” (p. 150).

The second half of the book is devoted to showing that a theory such as that just outlined can satisfy all the desiderata. We saw that according to Prinz a promising way of dealing with that concerning intentional content is through an informational account. The basic idea, sometimes attributed to Locke, is that “concepts refer to the things that *would* reliably cause them to be tokened” (p. 241). It can be refined by appealing to nomological covariance, where “Xs *nomologically covary* with concept C when, *ceteris paribus*, Xs cause tokens of C in all proximate possible worlds where one possesses that concept”. However, we can’t simply say that concepts refer to their nomological causes, if we are to leave space for error (encounters with gin or twater can cause a concept of water to be tokened but neither gin nor twater are what the concept refers to). Prinz suggests supplementing the nomological account with an aetiological constraint, appealing to “the *actual* causal history of a concept” (p. 250), or more precisely to its *incipient causes*, “those things that *actually* caused the first tokenings” of it: “X is the *intentional content* of C if (1) Xs nomologically covary with tokens of C and (2) an X was the incipient cause of C” (p. 251). Both conditions play a role: nomological covariance “delimits the set of potential intentional contents” by determining “what sort of concept something is and the class of look-alikes to which it would respond”, aetiology “selects from this limited set” (pp. 250–1). The proposal deserves consideration. Yet it doesn’t support Prinz’s view, because, as he himself recognizes, it can be followed “without adopting proxytype theory” (p. 257). Actually, I suspect it’s even incompatible with it, as I’ll try to show after presenting Prinz’s account of cognitive content. Here, the basic idea is simple: being semantically structured entities, “proxytypes themselves can be said to constitute cognitive contents” (p. 270). In fact, two different proxytypes can have the same intentional content, and two identical proxytypes, when

tokened in different environments, can have different intentional contents. So, we may say that “two people have the same cognitive content . . . when they have type-identical proxytypes”. It remains to be seen what makes two proxytypes type-identical. After rejecting the possibility of appealing to neurophysiological properties, Prinz first argues that “primitive perceptual representations” can be individuated “solely on the basis of what they detect” (p. 275), where “what they detect are classes of things that appear alike” (their nomological causes). Then, on the grounds that proxytypes are constituted by such primitive perceptual representations, he suggests they can be individuated “by appeal to *sets* of appearance properties”. In fact, as he writes a bit sloppily, “we can identify a proxytype as the set containing the sets of properties sufficient for causing the proxytype to exceed its critical detection threshold”. The upshot is that two proxytypes are type-identical “if they detect the same appearance sets” (p. 276; moreover, they “are similar to the extent that the appearance sets they detect overlap”). Thus, even if they “are in the head”, proxytypes “are externally individuated” (p. 278). Cognitive contents are “narrow”, in that “they supervene on what is in the head” (“two people who are internally alike have the same proxytypes, which detect, and are thus individuated by, the same appearances”), but we can also say they are “wide”, in that “they are sets of properties in the world”. This, however, doesn’t make them identical with intentional contents. The proxytype used to detect water has the set of the sets of properties by which water is detected as its cognitive content but the property of being water as its intentional content. In Twin Earth the same proxytype would have the same set of sets of properties as its cognitive content but a different property, that of being twater, as its intentional content. Besides, here on the Earth, or anywhere, another person, or the same person at another time, could use a different proxytype, having a different set of sets of properties as its cognitive content, to detect water, and so with the property of being water as its intentional content. So far, so good: Prinz’s theory clearly satisfies the cognitive content desideratum. However, what he says about the individuation of proxytypes causes him problems with the intentional content desideratum. Let P be one’s proxytype to detect water. In a world where water looks very different from how it does in ours and something else—say, twater—has the same appearance properties as water here, twater rather than water would cause P to be tokened. It follows that P doesn’t nomologically covary with the property of being water. Therefore, if intentional content is what Prinz takes it to be, water isn’t the intentional content of P. Prinz seems to recognize the problem (cf. p. 280), but he doesn’t offer a solution. He could say that having *a* concept of water means having, in all proximate possible worlds where a concept of water is possessed, *a* proxytype whose tokenings are caused (in that world) by encounters with water. The problem remains. What is needed for Prinz’s theory to satisfy the intentional content desideratum is something that explains the relationship between a proxytype and its intentional content. Prinz’s account of intentional content doesn’t work here: proxytypes don’t nomologically covary with what we would like to say is their intentional content. So, what makes one’s proxytype have water as its intentional content?

To deal with the acquisition desideratum Prinz addresses two widespread assumptions. One is that “empiricists must be categorically opposed to nativism”, the other is that “no cognitive ability can be explained without postulating a rich innate basis” (p. 189). As for the first, he nicely clarifies what a concept empiricist isn’t committed to. He isn’t committed to “the absurd view that *nothing* is innate”, because “surely some innate machinery must be in place if learning is possible at all”, nor to the view, derived from classical associationism and endorsed by some behaviourists and connectionists, according to which “the mind is only innately furnished with a single learning rule” (p. 194). More to the point, he doesn’t “deny the existence of innate representations”, because the thesis he defends (concepts are copies or combinations of copies of perceptual representations) is “totally neutral about how perceptual representations are acquired” (p. 195): if it turned out that “perceptual systems come equipped with representations, such as primitive shape or color detectors in the visual system”, he would have no trouble. He’s not even committed to the thesis that “no concepts are innate”. In the end, the only thesis about acquisition a concept empiricist is committed to is that “all innate concepts are perceptual representations” (p. 196). As for the widespread assumption among cognitive scientists that no cognitive ability can be explained without postulating an innate basis richer than perceptual representations, Prinz tries to undermine linguists’ arguments for the innateness of grammatical rules, psychologists’ arguments for the innateness of folk theories, and Fodor’s arguments for the innateness of lexical concepts. I won’t discuss his criticisms here. Let’s assume they succeed. Would the proxytype theory satisfy the acquisition desideratum? I don’t think it would. To satisfy it, one should at least outline an account of how non-basic concepts (combinations of copies, rather than copies, of perceptual representations) are acquired. Unfortunately, Prinz’s considerations in this regard are extremely poor.

The categorization desideratum is the easiest for the proxytype theory to satisfy. According to Prinz, “proxytypes can encode a broad range of information” (p. 164). Actually, his theory “borrows the use of instance information and essentialist beliefs from exemplar theory and the theory theory”, and “idealized summary representations from prototype theory”. As a consequence, category production is easily accounted for, given that these kinds of information are exactly those displayed in category-production tasks. Moreover, being proxytypes made up of perceptual representations, category identification can be explained without difficulty in terms of a matching between the complex representation an object produces when it’s perceived and a representation in our memory networks.

Prinz has something interesting to say about compositionality. His strategy is to show that, contrary to what Fodor claims, the prototype theory doesn’t violate the desideratum, and to extend this result to the proxytype theory, on the grounds that “proxytypes are closely related to prototypes” (p. 283; indeed, they “are structured and nondefining”, and usually “consist of weighted features that are salient, typical, and diagnostic”). He agrees with Fodor both on the fact that “compositionality is required to explain systematicity and productivity” (p. 286) and on the fact that “prototype combination

generates *emergent* properties: properties that are prototypical of phrasal concepts but not of their parts” (p. 285), which constitutes “direct evidence that prototypes are not compositional”. He denies, however, that these facts make the prototype theory inadequate. His point is ingenious: the explananda, productivity (“people are capable of entertaining an unbounded number of novel thoughts given finite means”, p. 294) and systematicity (“people are *able* to form thoughts that are systematically related to the ones that they are currently entertaining”), concern what people *can do*, not what people *do*. As a consequence, the explanans should be interpreted, in the same vein, “as saying that we *can* generate phrasal concepts and thoughts compositionally, not that we always do” (p. 291). In other words, “there is no need to demand that the contents of phrasal concepts always be inherited from their constituents”. But if all that is required is that concepts “*be capable* of compositional combination”, the prototype theory is all right, since “emergent features are consistent with the claim that we have the ability to combine prototypes compositionally” (p. 293); the fact that often we don’t exercise this ability and we prefer to use “*relevant background knowledge and exemplar memories*” (p. 292) to generate new prototypes (proxytypes) is irrelevant. Now, Prinz’s considerations are effective against (some of) Fodor’s compositionality-based arguments. Nonetheless, I wouldn’t say that his theory satisfies the desideratum. First, I don’t see how it can account for intentional compositionality (how would the intentional content of a proxytype, when generated by compositional combination, be determined by the intentional content of the proxytypes which compose it?). Second, the compositional combination of concepts has to generate not only phrasal concepts but also thoughts, and I’m unable to imagine how proxytype theory could accommodate this. In another part of the book, Prinz attributes to the “orthodoxy, inspired by classical computing”, the thesis that “thinking occurs in a symbolic medium, whose representations have subject-predicate structure and are manipulated by logical rules” (p. 151). Since he maintains that his picture “differs significantly” from this, I infer that in his opinion thinking occurs in a medium whose representations don’t have subject-predicate structure. Alas, it strikes me as obvious that nothing without a subject-predicate structure (or something very similar) should be qualified as a thought.

Prinz devotes only a few pages to discussing publicity. He writes that “the primary obstacle to proxytype sharing is their context sensitivity” (p. 153), namely that in different contexts we generate different proxytypes to represent the same property. He tries to avoid it by resorting to “default proxytypes”, representations that “one would token if one were asked to consider a category without being given a context” (p. 154). He speculates that they are “relatively stable, widely shared, and frequently responsible for guiding ordinary category-directed behavior”, and that we depart from them “only when contextual information demands an alternative representation” (p. 157). They are “widely shared” because they “often contain features that are cue-valid, category-valid, and salient” (pp. 157–8), and “features that are cue-valid, category-valid, and salient for me are likely to be cue-valid, category-valid, and salient for you” (p. 158). However, Prinz admits that they aren’t “perfectly

shared”, because “theoretical knowledge can influence default proxytypes”, and “theoretical knowledge can vary from person to person”. So, even the appeal to default proxytypes doesn’t allow the proxytype theory to satisfy the publicity desideratum. Prinz’s suggestion is to relax it: “rather than demanding strict identity between default proxytypes, we can settle for similarity”. Unfortunately, Prinz is the one who stated the desideratum in the unrelaxed form and criticized the other theories, with the exception of definitionism, on the grounds that they were unable to satisfy it in that form. In the end, the proxytype theory is no better off: saying that a desideratum doesn’t need to be satisfied isn’t a way to satisfy it.

The chapter devoted to the scope desideratum is, in my opinion, the worst in the book. Prinz is aware that satisfying it “is often regarded as the greatest challenge facing any empiricist theory of concepts”, because “it is widely believed that there are many concepts that cannot be identified with perceptually derived representations” (p. 165). However, his adoption of an informational account of intentional content would put him in a better condition than traditional empiricists, because “the range of properties that can be perceptually tracked far exceeds the range of properties that can be directly perceived” (pp. 187–8). Indeed, he says, “the failure to see how certain properties can be perceptually represented is almost always a failure of imagination” (p. 148), and “with a little creativity, we can begin to imagine how our least concrete ideas could have a perceptual grounding” (p. 169). My impression is that Prinz’s imagination and creativity often lead him astray. To the reader I can only suggest considering his account of concepts such as ELECTRON (p. 173), CAUSATION (pp. 173–7), TRUTH (pp. 177–8), VIRTUE (pp. 178–80), DEMOCRACY (p. 180), and of logical and mathematical concepts (pp. 181–7).

It’s time to sum up. Prinz’s rebuttal of the theories he considers was based on their inability to satisfy some of the seven desiderata he stated. It turns out that his own theory easily satisfies only two of them (the cognitive content and the categorization desideratum). All the others cause him problems, sometimes very serious. The score is bad, and it seems fair to conclude that we have no reason to prefer the proxytype theory to any other.

I only add that the book is pleasant to read and often absorbing, but sloppily and hastily written, and it contains many typo’s and imprecisions that could easily have been avoided with a more careful rereading (just to provide an example, a negation is missing in the last sentence of the first paragraph of p. 48).

With all this in mind, let’s return to Cowie’s blurb. Is *Furnishing the Mind* “the most important work on concepts since Locke’s *Essay*”? To answer, we should compare it with other works on the same topic, which we can’t do here. If it is, however, this would only mean that a lot of work still has to be done in this field. I guess it won’t be done by following in Prinz’s footsteps.*

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