

5

SHOULD PSYCHOLOGY CARE ABOUT METAPHYSICS?

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Metaphysics is concerned with the most basic sense of “what there is”—perhaps objects, properties, and relations? Perhaps, regarding the mind, associations, programs, and data? Metaphysics has had a varied history, with ups and downs over the course of centuries, but remains foundational to other concerns (Koons & Pickavance, 2015; Seibt, 2020).

Psychology, however, has developed in the last century within a background framework of Positivism¹—a framework that neglects, and even rejects, metaphysical considerations. Metaphysics has been claimed to be irrelevant, if not literally meaningless, and, therefore, certainly irrelevant to doing science (Suppe, 1977).

One strong support for such rejection of metaphysical considerations is a pervasive empiricism: Science is supposed to grow up out of empirical results—science, supposedly, is nothing more than the discernment of patterns in data, and, therefore, there is nothing further for metaphysics to do. This is a view of science descendent from Ernst Mach (1838–1916), and adopted within Psychology early in the twentieth century as a tenet of Behaviorism (Smith, 1986). Psychology has given up on the foundational associationism of Behaviorism, but still retains a dominant Positivist empiricism as a background philosophy of science. Though in some ways vestigial, this empiricism is still pervasive in Psychology, as witnessed, for example, by the ubiquitous empiricist notion of operational definitions (Bickhard, 2011/1992, 2001, 2017).

It is not possible to do science, however, without some grounding assumptions about what there is—about what it is that is being studied. Is it behaviorist associations between stimuli and responses? Such grounding assumptions in contemporary Psychology are no longer associationistic, but most commonly take some version of computationalism or information processing as basic. Science and theory require metaphysics, and there is, thus, a dominant metaphysics even in Psychology, but there is also the vestigial Positivist anti-metaphysical empiricism, as manifested in, for example, operationalism.

How do these fit together? Positivism did not, and cannot, succeed in getting rid of metaphysics—even Positivism itself involved background assumptions about what there is. But it can construe metaphysical *considerations* and *reflections* as irrelevant or bad science, precisely because they are not empiricist.² And that seems to be the standard framework assumed in Psychology: “Arm-chair” theorizing or metaphysical philosophizing are not accepted as legitimate contributions to science. Here we have a background metaphysics and its associated empiricism that

renders illegitimate the *examination* of metaphysics and associated empiricism—a kind of self-protective conceptual pathology, and one that Psychology is still struggling to get out of.

Such remnant Positivism has weakened somewhat in Psychology in the last decades, but the core anti-metaphysical (and anti-philosophical) Positivism is still strong, and there is certainly no alternative philosophy of science generally on offer.

Remnant Positivism

The positivist themes and assumptions in Psychology tend to be anchored and gathered together by the doctrine of operational definitionalism, so I will take this doctrine as a window into and illustration of the problems of remnant positivism.

Operationalism and Language

Operational definitions are supposed to be empirical definitions of theoretical terms. An operational definition specifies what patterns of data the “defined” term is supposed to refer to or denote: The operationally defined term is essentially an abbreviation for the pattern.

That this cannot work has been known, including by Logical Positivists, since at least the 1930s (Hempel, 1965; Suppe, 1977). Consider, for example, a dispositional term like “soluble.” A first attempt at an empiricist definition of soluble might be something like “If put into water, it dissolves.” But what if it’s never put into water? By standard principles of propositional logic, anything never put into water counts as soluble by this definition. This might seem to be a merely technical problem that requires a merely technical fix, but no such “fix” was ever found (Suppe, 1977: see most any discussion of counterfactuals for contemporary presentations, e.g., in Koons & Pickavance, 2015). Dispositional terms are central to all of science, so this inability to “operationally define” them is a fatal problem.³

Nevertheless, Psychology persists with the doctrine—see any introductory text, or the methodology section of almost any article. Why? One reason is that “operational definition” has come to be used to talk about something that *is* important in science, including the science of Psychology: being careful and precise about methods. What is done, how is it done, how are things measured, how are things categorized, and so on are all called “operational definitions.” But they do not *define* anything; they are about method, not about the meanings of language, and, therefore, not about terms in theories or hypotheses.

Consider an example: “operationalizing” the notion of “introversion” in terms of some standardized test might capture some descriptive dispositions that seem to cluster together, but it doesn’t do anything to specify or even conjecture what the underlying mental or brain dynamics that might underlie those dispositions—there is not even any assurance that there is only one such underlying dynamics. The distinction between the medical terms “syndrome” and “disease” is based on this point, but “operational definitionalism” obscures it.

The term “operational definition,” thus, is used rather carelessly in Psychology to refer to important issues of precision and carefulness about methodology. Nevertheless, using the term “operational definition” for such specification and carefulness obscures that there is no “defining” of terms involved. The meanings of theoretical terms was a difficult and never resolved issue within Logical Positivism, but Psychology hasn’t generally recognized that there *is* a problem here—after all, isn’t that what operational definitions do? But they don’t, and the term obscures both that there is no definition, and that there is a problem in specifying and accounting for any such theoretical meaning. Psychology does not, in general, recognize or reflect on these problems within its background philosophy of science.

The consequences include not only that theoretical meanings are not clear, and it is often not clear that there is even a problem, but also, for example, in the assumption that science progresses by inductively confirming the data patterns that underlie the empirically defined terms. This connection from empirical operational definitions to naïve inductivism about how to test theories whose terms are thus defined is not foregrounded in today's Psychology, but seems to have become a presupposed background framework. Unfortunately, such naïve inductivism is also itself false concerning how science works (Bickhard, 1993, 2001, 2011, 2017); it is an additional error, a fundamental error about science, that is anchored by the empiricism of the doctrine of operational definitions.

There are, then, multiple pernicious consequences of the Positivist empiricism that pervades Psychology. These consequences include: how to think about, create, and reflect on theory is obscure; how to test theories is mis-characterized; and how to do Psychology in general is distorted. Even in Cognitive Psychology: "Psychologists do not have much time for thinking about representation—the reward structure in our field dictates a steady flow of experiments" (Gentner, 2010, p. 331).

Operationalism and the World

Operational definitionism makes it difficult to determine what is being referred to or theorized about. The focus on patterns of data fits rather well with the Behaviorist restriction to behavioral observables—observables would seem to constitute good data—but the doctrine and restriction encountered problems. One was the progressive encounter with data that seemed difficult to account for without positing something that was *not* observable—some sort of internal psychologically relevant process, such as an act of categorization (e.g., in developmental psychology, Stevenson, 1972). But the most powerful source of movement away from a pure-observables empiricism was the development of the computer.

A computer program was clearly a real phenomenon in the world. It had properties and consequences, was explicitly created and modified, and could not be ignored in explaining what a computer was doing. But it could not be defined in terms of observables or observable patterns of data. Programs are internal and not observable; perhaps mental phenomena are similarly internal and unobservable.

Programs, and, thus, the theoretical and metaphysical reality of unobservable but psychologically relevant processes could not be denied, and, although it took some years, program-like theoretical posits and assumptions became accepted. There had been multiple previous "models" of what might be going on in the nervous system, but these were generally intended to be at best metaphorical, not realistic—e.g., the likening of brain processes to an old manual telephone switchboard.⁴ A computer program, however, could be posited to be "real." Computational models and descendants of computer analogies, such as connectionist nets, forced an abandonment of the restriction to observables and became the "standard" background theoretical and metaphysical assumptions. Computer programs (or "functionalism" more broadly) seemed to offer a solution to the mind-brain problem, and, among other consequences, resurrected "mind" in Psychology.⁵

Another "reality" that could not be denied was the nervous system—and the body more generally. This would correspond to the computer itself in a computationalist framework. Early in the development of computationalist models, one of the advantages was taken to be that the specifics of how the computer worked were of marginal importance, so long as it did in fact constitute a computer—the same programs could be run on widely physically different computers. The psychologically relevant and interesting phenomena were all to be

accounted for by the programs that were running on the computer—so the brain could be mostly ignored.

This was an “advantage” so long as knowledge of brain functioning was rather limited, but we have learned more and more about that functioning in the last decades, and such specifics are now *not* commonly taken to be irrelevant. In fact, the brain as theoretical ground, together with some version of the general computer model, is taken by some as constituting psychological phenomena in general—mind is *reduced* to brain processes, and mind per se is (again) thereby eliminated from the accepted metaphysical realm.⁶

So, there is a metaphysical realm (or realms) assumed in psychology—generally computationalist and information processing, and/or reductionist—but the residual positivistic empiricism distorts or even blocks reflection on and examination of such metaphysical backgrounds. One or more metaphysical grounds is assumed (just as was the case for associations in classical Behaviorism), but analysis and critique of those assumptions is not encouraged, trained, or legitimated.

Information Processing

The example of the computer could not be ignored. That, together with problems with associations, led to computer programs being admitted, and promoted, as a new metaphysics in place of associations. But there was, in Psychology, relatively little reflection on metaphysical issues—and there were important issues to be addressed.

The *process* aspects of psychological phenomena were assumed to be modelable by programs, but there were also cognitive—representational—aspects to be accounted for. General computational approaches also provided a way to address those representational aspects: Computer programs generally have data, and the data that the posited programs were assumed to operate on were assumed to *represent*—to be cognitive. Programs offered promise to model psychological processes and “data” to model representation, but there were problems.

Programs can have deficiencies for modeling general processes,⁷ but the most vexing problems proved to be the presumed representational aspects of computational models. Data is supposed to represent; it is constituted as “symbols” after all. But these “symbols” are empty—they have no content, no apparent way to be “about” anything. A computer “symbol” of “APPLE” might be interpreted as being about apples by a programmer or user of the program, but it does not represent anything for the computer itself—it is a pattern of bits in the computer that can have various “causal” consequences for processes in that computer, and that is all.

A standard assumption is that they represent via some sort of correspondence with whatever it is that they represent—that they *encode* via some such correspondence—but what kind of correspondence, and how can that work? Multiple possibilities have been proposed and considered: Perhaps a causal correspondence, or a nomological relationship, or a structural correspondence, or an informational relationship. These possibilities overlap (e.g., a causal correspondence would also likely be an instance of a nomological relationship) but they have all encountered serious problems (Bickhard, 2009).⁸ One central perspective on these problems is that all such proposals attempt to model something that can be true or false (a representation) in terms of something that is strictly factual (e.g., a cause), and that none has succeeded in doing so.⁹

Perhaps the most general of these proposals is to posit that representing is a kind of informational relationship. Information is constituted in being correlated with—as in “B carries information about A” in the sense that, if they are correlated, then knowing about B enables inference about A—the *factual correlation* relationship is taken to constitute a *normative semantic* (“aboutness”) relationship. Thus the term “information semantics.”

Information semantics is arguably the dominant framework in the cognitive sciences today. It blends very well with reductionist frameworks in that such factual/correlational informational correspondences are “easy” to model with neural nets and it is appealing to model brain processes in terms of information processing in brain circuitry.

Modeling nervous system processes that constitute the “processing” of conditions that are supposed to be in fact correlated with something is a common mode of theorizing. Note first that this is a mode that presupposes that “information” can be semantic, not just factual. Note second that this is a metaphysical framework of assumptions—so this constitutes a background assumed metaphysics. And note third that the metaphysical framework is subject to critiques that it does not answer, and, arguably, cannot answer (Bickhard, 2009, 2015a, 2015b). That is, the framework is, arguably, a *false* metaphysics.

Here is a version of one problem that has been recognized for millennia: How can anything represent “something” that does not exist? There cannot be a causal or nomological or structural or informational correlation relationship with something that does not exist (or is false). How can there be a correlation (or lawful or informational or. . .) relationship with a unicorn or with the square circle? There have been multiple attempts to address this family of problems,¹⁰ but without success (Bickhard, 2009; Campbell, 1992, 2011).

Such problems with information semantics and with related attempts to model representation and cognition have generated, for some, a reaction against the whole notion of representation: representation does not exist; the concept is incoherent¹¹; the literature is a confused mess; and it is not necessary to understand and model cognition (e.g., see the discussion in Bickhard, 2016a).

My focal point here is that these two frameworks of information processing, on the one hand, and anti-representationalism, on the other, are positions regarding metaphysical issues. They are debated in Philosophy and to some extent in Cognitive Science—and to a small extent in Psychology. But, although no science, including Psychology, can proceed without some assumptions about what there is, these form mostly *unexamined* background assumptions to psychological theorizing and empirical work. Examination of metaphysical frameworks is still at best marginal.

I argue that this framework—both representationalist and anti-representationalist poles—is false and misleading. Simply, representationalists accept a false correspondence model, while anti-representationalists reject a false correspondence model of representing, but without recognizing the possibility of *non*-correspondence models of emergent *truth value*. Anti-representationalists not only reject correspondence models of representation, they reject representation altogether, presupposing that correspondence models of representing are the only possible models, so that, if correspondence models cannot work, then representation does not exist.

Psychology is misguided by this background metaphysics, and hindered from examining it by a vestigial Positivist empiricism. The “reward structure” is for continued empirical-pattern results of investigations from *within* the framework.

A Proposal for a Metaphysics for Psychology

I will focus on a model of representing, but the model requires some enabling shifts in underlying metaphysical assumptions, so I will briefly outline those as well. Still further, the model of representing to be outlined here grounds the possibility of constructing models of some *further* psychological and social phenomena, and I will also briefly outline some of those. I argue elsewhere that the models outlined here are among the best contemporary candidates,¹² but this is not the occasion to focus extensively on that claim. Instead, I aim to show more simply that

there *are* possible alternatives to standard approaches, and that they involve basic metaphysical issues.

That is, this is a model, and, therefore, an example of a model, that cannot be developed without addressing metaphysical issues. It is a model that cannot be developed within a positivistic empiricism. It is a model that addresses the fundamental problem in computational frameworks: representation.

Representing

Representation is posited to be some sort of correspondence that somehow encodes what it represents. Variants of this general idea are found among the ancient Greek philosophers, but so also are fundamental problems recognized by ancient Greek philosophers. One has been mentioned: How can there be a factual correspondence with something that doesn't exist or with "something" that is false—how can you have a factual relationship with a unicorn? Here is another: In order to check if your representational correspondence is correct, you would have to step outside of yourself to somehow compare what the representation is *supposed* to represent with what it is actually being used to represent. For example, you would have to step outside of yourself to determine that what you are representing *as* a cow is in fact a horse, and, thus, that your representation is false. You cannot do that, so you cannot determine whether or not your representations are correct.¹³

This is the core of the radical skeptical argument, and it has not been successfully answered for a very long time. One solution might appear to be to simply ignore the argument because it apparently cannot be resolved, but life (and science) must go on. But there is a corollary problem that cannot be ignored: If it is impossible for an organism to detect truth and falsity of its representations, then it is impossible for error-guided behavior and for learning to exist—how can an organism attempt to correct or recover from or learn from an error if it cannot detect that an error has occurred? We know that error guided behavior and learning exist (however fallibly), so organism detectable error must also exist, so there must be something wrong with the argument: It yields a false conclusion.

I argue that the argument is in fact valid, but it is unsound: it is based on a false premise. It is based on the premise that representation is constituted as some sort of factual correspondence between representation and represented. I have mentioned two arguments against such models, and they are two of a large family of such arguments (Bickhard, 2009). I will outline an alternative model of representation that takes *having truth value* (i.e., being true or false) as constituting representing, *not* correspondence. Correspondences of various sorts can evolve and develop in complex organisms, but it is not grounding: Truth value can be emergent in single cells, but representational correspondences to objects (for example) cannot.¹⁴

Representing and Agency

Consider a complex agent. There will be a number of interactions that the agent *could* engage in—e.g., for a frog, flicking its tongue in a certain direction and eating—and many interactions that the agent *cannot*, at the moment, engage in—flick its tongue in a different direction and eat: there is no fly within range in that direction. Such an agent must have some way of functionally indicating what interactions it could engage in. A selection within those indicated possibilities will be necessary, but it generally does not work to open the refrigerator door for a drink if you're in a forest, so there must be *some* indication of what might work, of what is (or seems to be) possible.

Indications of interactive potentialities will in general be set up on the basis of prior interactions, such as visual interactions of the frog with a fly setting up an indication of the possibility of tongue flicking in that direction and eating. Prior interactions give the organism *contact* with the environment so that the organism can be properly sensitive to that environment—so that the organism can set up indications of potential interactions that are in fact (or have a good chance to be) potential.¹⁵

The crucial point here is that such indications of interaction potentialities can be *true* or can be *false*—they have truth value, and, thus, constitute basic kinds of representing. The pragmatic function of indicating interaction potentialities is the realm in which the emergence of *representational truth value* occurs.

More Complex Representing

Indications of interactive potentialities are limited forms of having truth value, but there are resources within this framework for accounting for more complex forms of representation. Central to those resources is the possibility for such indications to branch and to iterate, and, thus, to form webs.

Branching is illustrated by the frog that could have two flies and a worm as possibilities for tongue flicking and eating—there are, in general, multiple interaction possibilities. Iterating would be illustrated by the frog having an indication of the possibility of moving to the left, which could then create the conditions for indications of tongue flicking and eating a different fly (or worm, or both). These, then, are conditional indications—if the indicated-as-possible move to the left is engaged in, then the indications of the new tongue flicking and eating possibilities become proximally available. Such branched and conditional indications can link into webs of interactive possibilities—possibly very complex webs of complex agents.

SMALL OBJECTS

Within such webs, there can be sub-webs that have special properties. Consider, for example, possible interactions with a child's toy block. There are multiple visual scans possible, depending on the orientations of the block, and multiple manipulations possible—and manipulations will, in general, change the orientations, and thus the immediately available scans. In fact, the web of possible scans and manipulations manifests two crucial properties: 1) It is internally completely reachable—every location in the web can be reached from every other location by an appropriate intermediary interaction, and 2) it is invariant under a class of further interactions and changes that could take place. It is invariant, for example, if the toy block is put into the toy box, or left in the other room, or dropped on the floor. It is *not* invariant, however, under all changes: If the block is burned, for example, the sub-web of potentialities is no longer potential.

This is basically a part of Jean Piaget's model of object representation stated in interactive terms (Piaget, 1954). Adapting Piaget's model is possible because of the common *action* basis of Piaget's models and interactivist models—the common pragmatist basis.

Further Developments of the Model of Representing

This model of “small object” representing is a beginning of showing how an action- and interaction-based approach to representation could account for various phenomena, but it is just a beginning. There are numerous additional phenomena that must be addressed in order to fill out the framework for cognition: How does perception work? What about

representing abstractions, such as numbers? How does learning work? What about memory? And so on (see, for example, Bickhard, 2009, in preparation). The point here, however, is “simply” to show that the interactive framework *does* have resources to address more complex forms of representing, and, thus, that it is a serious candidate for a metaphysical framework for cognition.

Considering Metaphysics

In constituting a plausible model of representation and cognition from within an alternative action and interaction framework—alternative to correspondence models—this model illustrates the central point of this chapter: Metaphysical frameworks make a difference, and there are alternatives to standard frameworks. They make a difference in multiple ways, such as enabling or infirming various kinds of sub-models of psychological phenomena, making sense of methodological principles, informing models of nervous system functioning, and so on (Allen & Bickhard, 2013; Bickhard, 2015a, 2015b). The metaphysics of computationalism and information semantics is arguably false, and the action-interaction framework is an alternative. The empiricist Positivism anchored by “operational definitionism,” however, makes it difficult to reflect upon and analyze such metaphysical issues, and thereby distorts the scientific process in Psychology—such “reflection and examination” is not an empirical endeavor (though it can and should take empirical results into account).

Metaphysical Frames for Metaphysics

I have focused this discussion thus far on metaphysical issues involved in modeling phenomena of cognition and representation, arguing that correspondence models encounter serious problems that action and interaction based models can potentially avoid. But metaphysical issues do not present as isolated singular considerations: They can involve interrelated dependencies among metaphysical positions, and so they do here.¹⁶

The intent here is to point to and outline some of these dependencies, not to resolve them. That would involve far greater discussion than would be appropriate here (see, e.g., Bickhard, 2009, in preparation). But, if it is correct that metaphysical issues are or can be interrelated, that constitutes yet another reason why reflection on and examination of metaphysics is essential: For example, if a metaphysical framework is in error, but that error cannot be resolved ‘locally’ because another related position supports it and renders difficult or impossible any resolution, then the first error cannot be corrected without also (recognizing and) correcting the supporting error. Such metaphysical errors and dependencies *cannot* be addressed or corrected in any strictly empirical manner.¹⁷

Consider, first, the issues of normativity involved in the interactivist model of representing: Organisms must have some way of functionally indicating potential interactions. That is a normative function in the sense that it is functional for the organism’s survival: Dysfunctionality of such indications might, for example, threaten the frog with starvation. So the normativity of bearing truth value is emergent in the normativity of the serving of certain functions—the functions of indicating the possibilities of certain interactions.

But this encounters the question of the nature and origins of such normativity. This question is in fact quite broad in psychological phenomena because multifarious kinds of normativities are pervasive: function–dysfunction; true–false; rational–irrational; ethically good–ethically bad, and so on. Psychological phenomena are permeated with and constituted in such normativities, and Psychology must accommodate this in some way.

Unfortunately, normativity does not fit well with either empiricism or materialism, and so the normative character of such phenomena is mostly ignored, or else is simply taken for granted with no account offered. One alternative stance would be to posit a normative realm in metaphysics that is distinct from the physical-biological realm, but somehow interacts or intersects with the material realm. Such a dualism has its attractions for some people, but this too fails to account for normativity *per se*—it's just a brute posit, and, among other problems, how the realms could have any influence on each other becomes a mystery.

A third possibility would be to account for the *emergence* of normativity within the natural world.¹⁸ I advocate versions of this kind of model for the many kinds of normativity in the world. Attempting to model emergent normativities, however, can only possibly make sense if emergence more generally can be accounted for, and emergence, unfortunately, encounters its own metaphysical problems. There are, in fact, powerful arguments that emergence cannot be causally efficacious in the world, that “emergent phenomena” are merely epiphenomenal,¹⁹ with no real consequences for the world in themselves (Kim, 1993a, 1993b, 1998). If correct, this would render any model of normative emergence nugatory.

So, representing requires function, function requires normativity, and normativity requires metaphysical emergence. But accounting for metaphysical emergence, in turn, encounters its own problems—can those problems be resolved or avoided?

I argue that Kim's arguments against emergence presuppose yet another layer of metaphysical assumptions, and that this is yet another layer of *false* metaphysics—a layer that requires its own reflections and corrections. In particular, Kim presupposes an underlying metaphysics of substances and structures—supposedly cashed out as *particles* in contemporary physics. The *core argument* is that anything that is purportedly emergent in some configuration of particles is really epiphenomenal because there is really nothing more going on than interactions among the particles *per se*—there is no emergent causality (Kim, 1993a, 1993b, 1998; Bickhard, 2009; Campbell & Bickhard, 2011).

But a particle based metaphysics encounters its own serious problems, both theoretical and empirical. For example, a pure point particle universe would be a world in which nothing ever happens: Point particles have zero probability of encountering each other, and there is nothing to either attract or repel them with respect to each other. A hybrid model of particles together with fields could account for attractions and repulsions,²⁰ but this is already a step in the direction that I wish to argue for—a process metaphysics: Fields are processes.

Another problem for a particle metaphysics is that, according to our best physics, particles do not exist. Various kinds of quantum fields are what constitute the world, not particles—and *quantum* fields are processes. Quantum fields involve quantized properties and interactions, and such quantization is all that is left of particle notions—but such quantization is like the whole-wavelength quantization of guitar string vibrations, and there are no guitar sound particles (Bickhard, 2009).

On the other hand, taking process seriously yields not only conceptual and empirical coherence, but also enables further metaphysical models, such as of emergence. The basic intuition of emergence is that something can become *realized in organization* that has (causal) consequences for the world. Kim's arguments hold that organizations or configurations are not even candidates for having causal consequences: They are not substances at all. All causality is in the particles.

But a shift to a process metaphysics exposes the particle ground for such arguments, and undoes the conclusion. If all is process, then processes having whatever influences they have is in major part due to their organization. Organization *cannot* be delegitimated as a locus of causal power without removing causality from the world. Organization can have causal consequences, and, therefore, differing organizations can realize and manifest differing *emergent* consequences.

Thus, a shift to a process metaphysics enables a rescue of emergence from a particle based conceptual barrier to emergence.²¹

If these points are correct, then Psychology is caught in a mutually supporting hierarchy of metaphysical errors—a hierarchy that requires reflections and reconsiderations. But Psychology’s vestigial Positivism inhibits and distorts any such reflections, recognitions, and attempted transcendences—and inhibits and distorts any judgments about whether such reflections and reconsiderations should be engaged in or taken seriously.²²

Grounding Further Emergents

The sketched model of interactive representing requires several supporting and enabling metaphysical shifts—regarding, for example, emergence and process. It also helps enable further models—I will mention for illustration an interrelated emergence of sociality and language.

Sociality

Are social realities some kind of substance or entity? It is difficult to model how that could be so, and the temptation is to argue that only the individual persons are “real”—a kind of social version of the argument that only basic particles are causally efficacious—a social “person” version of reductionism. But process and emergence again offer alternatives; here is one—it is a model of the emergence of social reality in resolutions of problems that complex agents (such as people) encounter when interacting with each other.

A person must characterize the situation he or she is engaged with in terms of a web of indications of interactive potentialities. Such a web is constructed and updated based upon prior interactions, which may include, for example, visual scans, other perceptual interactions, and other interactions that the human agent has engaged in. The basic point is that anticipations of future possibilities are based on the actual interactions that have occurred. A visual scan, for example, can ground the anticipation of the possibilities of interactions with a toy block.

In a situation involving another person (or complex agent), a problem arises. The toy-block interaction possibility indications are based on (perhaps) visual scans, but the potentialities involving another person are not so easily anticipatable from visual scans. Most important for my current point is that the potential interactions that involve another person are strongly grounded on that other person’s own interactive characterization of their own situation, which will include *their* characterization of the first person’s characterization, and so on. There seems to be the threat of a regress of mutual interactive characterizations.²³

I argue that there can exist resolutions of these regresses that constitute solutions to the *joint* problem of how to interactively characterize the situation, and further argue that these resolutions constitute emergent social realities as kinds of *conventions* (Bickhard, 2008)—e.g., the convention of passing on the right, or of cultural conventions of proper social distance. Note that such a model is not viable without grounding models of interactive cognition, emergence, and process metaphysics.

Language

One further step that I will mention is that, if representing cannot be constituted in encoding correspondences, then language cannot be constituted as encodings of (and decodings into) mental contents (Bickhard, 2009). Yet again, there is a metaphysical problem. As for cognition, then, the immediate question is “What could language possibly be (if not encoding)?”

One answer on offer, consistent with the framing metaphysics of process, emergence, and interaction, is that utterances are interactions, of the same sort as interactions with toy blocks, but with a special locus of interaction: interactions with social realities, with conventions. Utterances, in this model, are akin to *operators* on social realities. These would include *institutional* conventions, such as calling a meeting to order, as well as *momentary* conventions such as are involved in jointly understanding a partial utterance still being uttered (so that the ultimately completed utterance is jointly understood). There is much to be said for such a model (so I claim: e.g., Bickhard, 2009), but the focal point here is that, once again, there are serious problems with standard frameworks—empirical, theoretical, and metaphysical—that require reflective consideration to be able to transcend or resolve, and that models that might resolve them are importantly different from standard models. And, finally, that it requires reflection on theoretical and metaphysical issues to be able to address such issues.²⁴

Conclusion

Metaphysical assumptions can have strong influences on theories and methodologies—on how Psychology is done. Further, Psychology is, arguably, caught in multiple serious metaphysical errors. Psychology *should*, thus, care deeply about metaphysics. It is inhibited from doing so by its Positivist-empiricist metaphysics, anchored in the culture of Psychology with the notion of operational definitionism.

Notes

1. Positivism was founded by Auguste Comte (1798–1857). It had strong influence in the 19th century, and strong descendent influence since then. For my purposes, the two most important aspects of Positivism are a rejection of the arcane metaphysics of the time, which has fed into a rejection of metaphysics altogether, and a supporting empiricism: One should seek “Positive” knowledge, empirical knowledge, that is, in principle, available to anyone who investigates. So, Positivism is constituted, in important part, by an empiricist based anti-metaphysics.
2. It should be noted that early logical positivists were rightly concerned about the fact that their own philosophies were not properly empiricist, and, therefore, were, by their own criteria, meaningless.
3. The central problem is that data are *factual*, while dispositions are *counterfactual*: What would happen if such and such were to occur—and there is no definitional bridge between them?
4. Note the underlying assumption of something like a ‘reflex’—an input-output connection—as grounding psychological phenomena.
5. Classical behaviorism banished mind from Psychology, and construed Psychology accordingly as the science of behavior.
6. There is an irony here, in that Behaviorism tried to define Psychology as the study of behavior, not the study of mind, and now reductionism attempts to define Psychology as the study of brain process, not the study of mind.
7. E.g., programs are generally discrete; formalisms of Turing machine theory model only sequence, but not timing; etc. (Bickhard & Richie, 1983).
8. And some of these problems have been known since the ancient Greek philosophers.
9. Note that to do so would violate the Humean slogan of “no norms from facts.”
10. Over multiple centuries.
11. E.g., representation requires interpretation, but mental representation cannot require interpretation on pain of infinite regress of such interpretations.
12. E.g., Bickhard (2005, 2009, 2015a, 2015b, 2016a, 2016b, in preparation)
13. It would seem that you could “just” walk closer, or in some other way double check, and discover that “it” is a horse, but now how do you know that that ‘checking’ representation (the representation that “it” is a horse) is correct? The problem simply repeats.
14. Further, correspondences can exist in complex organisms, but still do not constitute representing. Such correspondences are pragmatic accomplishments via processes of *differentiation* that succeed (fallibly) in

- differentiating a singleton of some sort. For example, a frog might visually differentiate a fly in its field of vision, but that does not in itself constitute a representation of a fly—instead it might functionally set up an indication for the frog that, if the frog were to flick its tongue a certain way, it could eat.
15. There is a similarity here with Gibsonian notions of affordance (Gibson, 1966, 1977, 1979), but also some important differences (Bickhard, 2016a).
 16. Such as the relationships between normativity and emergence, as discussed below.
 17. E.g., you might be able to empirically illustrate that $2 + 2 = 4$, but it is not possible to empirically demonstrate that it is *necessary* that $2 + 2 = 4$, no matter how many pebbles and marbles you empirically observe. Similarly with other ‘in-principle’ assumptions and frameworks.
 18. Note that the ‘natural’ world may not be purely ‘material’. See below about field models.
 19. Epiphenomenal here means roughly “It’s only apparent.” A common example is the apparent movement and causal interactions in a movie, when in fact it’s “just” a sequence of stills.
 20. In such a model, the fields, such as the electromagnetic field, account for the attractions and repulsions.
 21. To recapitulate: Representing requires function, function requires normativity, and normativity requires metaphysical emergence—and emergence requires process metaphysics.
 22. Such reflections, and so on, are all just “armchair”—they are not empiricist.
 23. Note that that regress does not exist with toy blocks.
 24. Models such as these cannot even be rationally *rejected* without reflective consideration.

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