10 The Emergence of Persons

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Within classical metaphysical frameworks, there doesn't seem to be much that persons could be other than some sort of substance or entity. Entity-based metaphysics, however, encounter fatal problems, certainly for minds, and arguably for persons as well. Furthermore, although entity-based metaphysics, in the form of particle-based frameworks, still dominate in philosophy, they are arguably not coherent (Bickhard 2009; Seibt 2009, 2010), and they are demonstrably inconsistent with contemporary physics (which is based on quantum field processes, not particles; Bickhard 2009). The ontology of persons is thus doubly problematic: not only is there a question of what that ontology might be, but there is a background question of what *kind* of an ontology is even plausible.

Does this entail that persons don't exist, or are epiphenomenal? Not necessarily, and certainly no such entailment exists if metaphysics that offer alternatives to entity-based frameworks are considered. I will be arguing that persons are emergent kinds of phenomena, developing this point within a process metaphysics, not an entity metaphysics.

1 Process

The model that I will be developing requires genuine ontological emergence, and that, so I argue, requires a process metaphysics. In particular, a particle framework makes emergence not possible, while a process framework makes emergence almost quotidian (Bickhard 2009, 2015a).

First, how does a particle metaphysics preclude emergence? Emergence is a property of organization: new organization is supposed to yield new (causally efficacious) properties. But within a particle framework, organization is neither a substance nor an entity and thus is not even a candidate for having any causal efficacy (Bickhard 2000, 2009; Campbell 2015).

This background assumption manifests itself in multiple arguments against emergence. One of Kim's arguments, for example, is that new organization might produce new causal *regularities*, but those are just the result of the basic causal interactions among those particles in that configuration (Kim 1991; Campbell 2015); all the genuine causality is at the level of

the particles. The assumption that "configuration" is not even a candidate is clear.[1] Furthermore, so long as the fundamental metaphysics of the world is assumed to be constituted solely by substances and particles, then configuration should *not* be a candidate for having causal power.

But what is wrong with a particle metaphysics? Even if it precludes emergence, perhaps the world is *in fact* constituted out of particles. A particle model, however, suffers from fatal problems. First, in a world of nothing but point particles, nothing would happen: point particles have a zero probability of hitting one another.[2] Second, our best physics entails that particles do not exist: the world is composed of quantum fields—processes—and all that is left of a particle framework is that field interactions are quantized. But that quantization is the same kind of quantization as is found in a guitar string: a whole (quantized) number of wavelengths in the guitar string oscillations (and there are no guitar sound particles). A hybrid framework of point particles interacting *via* fields (a frequent contemporary assumption) is not consistent with contemporary physics, but it already involves fields—processes—and that is the crucial step (Bickhard 2009).

Nevertheless, it is appropriate to ask what support there is for a process metaphysics. If a process framework is incoherent or false in itself, then it does not matter if it might enable a metaphysics of emergence. First is the argument by elimination: entity or particle metaphysics are incoherent. Second is the physics of the world as quantum fields. Fields are processes, and quantum fields are in process even in "empty" space. These processes cannot be modeled in terms of particles (though, again, they will be quantized).

One of many empirical manifestations of such quantum field activity, even in a vacuum, is the Casimir effect. The vacuum is filled with excitations with oscillatory properties that are ephemeral but nevertheless have consequences; the vacuum is *not* "empty." If two very flat metal plates are brought close together, the oscillatory processes between the plates are constrained in the wavelengths that can occur, just as the guitar string being pinned at two points constrains the wavelengths of the guitar string oscillations. But the activity outside the plates is not so constrained, so there is more vacuum activity outside the plates than there is between them, and there is a net force pushing the plates toward each other (Mostepanenko, Trunov, and Znajek 1997; Sciama 1991). This and many other phenomena confirm the quantum field process framework and make no sense within a particle view.

2 Emergence

How, in turn, does a process metaphysics enable a model of metaphysical emergence? The simple point is that organization is the locus of emergence, and organization cannot be

1. For a discussion of Kim's more well-known preclusion argument, see Bickhard 2009.

2. "Particles" with finite extension encounter multiple problems. For example, their encounters would involve instantaneous transmission of force across their extent; there is extreme difficulty (perhaps impossibility) of explaining any kind of attraction among particles (hooks and eyes?), and so on.

delegitimated as a potential locus of causal efficacy in a process framework without eliminating *all* causal efficacy from the world. Fields have whatever consequences they have for the rest of the world necessarily in terms of their organizations. Organization is a locus of "causality" for processes,[3] and new organization is a legitimate candidate for new causality: emergence.[4]

Rescuing emergence from the impossibility arguments based on particle metaphysics, however, does not provide any model of any particular kind of emergence. For my purposes here, what is needed is a model of *normative* emergence. In particular, I will outline a model of the emergence of normative function and, based on that, a model of the emergence of representation.

2.1 Function and Representation

Unlike substance-based metaphysics, for which the default condition is stasis, the default for process is change. Instead of needing to explain change, thus, the explanatory challenge is to explain (the possibility of) stability.

Two sorts of stability are important for my current purposes. First, there is stability of process organization that remains stable because some above-threshold input of energy would be required to disrupt the organization; the organization is in some sort of "energy well." An atom is a good example: it is a furious process of QED and QCD processes that, if not disrupted, can remain in a nucleus/electron organization for cosmic time periods.

A second form of stability is more subtle and more important for issues of normative emergence. Some sorts of process organizations, such as an atom, can be isolated, go to thermodynamic equilibrium, and remain in that condition indefinitely. Others, however, are ontologically far from thermodynamic equilibrium, and, if they go to equilibrium, they cease to exist. A canonical example is a candle flame: it is far from equilibrium, and it cannot be isolated without that far-from-equilibrium condition ceasing to exist, and thus the flame ceasing to exist. The flame is a necessarily *open* process: it *is* the flow of air into a hot region, which combusts with wax vapor, thus maintaining the temperature of that region, and inducing convection, which brings in still more air and dissipates waste products.

The candle flame is an example of self-organizing process—it inherently organizes into the flow of air with combustion at its core. Not all self-organizing processes contribute to their own existence as a flame does: the flame contributes by maintaining above-combustion-threshold temperature, inducing convection, and so on. The candle flame is, in that sense, *self-maintaining* (Bickhard 2009); it is such self-maintaining process organizations that I will be primarily concerned with.

A further kind of complexity constitutes what I have called *recursive self-maintenance* (Bickhard 2009). A candle flame is self-maintenant, but only with certain ranges of

3. Whatever "causality" is (Bickhard 2011, 2015a).

4. Such a notion of emergence does *not* support the British emergentist view of emergent properties as being in-principle not derivable (McLaughlin 1992).

conditions: too much wind, too little oxygen, running out of wax—all constitute conditions in which the process organization will cease, and the flame has no alternative kinds of process it could engage in to maintain its condition of being self-maintenant should it encounter such conditions.

A bacterium, however, is also self-maintenant, but it can in addition adjust its activities—under some changes in condition—so as to *maintain the property* of self-maintenance: it is *recursively* self-maintenant. For example, if a bacterium is swimming up a sugar gradient, it will tend to keep swimming. If, however, it is swimming down a sugar gradient, it will tend to tumble for a moment and then resume swimming. Swimming contributes to self-maintenance if it is oriented up a sugar gradient but impairs self-maintenance if oriented down a sugar gradient, and the bacterium can adjust its activities so as to self-maintain self-maintenance.

2.1.1 Function Processes that contribute to the (self-)maintenance of a far-from-equilibrium process organization are, in that sense, *functional* for and relative to the continued existence of that system. This is the primitive form of the emergence of normative function. This kind of functionality is normatively functional in the sense that it contributes to the system's ability to maintain itself against the entropic tendencies to which it is subject. It is normative in the sense that it can do so in better or worse ways and can be, in fact, dysfunctional—for example, a bacterium that continues swimming even though oriented down a sugar gradient.

This differs in significant ways from etiological models of the nature and emergence of normative function (Bickhard 2009). I will not address those alternative models here, except to point out that this model just limned focuses on "serving a function" as the primary locus of functional emergence, rather than "having a function," which is the standard focus (Millikan 1984, 1993). This, of course, issues a promissory note to explicate *having* a function in terms of *serving* a function, rather than the other way around.

This explication introduces a consideration that is important for later discussion, so I will outline it here. The basic idea is that processes in an organism will tend to serve certain functions—contribute to the overall far-from-equilibrium "health" of the body—if various other conditions exist and are themselves maintained, and often, though not always, maintained in certain locations in the body. In that sense, a given functional process *presupposes* that those other enabling conditions obtain and, in some cases, are maintained in particular locations, perhaps by particular organs—for example, a kidney filtering blood. It is the network of resulting functional presuppositions that constitutes some organs and some processes as having functions: they *have* the functions of *serving* the functions that they are presupposed by other processes of the organism to serve. This *functional presupposition* relation is of central importance, not only here but also for understanding other phenomena, such as representation.

2.1.2 Representation In particular, having a function is modeled in terms of the more or less constant presuppositional relationships involved, with having a function constituted in being presupposed to serve some particular function(s). But more limited functional processes can also involve functional presuppositions.

Consider the evolution of complex agents. Such agents must be able to select what to do next—what interactions to engage in—from among some functional indications of what interactions are appropriate or possible in current circumstances: it is not functional to try to get something to eat from the refrigerator if you are in the middle of a forest. Such indications thus serve the function of providing a basis for the organism selecting and guiding its interactions. And those functions involve their own functional presuppositions.

Specifically, an indication that some particular interaction is possible will tend to be correct if appropriate conditions hold in the environment—appropriate in the sense that they would support or enable that interaction—and not correct if those conditions do not hold. That is, the indications will be *true* if their presuppositions hold, and not true—*false*—if those presuppositions do not hold. Such indications have truth values and thus constitute an emergent basis for representation.

This is a minimal form of representing, but it offers resources for more complex representing, resources that evolution has made strong use of. In particular, such indications can (1) branch and (2) iterate. Consider a frog that has opportunities to flick its tongue in one direction for a fly, another direction for a different fly, and yet another direction for a worm. The frog will presumably have indications of all three possibilities and will select one—perhaps the worm because it is larger—on the basis of other criteria. Such multiplicity of indications constitutes a kind of branching of anticipations of possibilities.

The frog may also indicate that, if it were to move left a small amount, then a different worm and a different fly would come into range. Such connections constitute a kind of iteration of conditional possibilities: the second worm (or fly) could be accessible, conditional on making the move left. That is, some possible interactions would create the conditions that would support other possibilities.

Branching and conditional iterations of indications of interactive possibilities can elaborate into complex webs and do so in still more complex organisms, such as primates and, especially, humans.

To illustrate how such webs can constitute the resource for more complex forms of representing, consider a child's toy wooden block. The block offers multiple possible visual scans, manipulations, throwing, dropping, and so on. A subweb of indications of manipulations and scans, for example, will have two important properties: (1) it is internally completely reachable, in the sense that any interaction in the subweb is reachable from any other location in the web; and (2) that internally reachable subweb remains invariant in its organization under a wide range of other interactions that the child could engage in, such as dropping the block, leaving it on the floor while going into the other room, putting it away in the toy

box, and so on. The subweb, however, is not invariant under all other interactions, such as crushing or burning.

But it is the important invariance under various kinds of location and change of location that constitutes such a subweb as representing a small manipulable object.[5] In this general manner, webs of indications of interaction possibilities can yield more complex representing.

2.1.3 Situation Knowledge and Apperception The overall web of indications of potential interactions can be highly complex and serves all action and interaction of complex agents. It is called the organism's *situation knowledge*—the interactive knowledge of its situation.[6]

Situation knowledge is subject to constant change and updating. Every interaction on the part of the organism will change situation knowledge, as will simply the passage of time, actions of other agents, and so on. The processes of maintaining and updating situation knowledge are processes of *apperception*. Apperceiving a situation is thus constituted as the construction or updating of situation knowledge concerning what is possible, what could be anticipated, in that situation.

2.1.4 Representation? It has become almost orthodox in recent years to take an antirepresentationalist stance. It might be useful, therefore, to say a bit more about this model being a model of representation—of proposing that representation exists at all. Such a proposal does not comport with that orthodoxy.

Antirepresentationalist positions are commonly supported by arguments against symbol manipulation notions and information semantic notions of representation. The general logic is that these frameworks do not and cannot work, and, therefore, that there is no representation (at least not organism-level representation; e.g., Hutto and Myin 2012). It should be noted, however, that this is an invalid form of argument: it is an argument by elimination, and not all alternatives have been eliminated. In particular, symbolic and information semantics are not the only frameworks for modeling representation.[7]

5. This is basically Piaget's (1954) model of the representation of small objects, stated in the terms of this model. Such borrowing is possible because both models are action based. For a discussion of how this model can address representations of abstractions, such as of the number three, see Bickhard 2009. There are also partial convergences of this general framework with Gibson's notion of affordance (Bickhard and Richie 1983), but, among other divergences, Gibsonian affordances cannot branch or iterate—they cannot form webs.

6. Note that this is a model of knowledge as pragmatic—knowing how—rather than of a classical "justified true belief" notion of knowledge. I argue against the existence, and conceptual coherence, of classical proposition-based models of knowledge (e.g., Bickhard 2009).

7. Many antirepresentationalist stances, including within enactivism, would hold that, for example, affordances suffice. But indications of an affordance for an organism—for example, the affordance of the frog flicking its tongue and eating—can be false (perhaps it's a pebble, not a fly) and therefore have

In fact, the interactivist model has been arguing for decades that symbol manipulation and information semantic models, as well as many other models of representation, all make a common underlying error: that all representation is constituted as some form of encoding correspondence (e.g., Bickhard 1980, 1993, 2009). Encoding models have been the only real framework on offer for millennia, so it is understandable that eliminating these might be taken as eliminating representation.[8]

But these are not the only possible approaches to representation. There are general pragmatic approaches, and, in particular, the interactivist model just outlined. The very existence of this model demonstrates the invalidity of the arguments by elimination. Furthermore, this model, arguably, transcends and avoids the myriad problems of encodingist models (Bickhard 2009).

2.1.5 Transcending Encodingist Aporia For example, one problem inherent to encodingist correspondence models is the problem of the possibility of error. If the special kind of correspondence—causal, lawful, informational, structural, and so on—that is supposed to constitute representation exists, then the representation exists *and is correct*; it is true. If the correspondence does not exist, then the representation does not exist. There is no third model possibility to model the representation existing but being false. There have been multiple attempts to solve this problem in recent decades—for example, Dretske (1988) and Fodor (1987, 1990)—but they do not succeed (Bickhard 2009).

The interactive model, in contrast, has no difficulty in modeling representations that are in error: they are those indications of interactive possibilities that are in fact not possible.

More deeply, a problem that is not addressed in most of the literature is that of *organism-detectable error*, not just error per se. The attempts to address error per se are from the perspective of an external observer with a perspective on both the organism and the environment; the external observer is supposed to be able to determine what the organism is (*factually*) in a representational correspondence with and to determine what the representation is *supposed* to represent. That external observer, then, can compare the two to determine if the representation is correct. As mentioned earlier, none of these attempts succeed.

The deeper problem is to model how the organism itself could detect that it is in error. According to classical correspondence models, the animal would have to step outside itself

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the normative truth-valued character of representation. Also, as mentioned, Gibson's affordances cannot form webs, but once it is recognized that indications of interactive potentialities *can* form webs, the presumed bar to representation disappears. For further discussion regarding enactivism, see Bickhard 2016.

8. Note that the argument against encoding*ism* is not an argument against encodings per se. It is an argument that encodings must be a derivative form of representation, and therefore the assumption that *all* representation is constituted as encodings must be false (Bickhard 2009).

to compare what is actually in the environment with what the animal is representing as being in that environment to determine if the representation is correct. But no animal can step outside itself, so it is not possible (within these modeling constraints) to model organism-detectable error.

But if it is not possible in principle for an animal to detect (however fallibly) that it is in error, then error-guided behavior and learning are not possible. We know that error-guided behavior and learning occur, therefore organism-detectable error is possible, and any model that precludes it is thereby refuted.

This problem is the classical problem of radical skepticism. It has not been resolved in centuries of attempts, which is perhaps why no one in contemporary literature addresses it. But if the conclusion of the radical skeptical argument were correct, then error-guided behavior and learning would not be possible. So something must be wrong with the argument. I contend that the radical skeptical problem is itself artifactual: it is created by the underlying encodingist correspondence model of representation.

In particular, the interactive model has no difficulty at all in modeling the possibility of organism-detectable error, thus of the in-principle possibility of error-guided behavior and learning. If the organism selects an indicated interaction to engage in, and that interaction does not proceed as indicated, then the indication is false, and it is detected as being false by the (functional) detection of the failure of the indication.

The key shift here is from a past-oriented correspondence model—a "spectator" model, in Dewey's term (Dewey [1929] 1960; Tiles 1990)—to a future-oriented pragmatic model. We cannot peer backward into the past down the input stream, but we can determine if the future unfolds in the manner indicated (Bickhard 2009, in preparation).

3 Social Situations

Apperceptive updating with respect to most situations is based on prior interactions and their outcomes, which yield differentiations of what kind of environment is involved, how it is changing, and what can be anticipated within it. Visually scanning a water glass, for example, sets up multiple possibilities of drinking, using it as a paper weight, and so on.

A special problem arises, however, when two or more complex agents are in each other's presence. Each person's interactive characterization of the situation will include a characterization of the other(s). But an important aspect of the interactive potentialities of other people will depend on their characterization(s) of the situation, including their characterization(s) of the first person(s). But this problem iterates: I must characterize you, including your characterization of me, as characterizing you, and so on. Any solution to the problem must constitute a kind of "fixed point," in the sense that each person's situation knowledge is consistent with that of every other person, so no further "meta-characterization" iterations are needed.

Such a situation constitutes a *coordination problem*, in the sense of Schelling (1963): each person has an interest in arriving at a solution to the problem, and many possible such solutions would resolve the issue, so the "problem" is to arrive at a coordination—a commonality—regarding how the overall situation can be interactively characterized. A solution to a coordination problem, in turn, constitutes a *convention* in the sense of Lewis (1969). Since this is a "convention" concerning how the social situation is to be (conventionally) characterized, I call it a *situation convention* (Bickhard 1980, 2009). Situation conventions that are repeatable, such as driving on the right-hand side of the road, constitute *institutionalized conventions*. But not all situation conventions are institutionalized, such as the commonalities of understanding in a conversation at a given moment that permit participants to commonly understand further utterances, resolve anaphora, and so on. These specific situation conventions—commonalities of understanding—may never repeat.[9]

The domain of situation conventions, including institutionalized conventions, their interrelationships, processes of change, and so on, constitutes social ontology. These ontologies range from, for example, simple turn-taking games with infants, to language coordinations (see below), to the vast realm of institutions and institutionalized forms of interaction that constitute society at large. These are all forms of coordinating and coordinated interactions (Bickhard 1980, 2008, 2012, 2013, in preparation).

3.1 Language

The model of situation conventions supports a related model of the nature of language. Utterances are commonly thought to be composed of (re-)encodings of mental contents into strings of words. It is now recognized that this does not work for deictic or indexical utterances, and the general position encounters serious problems. I argue elsewhere that these problems are unsolvable (Bickhard 1980, 2009)—such models presuppose an incoherent encodingism—and I propose a different way of modeling language.

Utterances, according to this model, are interactions, just like all other engagements with the environment, but interactions with a special locus of interactive "object." In particular, utterances are interactions with situation conventions (Bickhard 1980, 2007, 2009, 2015b). They induce changes in situational common understandings that (when successful) modify them into new situational common understandings. The apperception of utterances modifies the situation conventions in which the utterances occur.

Among other consequences, this model entails that an important part of the possibilities that constitute a social situation are the possibilities of further language processes. That is, an important part of social ontology is constituted in language potentialities. Social realities are—in significant part, though not entirely—linguistic.

9. This involves some changes in Lewis's detailed model: Lewis only considered what I am calling institutionalized conventions, and his model cannot handle situation conventions that do not repeat (Bickhard 1980, 2009).

4 Persons

Persons are animals, and animals are agents: persons are agents. But persons constitute a special emergent form of agent-hood. Persons have an intrinsic social ontology.

Compare social insects: there is an emergence of sociality at the level of a nest or hive, but each individual insect is not itself socially constituted. The insects *collectively* constitute social processes but are not themselves *individually* so constituted. A human infant, in contrast, *develops* as an agent—in major part becoming an agent that can interact with, participate in, and thereby co-constitute the social ontologies of family, society, and culture. The ontology of the person as agent is itself socially constituted. The person would be a different, perhaps a very different, agent if he or she had developed in a different culture.

There appears to be some degree of this social ontology in primates, but humans are unique in the extent to which they are socially constituted. Society and culture are emergents in the collective individuals involved, and the persons who constitute societies and cultures share the ontology that they co-constitute (Bickhard 2012, 2013).

In this sense, cultures and societies create their own emergence bases via development of the constituting agents—persons—from infancy through adulthood.

Persons thus are not entities, at least no more so (and no less so) than a hurricane is an entity; they are not substances. Persons are complex organizations, involving multiple levels of emergence, including normative emergence, of processes. They are inherently sociocultural. They inherently have a social and language-based ontology.

Persons thus do not just live in social realities; they are *constituted* in interactive processes and potentialities with those realities. Persons *are* sociocultural agents.

5 Some Notes on Ethics

Such a process model of persons has a number of consequences for related domains. I will briefly indicate some of those consequences for ethics. This is not the place to develop this approach, but outlining the general approach to ethics that is enabled by such a model can illustrate some similarities to, and differences with, major approaches in the domain.

One form of argument for ethics is that violations of ethics are violations of the ontology of what it is to be human. For Aristotle, this involved violations of the natural purpose of human beings (Irwin 2007). At least one possible interpretation of Kant would have violations of morality be violations of one's respect for others as reasoning beings, with respect for one's own reason being necessarily a respect for all reasoning beings (Hill 2012; Kant 2002).

Few today would accept Aristotle's notion of human purpose, and Kant's framework encounters undermining problems of multiple sorts. For Kant, one such problem is simply that there is no necessary entailment from respect for my own reason to respect for

yours.[10] A problem in common to Aristotle and Kant is that the ontologies proposed, within the framework of which ethics and morality are supposed to be derived, are not correct: humans do not have the "purposes" that Aristotle proposed, and humans are not constituted in the difficult hybrid between an ontology of reason and an ontology of animal nature that Kant proposed.[11]

The model outlined earlier, however, offers an alternative ontology within which ethics might be developed. In particular, to live one's life in a way that distorts or "violates" the basic social ontology of being a person is to distort or violate one's own ontology. This is not the same kind of issue as respecting other reasoning beings because I am a reasoning being; that is based on a conceptual commonality, a commonality of conceptual category.[12] The ontology of persons as sociocultural beings, however, is not just a conceptual commonality: I am *constituted in* my interactions and potential interactions with others, and that fact is beyond any conceptual framework applied to that ontology. Violating my own ontology in this sense is intrinsically in error, and its being in error does not depend on any rules or purposes. This consideration of the ontology of being a person does interestingly converge with character-based models of ethics, and therefore in part with virtue ethics, but it offers a different framework within which such person characteristics are understood.

Much more needs to be developed for this to yield an ethics. For example, what constitutes "distort or violate," and why and in what way would that be normatively negative? These issues are pursued elsewhere, but perhaps this outline suffices to indicate that the model offers a different framework within which to explore the realm of ethics.

Conclusion

Persons have a social ontology and cannot be modeled except in terms of that ontology. But social ontologies require their own supporting metaphysical frameworks, in particular:

1. A model of cognition that makes sense of the coordination problems, and therefore the fixed-point conventional solutions, posed by situations involving other people;
2. A model of normative function that enables such a model of interactive cognition;
3. A model of metaphysical emergence;
4. A process metaphysics that makes sense of genuine metaphysical emergence.

Persons are social-cultural-historical-linguistic agents and are so as a matter of developmental emergence. This is a complex ontology that, arguably, cannot be understood without the

10. Whatever "respect" is.

11. And inherited from Aristotle.

12. Thus, to not respect you as a reasoning being might be to disrespect my own *kind* of ontology, but it is not necessarily to distort or disrespect my *own* ontology as a reasoning being—it is not to disrespect my own reason.

full supporting framework involving process and emergence. Recognizing such an ontology, in turn, enables different approaches to modeling further emergents, such as that of ethics.

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