

## ROCKS, FROGS, AND THE CARTESIAN GULF: TOWARD A NATURALISM OF PERSONS\*

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Rychlak and Winegar have raised a number of pertinent and useful questions concerning the model outlined in “The Influence of Early Experience on Personality Development” (Bickhard & Christopher, 1994). Most of these questions address metaphysical assumptions or possible assumptions made in the course of the arguments—either to seek clarification of what those assumptions might be, or to challenge what those assumptions seem to be. As such, these questions force further elucidations of the metaphysics within which the discussion proceeds. Rychlak and Winegar correctly see that the metaphysics of the model is not standard in contemporary psychology, and that, consequently, it requires probing and challenging to see how well it satisfies—or dissolves, or avoids, or *fails* to satisfy—various meta-metaphysical criteria (usually these are criteria that we already know are failed by standard approaches). I welcome these questions and the opportunity they provide to clarify further the metaphysical framework within which the model of the influence of early experience is situated. I am resigned to the certainty that my replies will be inadequate, especially given the limitations of time and space, but I will attempt to make some positive contributions, even if fragmentary, toward the issues raised.

### SUBSTANCE AND STRUCTURE, PROCESS AND ORGANIZATION

Winegar raises questions concerning the opposition between substance metaphysics and process metaphysics. In particular, he questions whether they are truly opposites: cannot, for example, substance and structure approaches address issues of change, and, therefore, process? Aren't they both heuristics, useful in some circumstances and less so in others?

At the level of *heuristics*, these do not constitute oppositions. Substance approaches take various kinds of persistence and stability for granted, and proceed to address other issues within the framework of such stability assumptions. From a process perspective, this is perfectly acceptable as a heuristic provided that the explanations of the stabilities being presumed—e.g. that of a rock—lie outside of the domain of intended analysis. The stability of a rock, for example, is explicable

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by very different analyses than might be involved in explaining how the rock might carry energy from one place to another. Consequently, a heuristic substance approach to the rock's energy carrying properties can safely ignore the problematics of stability, and simply presuppose stability.

Such a heuristic substance approach, however, recognizes that it is *only* a heuristic, and that, for some purposes, the stability of the rock will be precisely what is at issue, and, for such an issue, a substance approach to the rock will be no longer appropriate. To treat a rock as a basic substance when addressing its stability is to presuppose what is to be explained. Similarly, to treat psychopathological cognitions as substances or structures of substances is to commit the same kind of circularity if a central aspect of psychopathology that requires explanation is precisely that stability.

As *metaphysics*, however, substance and process approaches *are* in opposition. A substance metaphysics cannot countenance a level of process that constitutes its basic substances, because to do so would render it no longer a substance metaphysics, or would render those basic substances no longer basic. Process rendered as changes in structure can be addressed, but process at the level of the basic substances per se cannot. A substance metaphysics, then, commits to that substance approach in all cases, and precludes shifting to alternative frameworks if, for example, stability is at issue. Stability considerations *cannot* be addressed at the level of the basic substances of a substance metaphysics. There cannot be any more basic level of analysis in which any issues of stability can arise. Basic substances *have* to remain stable and persistent because there is nothing more basic for them to break down or dissolve into.

#### INTERACTIVE REPRESENTATIONAL CONTENT

Winegar understands the interactive model to claim that interactive representations have no representational content. That is not my intent. Instead, the proposal is that "representational contents are constituted as *indications of potentialities for further interaction with the environment*, not as transduced correspondences with, and from, the environment." The disclaimers about representational content have to do not with the indications of potentialities for further interaction, but with the environmental differentiations that might induce such indications.

The reason for emphasizing these disclaimers is that it is precisely such differentiations of inputs from the environment that are standardly taken as constituting encoded representations of whatever it is that has been factually differentiated (examples in the literature are usually light patterns, or tables that the light reflected from, or something of the sort). Attempting to make good on the notion that such differentiations based on input processing could possibly constitute representations has encountered myriad problems, and we claim that they are unsolvable—input differentiations do not have any representational content: they are not representations (Bickhard, 1993).

Input differentiations, however, can be functionally quite useful in controlling what representations of interactive potentialities *are* set up. The frog (roughly) wants to have indications of the possibility of flicking its tongue and eating if there

are *in fact* flies or worms nearby, and not otherwise. A visual subsystem that *factually* differentiates situations containing flies and worms, then, would be quite useful for the frog in setting up interactive representations of opportunities for tongue flicking and eating—but those differentiations will not constitute representations of the flies or worms per se. A great deal of standard encodingism in the literature derives from assuming that such factual differentiations constitute representations, when they have no representational content at all—however much they may be involved in *inducing* interactive representational content. As before, this adumbration leaves much unexplained about the interactive model of representational content, for which I must refer elsewhere (Bickhard, 1992b, 1993).

#### TRANSLATIONS?

Winegar also raises questions about translating from perception and action to representation. “Translation” is not a term I have used, and not one that I am happy with. In normal usage, only representations get translated, often only sentences. Any strictly translation-based model of representation is doomed to circularity or infinite regress because whatever is being translated *from* is already representational. Such a model cannot account for emergent representation.

The interactive model does not propose a translation from perception and action to representation. Instead it proposes that particular functional organizations *involved* in perception and interaction (strictly, perception is itself a form of interaction: Bickhard & Richie, 1983) *constitute* interactive representation. Such a “constitution” relationship does not involve a “translation” relationship.

#### IMPLICITNESS

Several questions were raised about the notion of implicitness. Winegar suggests that early experience is not fully determinative of implicit presuppositions, but that multiple outcomes are possible given any particular set of early experiences. I agree fully.

The example of the infant learning quietude was not meant as definitive of the single possible outcome given those experiences. Instead it is intended as an illustration of how early experience could have *any* consequences for the infant that involved apparent cognitions of the world and the infant. Standard approaches require that any such cognitions be explicit beliefs—propositional attitudes—which, in turn, credits the infant with cognitive capacities that it does not in fact have. Standard approaches, e.g. object relations theory, requires unrealistically cognitively precocious infants. Phenomena involving implicitness offer a form of account of the consequences of early experience that do have the needed cognitive properties, but do not presuppose precocious cognitive capacities.

As discussed, standard accounts in terms of explicit beliefs fit into ready made frameworks for “understanding” how such early beliefs could influence later development—beliefs involve structurally encoded propositions, and structures are inherently persistent, so they stick around into later development as potential causal influences (generally efficient causal influences). Implicit presuppositions do not fit into any currently readily available explanatory account, and, therefore, how they could have any influence on the later development of the person has to be addressed.

The account offered for the persistence of such influence is in terms of the variation and selection constructivism that the interactive model forces—interactive system organizations cannot be passively impressed from an environment, but must be constructed and tried out (Bickhard, 1992a; Campbell, 1974). The notion is that earlier constructions constrain later constructions because later constructions must be efficacious in the context of earlier ones, and that this constraint of minimal functional coherence will tend to maintain a coherence of the implicit presuppositions involved. This is a strictly functional or pragmatic notion of coherence; it is analogous to the sense in which a given gene may be functional in the context of some genes, but not functional in the context of other genes.

As Winegar notes, this alludes to a theory of “fit” that is not developed in this paper. Note that the questions that yield such a theory of fit cannot even be asked within standard approaches because standard models of learning and development—for example, information processing models—have neither the properties of internal functional fit, nor the variation and selection constructivism that could be constrained by such properties of fit.

The variation and selection constructivism also offers the programmatic answer to the question of creativity in development. Early experiences *constrain* early constructions, but do not determine them. Different infants in identical situations may well construct different “solutions” to the same interactive problem. This “constrained openness” of constructive development also occurs later in development as levels of implicitness may become “unfolded” into explicit representations of the self (see the discussion of values in Campbell & Bickhard, 1986). This is a constraining but not a uniquely determinative influence.

Winegar suggests that implicit presuppositions are “really there” as organizational properties of the system, and, therefore, there is no problem in principle of how they could influence later development. Yes, and no. Implicit presuppositions are “really there” as properties of the relationships between interactive systems and their environments—they are, roughly, conditions of “appropriate functioning” for the system (note that this requires a notion of function and functional appropriateness: see Bickhard, 1993). But instances of relationships that “really exist” as instances are not always readily accepted as explanatory, and when they are so accepted, it is because some account has been offered of *how* they could be explanatory. A book held above a table constitutes an instance of the relation “aboveness,” but more of a story is required for that “aboveness” to play any explanatory role. Perhaps, for example, it is a spatial initial condition involved in explaining why the book landed on the table when released. Functionally implicit presuppositions cannot serve as such spatio-temporal initial or boundary conditions—they are not spatio-temporal in nature—and do require some further discussion of how they could be explanatory. The fact that implicit presuppositions can be construed as “really there” as relational properties between systems and environments (which is not quite the same as being simply organizational properties *within* a system) does not suffice to explain how they could be explanatory. We have suggested that the involvement of such implicit presuppositions in issues of functional “fit” in later constructive development *does* offer a form of account of how implicit presuppositions could be explanatory.

## PERSONS?

Winegar points out a conceptual jump involved in the claim that properties of organizations of interactive potential “somehow is (or becomes) central to who a person is.” He is quite correct. That is a large jump, that would take a great deal of discussion to fill in.

The basic justification for the jump is the notion that persons are (emergent in) certain kinds of complex organizations of such interactive systems. If this general point holds, then it makes sense that early influences on interactive system organization could influence later characteristics of a person—the one has constructively emerged from the other. Such a general point, however, only frames the basic issue of personhood; it does not provide any model. Many things are required of such a model: accounts of awareness, emotions, reflexive consciousness, language, rationality, sociality, the self, and so on. Contributions toward such a model of the person can be found in Bickhard (1980a, 1980b, 1980c, 1989a, 1989b, 1991a, 1992a, 1992b, 1992d, 1995; Bickhard & Campbell, 1992; Bickhard & Ford, 1979; Campbell & Bickhard, 1986, 1992a, 1992b) and others.

## FUNCTIONS?

Rychlak probes the coherence and completeness of the metaphysics we have advocated in a number of places. The first addresses our use of the notion of function, and questions how much it might accept a Newtonian–Lockean metaphysics. The notion of function that we wish to use is not derived from psychological predecessors so much as from biological predecessors (e.g. Wimsatt, 1972). It is developed more fully in Bickhard (1993).

## FIRST PERSON–THIRD PERSON

In particular, Rychlak questions the extent to which we seem to accept a third person theoretical perspective and reject a first person theoretical perspective. I think that Rychlak has focused on a critically important point here, but I do not know whether we end up in disagreement or not.

Specifically, one of the more important aspects of the overall project of which this paper is a very small part is the programmatic goal of outlining a naturalistic model of the person. Such a model must account for the nature, existence, and the coming into being in the natural world of intentional agents, capable of representation, emotion, reflexive consciousness, language, and so on. The presumption is that such phenomena did not exist at the origin of the universe, that they do exist now, and that no non-natural account of their existence is required. If so, then a naturalistic account must be possible.

Such a naturalistic account cannot take a first person perspective for granted in the metaphysics of the model. To do so would be to presuppose part of what is to be accounted for. I want to account for the emergence of intentional beings—of beings that have first person perspectives—within a naturalistic, third person, perspective.

It is possible that Rychlak would reject such a programmatic goal. Perhaps he would argue that first person perspectives cannot be modeled, but must be taken as fundamental in our metaphysics. If so, then we are in disagreement. The successes

of naturalism, however, in accounting for once mysterious phenomena such as fire, magnetism, heat, life, and so on, puts an enormous burden of proof on anyone wishing to claim that mind—the last hold-out against naturalism—will be the single exception, and will prove to be non-natural in nature.

However, it is possible that Rychlak would agree that first person perspectives will one day be modelable naturalistically, however much current approaches will prove to be inadequate. In that case, we are not in fundamental disagreement, and the emphasis on third person naturalism in the model follows naturally and necessarily from the aim for a naturalism *of* first personhood. It is intended as a contribution toward such a naturalistic account. In any case, we are certainly in agreement that current approaches are deeply flawed (Bickhard, 1993, in press; Bickhard & Terveen, 1995).

One barrier to a naturalistic account of intentionality that I would like to mention is a prevalent vestige of Cartesianism that I call the Cartesian gulf. Few would today argue for a model of mind as a substance *per se*—extended or not—but an aspect of that Cartesian model is the assumption that there is some sort of singular gulf of kind between the natural world and the mental. This manifests itself, for example, in requirements that any model of any mental property be obligated to account for all mental properties. In evolution, however, mental properties seem to have emerged not all at once, but in some sort of hierarchy. Paramecia can interact; planaria exhibit learning; reptiles seem to have emotions; and so on. A naturalism of the person will not be possible so long as such hierarchies of emergence, rather than all-at-once emergence, is not recognized. The Cartesian gulf does not exist (Bickhard, 1992b).

#### PRESUPPOSITIONS AND INTENTIONALITY

I have a quibble with some wording of Rychlak's that may or may not indicate some deeper disagreement. He claims that "all presuppositions are formal causes, enacted intentionally by the human organism who behaves "for their sake." At least in this way of putting the matter, I cannot agree. Implicit presuppositions, in being implicit, are not in general part of a person's first person perspective. Implicit presuppositions are implicit properties *of* the person's intentional activity, but are not included in that intentionality. That is the apparent paradox that has produced the classic model of the Unconscious—a "place" in which such implicit properties can be intentional, but nevertheless not available to consciousness. The apparent paradox is "how can I believe something if I don't know that I believe it?" Yet there are many instances in which it looks not only to others, but to me as well, that I must believe something because there seems to be no other way to explain my feelings and behavior. Implicitness provides another way of explaining my feelings and behavior without inventing an Unconscious (Bickhard, 1989b).

#### EFFICIENT CAUSE AND PHYSICS

Rychlak points out that "efficient cause is no longer the substrate conception that it once was" in physics. I agree fully. Efficient cause plays little or no role in contemporary field theories. Whether quantum field theories involve formal cause,

however, is an additional issue. I do not find that to be a particularly perspicacious perspective to take on them.

#### VARIETIES OF EXPLANATION

A formal cause perspective on contemporary physics is not necessarily in error—that depends on how broadly formal cause is understood. But, I would argue, it is not particularly perspicacious because it does not differentiate sufficiently among different kinds of explanation that are involved in such field theories.

Behind that claim is a claim that not all explanation is causal, not even when all of Aristotle's four causes are included (unless they are simply used as exhaustive by definition, in which case they again become unperspicacious). Explanations come in many forms, and new ones are occasionally discovered, such as the discovery of variation and selection explanations (Bickhard, 1992c; Campbell & Bickhard, 1986). Furthermore, explanations can themselves be subjects of explanations: the explanation of why this billiard ball is traveling in this direction with such and such a speed may be an efficient causal explanation in terms of its being struck by this other billiard ball, etc. But if we wish for an explanation of why billiard balls react in that manner to being struck, while balls of putty, for example, do not, then we might find that a dispositional explanation is best. A dispositional explanation, in turn, might itself be explained in terms of various properties and organizations among the molecules of the ball involved. And so on.

There appears to be only one form of explanation that does not itself require still further explanation. That is what I call explanation by intrinsic constraint. Examples are extremely rare in psychology, in part because of the dominance of efficient causal mythologies of what constitutes good explanation (Bickhard, 1992c; Bickhard, Cooper, & Mace, 1985). One example, however, is provided by Piaget's model of formal operations. The issue here is the form of the model, not the correctness of the model (I do not agree with many aspects of Piaget's model). If formal operations are constituted as second-order operations on concrete operations, then it is logically necessary that formal operations cannot occur before concrete operations. You cannot have second-order operations prior to first-order operations. This is a logical necessity of the ontology of formal operations, and is not subject to any efficient causal explanation. It is not subject, for example, to either an environmental or a genetic explanation: nothing in the environment nor in the genes could violate this constraint.

I am guessing that such intrinsic constraint explanations would be classified as formal causes in Rychlak's framework. I would not claim that this is incorrect, but I would point out that such a classification would fail to capture the sense in which intrinsic constraints could not be otherwise so long as the ontology of the phenomena is unchanged, while the formal cause of an intention, for example, is not intrinsically constrained. Such failures to differentiate interestingly different cases is what I am alluding to in claiming that the four causes do not provide a fully perspicacious framework. This does not preclude, however, the fact that the four causes framework is much to be preferred over the positivistic mythologies of science that dominate contemporary psychology (Bickhard, 1992c).

The claim of unperspicaciousness is obviously a claim that cuts to the heart of

some possible differences between Rychlak and myself. I am sure that he will have rejoinders, that I will have counters to his rejoinders, and so on—this is not a settled issue. It does, however, *appear* to be a *genuine* issue between us—not just a misunderstanding or a need for clarification.

#### ENCODINGISM ARGUMENTS AND PSYCHOLOGY

Rychlak suggests that the arguments against encodingism will “fall on deaf ears in psychology.” He is all too correct. Deafness has not been universal in psychology, but it has been extremely widespread. Interestingly, that deafness has not been quite as widespread in cognitive science, artificial intelligence, and the philosophies of mind and language. These fields—or some people in these fields—seem to be at least a little closer to understanding some of their own fundamental frameworks, and some of the problematics of those frameworks.

My own guess is that this deafness is just one more manifestation of the positivistic vestiges of behaviorism that still dominate in psychology—conceptual and theoretical issues are still devalued and delegitimized in psychology. Psychology has not learned the lesson that, for example, only conceptual level critique can demonstrate that associationism is inadequate in principle to handle the facts of language and language learning. No number of empirical failures of particular associationistic models will suffice to show anything more than that those particular models didn’t work. If the programmatic assumptions are themselves wrong, empirical considerations alone will never demonstrate that. So, if the critique of encodingism is valid, many psychologists are doomed to waste their careers exploring already-doomed-to-failure encodingism blind alleys, just as many did with associationism. The extreme harm of behaviorism is still being wrought, even though associationism per se and methodological behaviorism per se are long gone (Bickhard, 1992c).

#### INTERACTION AND SYSTEM

Rychlak raises questions about what is meant by “system” and by “interaction.” Although I do not accept all of the four-causes framework within which some of these questions are asked, I do agree that they are critically important questions. Unfortunately, they are much too complex to address here. The most developed discussions are to be found in Bickhard (1993) and Bickhard and Campbell (in preparation).

#### EMERGENCE

Finally, Rychlak suggests that the notion of emergence is itself not particularly explanatory. Again, yes, and no. Emergence is explanatory of how something did or could come into being when there was no precursor of that sort already present. Emergence is explanatory relative to, for example, substance metaphysics that render any genuine emergence impossible, and leave phenomena such as representation, mind, and so on mysterious in a universe in which they once did not exist. The impossibility of emergence also yields weird conclusions such as Fodor’s radical innatism—if representation cannot emerge, then new representation cannot be learned or developed, and it must already exist in the genes (Bickhard,



1991b). These are some aspects of the “no”—senses in which emergence can be explanatory.

However, there is the “yes”—emergence itself requires explanation, just like most other forms of explanation. Emergence per se leaves unaddressed issues of how such a particular system organization came into existence at all; how and why instances of such an organization might be found, perhaps even be common (stability, reproduction, and so on); in what way such a system organization yields the particular emergences that it does; what importance those emergences have for explaining other phenomena; and so on (Bickhard, 1993; Bickhard & Campbell, in preparation).

The importance of plumping for emergence as a kind of phenomena is that, without emergence, many phenomena that once did *not* exist but now do cannot be explained, and that any substance metaphysics makes emergence at the level of the basic substances impossible. A substance metaphysics with regard to representation, then, makes the *emergence* of representation inexplicable, which makes representation per se inexplicable. In contrast, in a process metaphysics, emergence is trivially possible. Most emergences will themselves be trivial, so this point only begins the task of understanding important emergences, but recognition of emergence as a kind of phenomena that needs to be explained is a necessary first step. A rejection of emergence renders the whole theoretical task impossible; it cannot even begin.

#### CONCLUSIONS

I wish to thank Terry Winegar and Joseph Rychlak for their thoughtful and useful commentaries. They have correctly seen that the metaphysical framework advocated in the Early Experience article could not be adequately presented in that paper, and that many additional questions need to be asked and explored. I hope that my replies contribute a few fragments toward that end.

I would like to reemphasize the basic problematics and solutions proposed within that metaphysical framework. Substance metaphysics make many serious problems in psychology—such as the influence of early experience on later development, and the persistence of psychopathology in the face of determined attempts to change—very difficult to even state, and impossible to solve so long as those substance metaphysics are not eschewed. A process metaphysical approach does not encounter those impossibilities, but does encounter its own special issues. I offer the general notions of implicitness and of autoprotectiveness as programmatic solutions to these problems.

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