

***Normative Functionalism and its Pragmatist Roots***  
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**Precis**

In what follows, I shall characterize normative functionalism and contrast it with its causal counterpart. After tracing both stripes of functionalism to the work of the classical American pragmatists, I then argue that they are not exclusive alternatives. Instead, both might be required for an appropriately illuminating account of human rational activity.

**Section 1**

When we attempt to unpack some notion or phenomenon functionally, we try to characterize it, not in terms of its intrinsic features, but rather in terms of its upstream "inputs" and its downstream "outputs." However, there are different ways in which we may choose to characterize or specify such inputs and outputs, which thus give rise to different flavors of functional analysis. Thus when we subject some phenomena to a *normative* functionalist analysis, we conceive of the relevant inputs and outputs in broadly normative terms. That is, we attempt to understand the phenomenon in question in terms of how it is influenced by, and how it in turn influences patterns of proprieties, obligations, and permissions (or commitments and entitlements, to deploy Robert Brandom's (1994) preferred idiom). So Wilfrid Sellars, one of the pioneers of normative functionalism, urged us to think of the meanings of words or concepts in terms of their role in a richly interconnected network of material inferential proprieties (Sellars 1953, 1956). To give the meaning of a word is (on the upstream side) to specify when one is obliged or permitted to infer sentences deploying that word, and also (on the downstream side) to make explicit what one is in turn obliged or permitted to infer from such sentences. Those who can properly be said to understand a concept are those who have, perhaps implicitly, mastered these inferential proprieties. More recently, Rebecca Kukla and Mark Lance (2009) have similarly encouraged us to botanize various kinds of speech acts according to the interpersonal proprieties that govern when speakers may deploy them, as well as the licenses and obligations they confer upon their audiences. Kukla and Lance ambitiously argue that by doing so we can make substantial headway understanding how mind meets world in perception and action.

**Section 2**

Thus those who advertise the virtues of normative functionalism will typically urge us to view their chosen phenomena (usually something like thought, rationality, or meaning) in a social setting. The *thought* is that such phenomena only become intelligible in an intersubjective context. Subjects to whom certain philosophically interesting concepts are appropriately applied must be understood in a context of many such subjects interacting with one another to produce a pattern of changing permissions and obligations. Normative functionalists are thus likely to be unabashed social externalists. And here we have one chief contrast in philosophical temperament between normative functionalists and their cousins who subscribe to more traditional, and possibly more familiar, causal functionalisms. Causal functionalists like to think of the relevant inputs as causal influences upon the states of a system exhibiting some target phenomenon, and the outputs as the various causal effects that stem from such a system being in those states. Famously, Hilary Putnam (1975) suggested that mental activity was amenable to such causal-

functional analysis, in which individual mental state-types could profitably be identified as states of a system characterized in terms of intrasubjective causal inputs and outputs. Causal functionalists like Putnam typically construe the relevant systems of interest as a sort of stimulus-response machine: individual organisms receiving inputs from their environments and then making responses to those inputs, perhaps through the mediation of some internal "cognitive processing." Causal functionalists are much more likely than their normative counterparts to be methodological individualists.

### Section 3

Interestingly, both flavors of functionalism can justly trace their origins to the work of the Classical American pragmatists, and indeed, causal functionalists like Putnam and normative functionalists like Brandom each style themselves as inheriting the mantle of the pragmatist tradition stemming from the "great triumvirate" of Peirce, James, and Dewey.<sup>1</sup> In defense of the case for causal functionalism, Peirce's early articulations of the pragmatic maxim instruct us that the meanings of our ideas are to be understood in terms of their "upstream" effects upon sensory experience and also upon their subsequent "downstream" influences upon our habits of action. Such a characterization accords well with the intrasubjective "conceptual role semantics" advocated by causal functionalists about meaning (e.g., Block 1986). But perhaps more significantly, each of the great triumvirate was concerned to characterize intelligent activity in adaptive, evolutionary terms. Thus we see the pragmatists' particular fascination with adaptive networks and feedback-guided learning systems, governed by what we would now think of as test-operate-test-exit (or TOTE) cycles. Organisms to which (or whom) concepts of mind and experience are aptly applied are those who monitor the effects of their own actions upon the environment, and who can adjust their patterns of responses accordingly. The upstream stimuli that matter to them have been influenced by their prior actions, which in turn influence their subsequent responses. As Chauncey Maher (2012) has recently pointed out, this focus upon dynamic systems is something that the Classical American Pragmatists share with the neo-pragmatists that comprise the so-called "Pittsburgh School."

### Section 4

But if we dig further into the fertile soil of classical American pragmatism, we can also find the seeds of normative functionalism, especially in the works of Dewey and the later Peirce. It is striking that in his later (post-1900) articulations of the pragmatic maxim — or those in which he sought to distance himself from James — Peirce shifts his language from causal-talk to more normative-talk. Whereas earlier he talked about the meaning of a concept or idea in terms of its "effects" upon sensory experience and behavior, later on he speaks in terms of its "consequences for deliberate self-controlled conduct" taking note that any reference to sensory effects is to be "sedulously excluded."

The word *pragmatism* was invented to express a certain maxim of logic, which, as was shown at its first enunciation, involves a whole system of philosophy. The

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<sup>1</sup> And with occasionally unfortunate, acrimonious exchanges when representatives of both camps come together. See for instance Putnam's rejoinder to Brandom in Chapter 4 of Conant and Zeglen, 2002 (59-65).

maxim is intended to furnish a method for the analysis of concepts. A concept is something having the mode of being of a general type which is, or may be made, the rational part of the purport of a word. A more precise or fuller definition cannot here be attempted. The method prescribed in the maxim is to trace out in the imagination the conceivable practical consequences, — that is, the consequences for deliberate, self-controlled conduct, — of the affirmation or denial of the concept; and the assertion of the maxim is that herein lies the *whole* of the purport of the word, the *entire* concept. The sedulous exclusion from this statement of all reference to sensation is specially to be remarked." (Peirce 1997, 56-57)

In other words, the whole meaning of a concept is bound up in what affirmations and denials involving it oblige or permit one to *do* (including to *infer*) — hence "pragmatism." This change in vocabulary from the causal to the normative is particularly evident when Peirce characterizes the meanings of terms, not as he did earlier in terms of effects (especially sensible effects), but rather in terms of implications and non-implications:

In another sense, honest people, when not joking, intend to make the meaning of their words determinate, so that there shall be no latitude of interpretation at all. That is to say, the character of their meaning consists in the implications and non-implications of their words; and they intend to fix what is implied and what is not implied. (Peirce, 1905/1966, 211)

The point is that we can begin to discern in these passages (and others like them from the same timeframe) a semantic picture that anticipates Sellars' own normative functionalism about concept and word meaning!

## Section 5

Following Peirce, Dewey also speaks of meaning, not in terms of effects, but rather in terms of "conditions and consequences" of application, almost as if it were a mantra. In so doing, Dewey presages the vocabulary of another pioneering inferentialist and normative functionalist, Michael Dummett (see Dummett 1978). But that's only the beginning, for Dewey shared many other philosophical predilections that are characteristic of the normative functionalism espoused today by the "Pittsburgh School." Not only did Dewey think that rational, mental activity could only be understood in the terms of a dynamic system interacting with its environment, he also tells us in the pivotal Chapter V of *Experience and Nature* that it is not to be understood in terms of an internal realm conceptually prior to language. Instead, such activity originates in, and can only be rendered intelligible in terms of, our ability to communicate with one another through *linguistic* behavior.

Nevertheless it is a fact of such distinction that its [communication, language, discourse] occurrence changed dumb creatures – as we so significantly call them

– into thinking and knowing animals and created the realm of meanings. (Dewey 1925, 139)<sup>2</sup>

Thus well before the emergence of the "Pittsburgh School," Dewey had already advocated the idea that thinking is essentially a social, linguistic affair. It is also perhaps worth mentioning that in the first part of *Experience and Nature* (Dewey 1925), one can see Dewey rejecting empiricism (or an experiential given) in a way that predates and prefigures Sellars' (1956) own rejection of the "myth of the given." While Sellars doesn't speak much of Dewey in his own autobiographical reflections, there certainly does seem to be an evident connection and affinity between the two, the story of which certainly merits greater exploration and elaboration.<sup>3</sup>

## Section 6

Given their common roots in classical American pragmatism, one might well wonder whether these two flavors of functional analysis are mutually exclusive. Perhaps there is hope of brokering some sort of reconciliation between them. In his Locke Lectures, Sellars (1967) spoke of a systole and diastole in philosophy in which analysis and synthesis are kept in balance.<sup>4</sup> Accordingly, I would indeed suggest that within an appropriately synoptic view of intelligent activity, there is room for both the narrowly focused analytic impulse that animates causal functionalism as well as the wider, synthetic vision that speaks the truth of normative functionalism. Causal functionalists appear to have a more atomistic or mechanistic view of explanation and understanding, while normative functionalists — in seeking to understand an agent's mental activity within a wider context of the similar activity of other agents — tend to have a more holistic picture of understanding and explanation. We can marry the two models, and do so in a way quite amenable to the idea of normative functionalism generally and meaning functionalism specifically. The key is to understand the explanatory shortcomings or costs of pitching one's analysis of some philosophically interesting phenomena in entirely causal or entirely normative terms.

## Section 7

Normative functionalists have long been questioned on their naturalistic credentials. The cost of pitching matters in a wholly normative, non-naturalistic manner opens oneself up to the charge

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<sup>2</sup> It is interesting to observe that this chapter is given two different titles. Whereas it is titled "Nature, Communication and Meaning" at the start of the chapter, it is called "Nature as Communication and as Meaning" in the Table of Contents. Alert readers of Sellars will quickly note that the curious construction of this title (different from all the other chapters of *Experience and Nature* except one) closely parallels that of Sellars' classic, "Language as Thought and as Communication" (Sellars 1969). And after reading the two alongside one another, one cannot help but suspect that Sellars' article is precisely an extended attempt to work out the principal idea in Dewey's chapter, namely that language is not an expression of an antecedent realm of thought, but rather is to be identified with thought itself. (see especially Dewey 1925, pp. 148-9).

<sup>3</sup> Maybe we'll hear this story soon. At the Sellars Centenary conference (2012), Preston Stovall talked about the many affinities between the Sellars of Empiricism and the *Philosophy of Mind* and the Dewey of *Experience and Nature*.

<sup>4</sup> Sellars (1967, chapter 6, paragraph 19). I cannot confirm whether there's a direct connection, but this use of the metaphor of systoles and diastoles echoes Emerson's famous passage in "Friendship" (1841): "Yet the systole and diastole of the heart are not without their analogy in the ebb and flow of love."

of a certain "frictionless spinning in a void." Insofar as the normative functionalist is silent about implementation details, then it might well seem like magic how creatures thoroughly subject to scientific laws are able to realize the interesting sorts of norm-governed activity the normative functionalist is seeking to describe. By contrast, causal functionalists are much more recognizably naturalistic by contemporary lights. Ultimately, their concern is how one might go about trying to build, construct, or otherwise fangle creatures for which the attribution of (certain grades of) intentionality or mental activity is appropriate, perhaps with an eye eventually toward engineering something capable of reasoning, thinking, and talking as we do. However, when causal functionalists give their favorite stories about what mental states *are* in appropriately non-normative vocabulary, one is inevitably left with the following question: *why* exactly should a system being in a state with such and such a causal profile specifically count as having, say, a *belief* (or other form of mental representation) that such and such is the case, or an *intention* to bring about a certain state of affairs? And the answer to that question must ultimately appeal to normative considerations — because a creature in such and such a state can profitably be understood as making a *mistake* about how things are in its environment if such and such conditions are not met. Insofar as we fail to address this normative question in a sufficiently convincing manner, we are left with a sneaking suspicion that some ultimately normative notion has been illicitly and unsatisfyingly replaced by something else entirely (see Beisecker 2006).

## Section 8

To my mind, it is a very sad and appalling scandal in recent philosophy of mind that many so-called "naturalistic" accounts of mental representation and content, those that attempt to unpack primitive mental representation in terms of something like causal regularities or co-variance (e.g., Fodor 1987), fail so spectacularly to meet this explanatory burden. The trouble is that we cannot see these causally specified states as liable to error unless we are already prepared to see them embedded in a wider context of human or biological purposes.<sup>5</sup> For that reason, accounts that try to unpack mental representation in terms of selectional processes (e.g., Millikan 1984, Dretske 1988) fare better. However, that means that our focus must shift from the implementation concerns of the narrow (or methodologically individualistic) causal functionalist to ever-wider selective contexts. And one might well suspect that we will eventually see the need to reach (and to develop the vocabulary to describe) selective processes where the subjects of selection eventually graduate to become the agents or instruments of selection. In Sellars-speak, we'll see fit to describe cases of social selection in which those merely subject to "ought to be's" eventually come to enforce these norms by recognizing that they themselves are subject to "ought-to-do's" (Sellars 1969). But as soon as we've attained this level of analysis, one must admit that we have reached the very sorts of social contexts that the normative functionalist finds most congenial, and has been urging us to consider from the outset.

## Section 9

So it would seem that each type of functionalism needs the other, just as a systole cannot be understood as such without a diastole. But how can we pull these two seemingly opposed

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<sup>5</sup> And insofar as we can understand a certain target system or model as liable to error only against a backdrop of externally imposed purposes conferred upon it by others, then it looks as if we're only describing something with a second-rate, "derivative" sort of intentionality (see Haugeland 1998).

philosophical impulses together in a satisfyingly naturalistic picture of human activity in the world? Once again I think we can profitably turn to the classical pragmatists for guidance. For they were self-styled naturalists, though not in a sense that many would recognize today. Theirs was not a reductive naturalism, in which philosophically suspect vocabulary could be legitimated only by showing that we can form an expression equivalent to them in non-suspect vocabulary. Rather, theirs was a naturalism more oriented around evolutionary biology as their paradigm of naturalistic explanation, rather than physics. As long as one could tell a reasonable genetic story about the evolution of the mastery of such vocabulary, then that vocabulary is thereby rendered naturalistically respectable. This is exactly the kind of project that we find normative functionalists undertaking — from Sellars' various elaborations of "mythical" extensions of our language games to Brandom's "pragmatic bootstrapping" from mastery of one vocabulary to mastery of another expressively richer sphere of discourse, ideally through algorithmic elaboration. In short, the normative functionalist sees the naturalistic project to be that of telling a satisfying story about how we might get from the expressively limited "grunts and groans of the cave" to the "polydimensional discourse of the drawing room."<sup>6</sup>

## Section 10

Similarly, we can embark on the project of telling naturalistic (though mythical), evolutionary stories about how our primitive ancestors ever got to be grunting and groaning to each other in caves in the first place. One of the lessons that can be carried away from the normative functionalist's evolutionary program is that just as there are many discrete grades of discourse, there may also be many discrete levels of pre-linguistic intentional or proto-mental capacity. We may attribute to sensing and reacting creatures a primitive kind of mentality that is intelligible as such by understanding them in terms of natural or biological purposes. At less rudimentary levels (though well before we reach the pinnacle of language use), we might attribute different kinds of mentality to creatures capable of learning or selecting their own "habits" (as the classical pragmatists would put it). But the capacity to learn is itself not monolithic. Various kinds of learning capacities can be scaffolded upon one another, making for interesting differences in the kinds of mistakes that may be attributed to creatures. Creatures capable of more sophisticated learning are liable to more sophisticated kinds of errors as they succeed or fail to latch onto more progressively nuanced kinds of contingent regularities in their respective environments. Eventually, we might well reach creatures that (or at this point who!) are capable not only of latching onto regularities in their environment, but are also capable of *enforcing* regularities as well, culminating in time with communally enforced regularities, which individual enforcers may succeed or fail to grasp. In such fashion, we can begin to see (and mythically describe) how social norms could ever emerge out of more rudimentary forms of mental activity.

## Section 11

There are two aspects to telling this sort of mythical, evolutionary story. The first corresponds to the causal functionalist's implementation project. That's the project of rendering intelligible progressively more interesting forms of cognitive activity by elaborating them out of more primitive ones. The second aspect corresponds to the interests of normative functionalists.

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<sup>6</sup> See the lyrical last paragraph of Sellars 1956.

That's the task of explaining why exactly we should be interested in a given such elaboration by showing how it would enable creatures to attain (or fail to attain) a certain cognitive achievement or goal. It should be evident, then, that these two strands don't compete at all, but rather complement one another — as does normative and causal functionalism more generally. And so the general idea that I would like to advance is that causal functionalism often answers the question of how one might go about trying to BUILD something that can appropriately be characterized in certain (largely normative) terms, while normative functionalism is often an attempt to respond to the question of whether a certain TARGET for such construction has been met. The language of the causal functionalist is the one that is appropriate for constructing the "blueprint" for building a system with certain capacities, while the language of the normative functionalist is that of detailing the appropriate engineering "specs" for such a capacity.

## Section 12

Now this idea meshes well with the normative functionalism about concept meaning espoused by semantic inferentialists like Brandom and Sellars. Like traditional pictures of definition, the semantic inferentialists take the project of defining a term to be one of providing necessary and sufficient conditions for that term's proper use. However, whereas traditional accounts of definition largely take this to be a single unified task, semantic inferentialists pull the task of giving sufficient conditions apart from that of giving necessary conditions. On their picture, to give the meaning of a concept is to provide the conditions in which a concept is properly applied and also to provide the consequences that attend such application. This separation of tasks opens up the intriguing possibility that at least in some cases, an illuminating *account* (or definition) of something will be one that places certain restrictions on the language in which sufficient conditions are to be specified as well as different restrictions on the language of necessary conditions. By doing so, one can see that illuminating accounts of some target phenomena are those that offer bridge rules between vocabularies, and that phenomena for which we feel the need of an account are generally those Janus-faced ones that stand in need of such bridging. The language of human rational activity, embodied as it is in a physical world, is precisely one such vocabulary, with tendrils that reach into both the normative and the physical. But now we can see our way through to offering an illuminating account of what such activity is. Causal functionalists go about specifying conditions that are illuminatingly *sufficient* for a critter to engage in such activity in a relatively narrow vocabulary, while normative functionalists give us illuminating *necessary* conditions specified in a different, wider vocabulary. Insofar as we insist upon viewing a phenomenon such as human mental activity from a wholly causal perspective or a wholly normative perspective, then we are bound to be left with an insufficient, "one-sided" or "monoscopic" picture of such activity.<sup>7</sup>

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<sup>7</sup> In his (2004), Brandom attempts to saddle the classical pragmatists with such a one-sided semantics. I try to rebut this charge in my "Affirming Denial: Peirce and Dewey on an alleged blindspot of Classical Pragmatism," (ms.).

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