Contemporary Hylomorphism and the Problems of Mind versus Body

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During the late 1980s Martha Nussbaum and Hilary Putnam (NUSSBAUM/PUTNAM, 1992) circulated a coauthored paper that renewed interest in the idea that Aristotelian hylomorphism might provide resources for solving problems in the philosophy of mind. It would nevertheless take over a decade for their idea to catch on. Contributing to an area like philosophy of mind requires formulating theories in ways that make it evident how they solve problems within that area, and it was unclear to most philosophers of mind exactly what a hylomorphic psychology claimed and how it could solve mind-body problems.

The difficulty was abetted by disagreements about what exactly Aristotle’s psychology was. Some claimed it was a form of substance dualism (ROBINSON, 1983), or dual-attribute theory (BARNES, 1972); others, a version of the psychophysical identity theory (SLAKEY, 1961), functionalism (WILKES, 1974; HARTMAN, 1977), neoparallelism (ROSS, 1973), or panpsychism (BURNYEAT, 1992), and yet others a view that was ultimately incoherent (GRANGER, 1996), or (perhaps more charitably) a view that waffled between incoherence and nonreductive physicalism (WILLIAMS, 1986). Philosophers of mind could thus see little value in studying Aristotle’s psychology: not only it was unclear what it claimed, but whatever it claimed, they were assured by the experts that it was a theory of some already familiar sort. Why, then, look to a figure separated from us in time and, more importantly, conceptual space, who wrote in a defunct language that was difficult to decipher both in translation and in the original, who lived before the Scientific Revolution, and whose ideas on so many topics had been proven false by the enhanced methods for studying the natural world that the Revolution introduced? Why turn to Aristotle, moreover, when it was so much easier to look to contemporary exemplars of whatever kind of view he must have endorsed?

The result shouldn’t be surprising. Aristotle himself noted that we understand things initially in terms of what is better known to us, and what
is better known to contemporary philosophers are ways of conceptualizing things that have been inherited largely from Descartes. Little wonder if even specialists have trouble understanding a pre-Cartesian view. It was the elaboration of Aristotelian themes in metaphysics – particularly work on powers and composition – that ultimately enabled Nussbaum and Putnam’s idea to be more than a mere suggestion. It enabled contemporary hylomorphists to formulate the basic principles of their theory in a way that could contribute to current debates and solve mind-body problems.

Mind-body problems are persistent problems understanding how thought, feeling, perception, and other paradigmatically mental phenomena fit into the natural world. The problem of emergence is an example; it demands an explanation for how physical interactions devoid of consciousness manage to give rise to thoughts, feelings, perceptions and other conscious states. How is it that the movements of tiny particles in my brain give rise to the rich conscious experiences I have? The answer is not obvious since the following claims all seem plausible:

(1) We have conscious experiences.
(2) We are composed of physical particles.
(3) The properties of a composite whole are determined by the properties of the particles composing it.
(4) Physical particles do not have conscious experiences.
(5) No number of non-conscious particles could combine to produce a whole with conscious experiences.

It seems obvious that we have conscious experiences as claim (1) says. Claim (2), moreover, seems well-supported empirically: we seem to be composed of the same materials as everything else in the physical universe, and our best physics suggests that those materials are microscopic particles. Many examples seem to illustrate claim (3). I have the mass I have, for instance, because I am composed of physical particles with smaller masses that collectively add up to my bigger mass. Likewise, I have the position and velocity I do because the particles composing me are located and moving the ways they are. Given that so many of the properties of a whole are determined by the properties of its constituent particles, it’s not implausible to suppose that all the properties of a whole are determined by the properties of those particles. It seems, moreover, that the behavior of those particles can be described and explained exhaustively by physics, as per claim (4): we needn’t invoke a psychological
or even a biological vocabulary to describe and explain what they are and what they can do. There also seem to be good reasons to endorse claim (5). One particle by itself does not have the power to produce conscious experiences. If it did, then consciousness would have emerged much earlier in the universe’s history than we think it did, and it would also be more widespread – even rocks, tables, oxygen atoms, and electrons could be conscious. But if one particle by itself does not have the power to produce conscious experiences, then it is difficult to see how any number of particles could combine to produce conscious experiences. For suppose that some number of particles, \( N \), do not have the power to produce conscious experiences. If one particle does not make a difference to whether or not something is conscious, then clearly \( N+1 \) particles will not have the power to produce conscious experiences either. Since \( N \) can be any number one likes, it seems to follow that no number of non-conscious particles has the power to produce a whole with conscious experiences.

It is thus plausible to suppose that claims (1)-(5) are all true, yet they cannot all be true because jointly those claims are inconsistent: claim (1) implies that we have conscious experiences, yet claims (2)-(5) together imply that we do not. At least one of the claims must therefore be false, yet the lines of reasoning just described make it difficult to say which.

Mind-body problems like the foregoing have a common architecture. On the one hand, they take the physical universe to be a vast undifferentiated sea of matter and energy that can in principle be described exhaustively by our best current or future physics. On the other hand, they take seriously the idea that we have (or at least appear to have) capacities that cannot be exhaustively described using the conceptual resources of physics, for the vocabulary of physics doesn’t include predicates and terms such as ‘believes’, ‘hopes’, ‘feels’, and ‘wants’. There is, then, a problem understanding how the capacities for believing, hoping, feeling, and wanting fit into the universe that physics describes.

The assumptions that generate mind-body problems are widespread, but that doesn’t make them true, and hylomorphism implies that they are false. Hylomorphism’s basic idea, stated very roughly, is that some things are composed of physical materials with a specific form or structure. A human being, for instance, is not composed of physical materials configured in any way whatsoever, but physical materials configured in a very specific way. In some cases, a thing’s configuration (its form or structure) is something static, like the relatively unchanging spatial arrangements of atoms in a crystal, but in the most interesting cases, the configuration...
comprises dynamic interactions among an individual’s components. The configurations of matter and energy that make human beings and other complex living things what they are cannot be characterized apart from the dynamic interactions among their various organ systems, along with their component organs, tissues, cells, and the molecules, atoms, and fundamental physical materials ultimately composing them.

Aristotle originally introduced hylomorphism to account for change or coming-to-be. Every change, he said, involves two explanatory factors (Phys. I 7, 190a15ff.).\(^1\) First, there is something that exists prior to the change and persists through it. Second, there is a characteristic or form (eidos) which the persisting thing previously lacked, or (depending on the case) which it previously had, and which it subsequently comes to have (or comes to lack). To say that Socrates becomes musical at \(t\) thus implies that Socrates exists prior to \(t\), that he lacked the form of being musical, but took on that form at \(t\). A persisting thing coming to have different forms at different times is therefore what change consists in.

Aristotle extended this way of understanding the coming-to-be of properties to account for the coming-to-be of substances: in each case, there is something that exists prior to a substance coming to be and that persists through its coming to be (Phys. I 7, 190b1ff.): a statue comes to be from some pre-existing stuff on account of that stuff changing its shape, a house comes to be on account of putting some pre-existing things together house-wise, and the same goes mutatis mutandis for natural things such as Socrates, which are substances in the strictest sense (Phys. I 7, 190b17ff.).

Natural things, for Aristotle, include plants and animals, their parts, and the simple bodies: earth, air, fire, and water (Phys. II 1, 192b8-13; Metaph. H I, 1042a8-10). What qualifies these as natural is that each has within itself a source of change and stability. Unlike the case of an artifact such as a table, which comes to have its characteristic shape on account of an external agent, a human develops its distinctive array of parts and carries on its distinctive metabolic processes and other activities not on ac-

\(^{1}\) The term “factor” here translates the Greek word archê which designates a source, origin, or starting point. Although Aristotle sometimes refers to a linguistic entity, such as the major premise of an argument, as an archê, the latter need not be linguistic entities. To call a’s matter an archê, for instance, implies that a’s matter explains something about a. The same is true mutatis mutandis of a’s form. This does not imply that either the matter or the form is a linguistic entity.
count of an external agent but on account of itself: it is itself the source of the distinctively human characteristics it takes on.

Natural things are the ultimate engines of change on Aristotle’s view; they are the things that are ultimately responsible for why anything undergoes the changes it does. Tracing the provenance of any putative change will eventually yield an explanation that has as its truthmaker a natural substance or substances acquiring or losing some form or forms.

Among the changes natural things undergo, some fall into stereotypical patterns. Biological development is the paradigm: fish grow gills and scales, not lungs and skin, whereas humans do the opposite. These occurrences cannot happen by chance, Aristotle argues, for things that happen by chance do not display the kind of regularity we find in cases like biological development (Phys. II 8, 198b33ff.) Developmental changes happen instead on account of the natures (phuseis) of things. Behavioral regularities, whether in living things or in nonliving materials, are due to the natures things have.

The changes that are due to something’s nature are those which it undergoes on account of itself (kath’hauto), that is on account of its being an instance of its natural kind. A thing’s nature comprises both its matter and its form (Phys. II 1, 193a10-b20): both make a difference to what something is and what it does. A human being will fall downward on account of its matter, for the latter includes a large portion of the element earth. Since it is in the nature of earth to move downward, on Aristotle’s view, it is in the nature of anything composed of a sufficiently large quantity of earth to move downward as well. Likewise, it is in the nature of fire to move upward. Because of this upward-moving nature, a human is able to grow and maintain itself. If Socrates were composed of earth alone, he would collapse in a heap of earthy rubble. Fire counteracts this tendency, but the presence of fire is not the only thing needed to explain human growth and homeostasis. Left to their own devices earth and fire would separate themselves from each other completely with the result that living things like Socrates would be torn apart: the fiery materials composing them would ascend skyward while their earthy materials would accumulate on the ground in a heap (de An. II 4, 416a6-9). Something prevents this from happening. Something about a living whole directs, proportions, and regulates the activities of the materials composing it, and ensures that the whole itself remains a unified persisting individual. That something is form.
Form explains what unifies diverse materials into a single whole (de An. I 5, 411b5-13; Metaph. H 6, 1045a23-b6). There is no unified composite individual apart from a form. Destroying something’s form results in a disunified heap (Metaph. Z 17, 1041b11-18). The remains of a human – what are often referred to, confusedly from an Aristotelian perspective, using singular terms such as “human body” or “corpse” – do not compose a single individual at all; they are instead materials that used to compose an individual but that no longer do. Form also explains diachronic unity or persistence: why a living whole such as Socrates can exist one and the same over time even though the materials composing him are in constant flux (de Gen. et Corr. I 5, 321b25-27): Socrates persists so long as his form does (de Gen. et Corr. I 5, 321a13-25). Likewise, the biological processes in which Socrates engages are directed toward developing and maintaining a mature, properly-functioning member of the human kind. What unifies various stages of the developmental process, as well as various metabolic processes, is their directedness to this end.

With this outline of Aristotle’s hylomorphism in place, it is possible to identify the roles that the concept of form is supposed to play within his framework. These roles supply an implicit definition of form:

1. **Change:** Form is what accounts for change or generation, especially the generation of composite wholes;
2. **Unity:** Form is what accounts for the unity of composite wholes;
3. **Persistence:** Form is what accounts for a composite whole’s persistence through time, especially in cases in which it changes its matter over time;
4. **Kind Membership:** Form is what accounts for kind membership, especially membership in natural kinds;
5. **Behavioral Regularity:** Form is what accounts for behavioral regularities, especially the self-maintaining and developmental processes in which living things engage.2

In Aristotle’s philosophy, then, form is what plays the foregoing theoretical roles. Aristotle’s is not the only hylomorphic theory however, and not all hylomorphic theories have form playing the roles that Aristotle’s does.

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2 Aristotle also intends form to play epistemological roles: Perceptual and Cognitive Knowledge: Form is what accounts for the ability to know things themselves in perception and understanding. But these roles do not bear directly on our present inquiry.
For example, contemporary hylomorphic theories that place few restrictions on the kinds of predicates or functions that express hylomorphic forms have difficulty accommodating Behavioral Regularity. These include the hylomorphic theories of Kit Fine (FINE, 1999, 2008) and Mark Johnston (JOHNSTON, 2006). Their theories are committed to something like the following principle:

**Abundant Matter Principle:** For any objects, \(a_1, a_2, \ldots, a_n\), there is a form \(F\) and an object \(s\) such that \(F\) is \(s\)'s form, and the \(a_s\) are \(s\)'s matter.

Given a principle of this sort, nothing prevents us from constructing hylomorphic composites in any way we please, for given any \(n\)-tuple of objects, we can construct a function that corresponds to a hylomorphic form.

Consider three objects: a particular hydrogen atom \(h\), my left foot, and the Empire State Building. Each of these objects occupies various positions at various times. These positions, let us suppose, are specified in a description \(D\). On Fine's theory, we can define a hylomorphic composite \(c\) (what he calls a “variable embodiment”) which is composed of \(h\), my left foot, and the Empire State Building exactly if those three objects occupy the positions at times specified in \(D\). This result is likely to strike many hylomorphists as bizarre. We cannot bring new things into existence simply by stipulation, they will say – simply by formulating a definition. One reason for thinking this is that intuitively \(c\) does not have any causal powers beyond those of \(h\), my left foot, and the Empire State Building; it doesn’t do anything other than what \(h\), my left foot, and the Empire State Building by themselves do. To use Aristotle’s term, \(c\) has no nature of its own. Any powers or activities we might attribute to it are really just the powers and activities of \(h\), my left foot, and the Empire State Building. The latter objects operate, moreover, completely independent of their status as parts of \(c\). The latter thus adds nothing to the causal inventory of the world. Because theories like Fine’s divest forms of distinct entities like \(c\), it is difficult to see how forms could play the role of Behavioral Regularity. On these views, hylomorphic forms have no essential connection to the causal powers that things have.

Problems in philosophy of mind, however, often concern causal powers. The problem of emergence, for instance, concerns how physical changes can cause mental states, and the well-rehearsed problem of downward causation concerns how mental states can cause physical changes (KIM, 2006). Because theories like Fine’s divest forms of distinc-
tive causal roles, they hold little promise for solving mind-body problems. I’ll thus put them to one side and focus on a hylomorphic theory that can accommodate Behavioral Regularity.

I’ve described that theory in detail elsewhere (JAWORSKI, 2016, 2017). It understands forms in terms of a metaphysics of powers: forms, it says, make a difference to what things can do – the powers they have. In particular, forms confer powers on composite individuals that are not had by the components of those individuals taken by themselves. Socrates, for instance, has powers that earth and fire by themselves lack – the power, for instance, to maintain himself one and the same over time despite changes in the materials composing him. That power is one that Socrates is essentially and continuously manifesting: he is essentially and continuously engaged in regulating, proportioning, and directing the way his composing materials operate. This ongoing configuring activity is how he manages to unify those materials into a single whole, both synchronically and diachronically. It also confers on him further powers, such as the powers to walk, talk, sing, dance, run, jump, and engage in the various other activities he does.

Socrates engages in these activities by imposing an order on the ways his parts manifest their powers. Walking, talking, playing an instrument, and so on are not random sequences of physiological changes; each is instead an activity composed of a sequence of physiological changes with a certain order or coordination. That coordination is another species of structuring – the manifestation of a further power Socrates has for coordinating or structuring the way his parts (and in some cases external objects) operate. When he walks, talks, or plays, he structures walking- talking- or playing-wise the way his parts and external objects manifest their powers. In some cases, this structuring is conscious and intentional as in producing the precise limb movements in a dance, but in many cases the structuring is neither conscious nor intentional as in digesting food or increasing blood flow to the legs in response to something fearful. In whatever way it occurs, whether consciously and intentionally or not, the result of this structuring is a unified activity that is composed of the simpler activities of his parts (and in some cases external objects).

The structured activities in which Socrates engages include thinking, feeling, and perceiving. When he experiences an emotion, he is engaging in an activity in which various parts of his nervous system and various objects in the environment manifest their powers in a coordinated way that unifies them into a single event. Just as physical materials compose an in-
individual exactly if they are structured the right way, likewise various events compose an activity of thinking, feeling, or perceiving exactly if they are structured the right way.

Based on what’s been said, it is possible to get a rough sense for how hylomorphists approach mind-body problems. Those problems, they say, are byproducts of a worldview that rejects hylomorphic structure. Structure carves out distinctive individuals from the otherwise undifferentiated sea of matter and energy described by our best physics, and it confers on those individuals distinctive powers. If hylomorphic structure exists, the physical universe is punctuated with pockets of organized change and stability – composite physical objects (paradigmatically living things) whose structures confer on them powers that distinguish what they can do from what unstructured materials can do. Those powers include the powers to think, feel, and perceive. A worldview that rejects hylomorphic structure, by contrast, lacks a basic principle that distinguishes the parts of the physical universe that can think, feel, and perceive from those that can’t, and without a basic principle that carves out zones with distinctive powers, the existence of those powers in the natural world can start to look inexplicable and mysterious. If there is nothing built into the basic fabric of the universe that explains why Zone A has powers that Zone B lacks – if nothing explains why you, say, have the power to think, feel, and perceive, while the materials surrounding you do not, then the options for understanding the existence of those powers in the natural world become constrained: either they must be identified with the powers of physical materials taken by themselves or in combination (as panpsychists and many physicalists claim), or their existence must be taken as an inexplicable matter of fact (as many emergentists and epiphenomenalists claim), or else their existence in the natural world must be denied altogether (as substance dualists and eliminative physicalists claim). If there is hylomorphic structure, however, the options are no longer constrained in this way. The existence of thinking, feeling, and perceiving in the natural world is no more mysterious than the existence of walking or talking: all are manifestations of distinctive powers that beings like us have, and those powers exist in the natural world because structure does.

But are there hylomorphic structures? Are there such things as Aristotle’s forms? Hylomorphism has long been sidelined in serious philosophical discussions due a widespread perception that it is unscientific – that the Scientific Revolution proved that the notion of form was empty, that it had no real-world application. In fact, this attitude represents a miscon-
ception about what the Scientific Revolution accomplished – something that is especially evident when we turn to biology.

Marjorie Grene noticed the similarity between Aristotelian form (eidos) and the notion of organization at home in modern biology:

*Eidos* [...] functions in a number of striking respects in the same way as the concept of organization... in modern biology [...]. The *eidos* of an entity or process is its organizing principle, the way it works to organize some substrate [...]. *Form in nature* [...] exists in, and only in, that which it informs [...] as the organizing principle [...] in an appropriate matter [...]. *Eidos* in the sense of organizing principle is [...] a definitive concept for biological method [...] [though] its modern counterpart is couched in different terms (GRENE, 1972, p. 409-410).

To illustrate Grene's point about the notion of organization in modern biology, consider an example from a popular college-level biology textbook:

Life is highly organized into a hierarchy of structural levels, with each level building on the levels below it... Biological order exists at all levels [...] . [A]toms [...] are ordered into complex biological molecules [...] . [T]hose molecules [...] are arranged into minute structures called organelles, which are in turn the components of cells. Cells are [in turn] subunits of organisms [...] . The organism [...] is not a random collection of individual cells, but a multicellular cooperative [...] . Identifying biological organization at its many levels is fundamental to the study of life [...] . With each step upward in the hierarchy of biological order, novel properties emerge that were not present at the simpler levels of organization [...] . A molecule such as a protein has attributes not exhibited by any of its component atoms, and a cell is certainly much more than a bag of molecules. If the intricate organization of the human brain is disrupted by a head injury, that organ will cease to function properly [...] . And an organism is a living whole greater than the sum of its parts [...] . [W]e cannot fully explain a higher level of order by breaking it down into its parts (CAMPBELL, 1996, p. 2-4).

This passage suggests that organization (or order, structure, or arrangement) is a real feature of things, one that plays an important role in them being the kinds of things they are, and in explaining the kinds of things
they can do. It suggests, in other words, that structure or organization is a real ontological and explanatory principle – one that cannot be reduced to mere spatial arrangements or causal relations among something’s parts. The materials composing Socrates can change their spatial and causal relations, and yet Socrates persists all the same. Form is instead what is responsible for ensuring that the spatial and causal relations among those materials remain within the parameters necessary for Socrates to continue to exist.

Appeals to a notion of organization or structure along these lines appear throughout biology and biological subdisciplines such as neuroscience. These empirical appeals provide the basis for an argument in favor of hylomorphism. It depends on two premises: first, a broadly Quinean premise about ontological commitment: we are committed to all the entities postulated by our best descriptions and explanations of reality; second, our best descriptions and explanations of reality derive from empirical sources such as the natural and social sciences. Suppose we take the natural-language sentences in which our best empirical descriptions and explanations are formulated and reformulate them in a quantifier-variable idiom the way QUINE (1948) suggests. In that case, we would be committed to the existence of all the entities needed to make those descriptions and explanations true. Consequently, if our best empirical descriptions and explanations posit various kinds of organization or structure, then we have good prima facie reason to think those structures exist. But appeals to organization or structure are ubiquitous in the biological sciences. The theoretical roles those notions are expected to play, moreover, are the theoretical roles that hylomorphic form is supposed to play. We thus have good prima facie reason to think that there are hylomorphic forms. Far from being unscientific, then, hylomorphism seems to be

3 The term ‘principle’ here translates the Greek word archê which designates a source, origin, or starting point. See footnote 1.

an implication of our best empirical descriptions and explanations of living things.

With the foregoing ideas in place, let us return to the mind-body problem with which we began: the problem of emergence. It requests an explanation of how physical factors produce thoughts, feelings, perceptions, and other paradigmatically mental phenomena. Within a hylomorphic framework, this request for an explanation is illegitimate. It is legitimate to request an explanation of how it is possible that \( p \) only if it is possible that \( p \), and according to hylomorphists, it is not possible for physiological occurrences to produce thoughts, feelings, and perceptions.

According to hylomorphists, a thought, feeling, or perception is an activity composed of physical occurrences with a structure, and structured entities in general are not generated or produced by the things that compose them. Socrates’ act of talking is not produced by states of his muscles and nerves; it is instead an activity that occurs when he coordinates or structures the states of his muscles and nerves talking-wise. Likewise, Socrates’ brain states do not generate or produce his thoughts, feelings, and perceptions; each is instead an activity that occurs when he structures the way parts of his nervous system operate — when he coordinates their operations thinking-, feeling-, or perceiving-wise. On the hylomorphic view, structured things in general are not causal byproducts of the things they structure. Consequently, requesting an explanation of how unstructured occurrences generate structured phenomena misunderstands the hylomorphic notion of structure. It assumes, contrary to hylomorphism, that structure is not a basic principle but is instead something that is derived from unstructured things. Demanding that hylomorphists explain how brains produce consciousness thus implicitly begs the question against their view, for it assumes the existence of a kind of occurrence that hylomorphists deny exists, namely the generation of structured phenomena by unstructured things. On hylomorphists’ own terms, it is not legitimate to request an explanation of this any more than it is legitimate to request that a meteorologist explain how the will of Zeus produces rain. Opponents of hylomorphism are free to reject the view wholesale, but within the hylomorphic framework itself, requesting such an explanation is illegitimate. Moreover, the very fact that the problem of emergence arises for opponents but not for hylomorphists weighs in favor of taking hylomorphic structure as a primitive.

Opponents might argue that hylomorphists face their own problem of emergence. What, after all, explains the emergence of structure itself on
the hylomorphic view? What physical conditions are responsible for bringing it into existence? Hylomorphists respond once again that on their view structure is basic – every bit as basic as things that get structured. Asking why either structure or materials exist on the hylomorphic view comes close to asking why the universe as a whole exists, or why there is something instead of nothing. It is possible to reject the hylomorphic worldview and with it the claim that structure is basic. But to request that hylomorphists explain how structure emerges is to request something that hylomorphism implies cannot be done.

Hylomorphists do not deny that we can ask how particular structures came to be in place. It is legitimate to ask how my distinctively human structure came initially to inform various biotic materials. The answer has to do presumably with my parents’ reproductive activity. Likewise, it is a legitimate empirical endeavor to attempt to discover how the first living things emerged; that is, how the first living structures came to inform various prebiotic materials. What is not legitimate to ask, according to hylomorphists, is what is responsible for continually generating the structures that I and other living things have. My structure is not something continually generated by some external source or by the materials that compose me; it is instead a self-maintaining configuring activity in which I continuously and essentially engage. There is no sense, then, in which hylomorphists’ refusal to answer a request to explain the emergence of structure can count as a strike against their view, at least not without begging the question and assuming from the outset that the hylomorphic view is false.

What of the five jointly inconsistent claims discussed earlier – the ones that appear to make the existence of emergent phenomena problematic? It should be evident that hylomorphists reject claim (3): they deny that the properties of a composite whole are determined by the properties of the particles composing it. There may be some properties of this sort – mass might be an example. But hylomorphists deny that all properties are like this: some properties of a composite whole are determined by its structure. This was evident in the example discussed earlier: because Socrates is composed of a sufficiently large quantity of earth, he has a tendency to move downward, and because he is also composed of fire, parts of him have a tendency to move in the contrary direction, yet the earth and fire composing him do not separate themselves from each other completely as they would if left to their own devices. Socrates persists – a unified whole – on account of something else: his ongoing structuring activi-
ty, which directs, proportions, and regulates the activities of the materials composing him. This is not a power of the materials themselves, but of Socrates, the structure whole.

For simplicity this example was borrowed from Aristotle and formulated in terms of his physics. But it would be easy enough to reformulate the example of Socrates in terms of the physical materials postulated by contemporary biology; it would simply make the description unwieldy for our present purposes, and I trust that the philosophical point remains the same: according to hylomorphism, not all the properties of a composite entity are determined by its composing materials, some are due to its structure – an idea that Aristotle expresses by saying that a thing’s nature comprises both its matter and its form (Phys. II 1-2, 193a10-194b15; Metaph. Z 11, 1036b22-32).

What I’ve described is an empirically-based hylomorphic theory formulated in a way that makes it evident how it implies a solution to a live problem in the philosophy of mind. Elsewhere, moreover, I’ve described in detail how this same theory implies a solution not just to the problem of emergence, but to the problem of mental causation and the problem of other minds (JAWORSKI 2016). It establishes that Nussbaum and Putnam had a real insight into the nature of mind-body problems and the philosophical potential of Aristotle’s hylomorphic psychology.

At the beginning of the 21st Century, we are better positioned to retrieve the insights of Aristotelian philosophy than at any time since the Scientific Revolution. Contemporary metaphysical accounts of composition and powers that challenge deep-seated Cartesian and Humean assumptions about the natural world provide a basis for retrieving the insights of hylomorphic psychology in particular, and for marrying those insights to the descriptions and explanations supplied by our best scientific accounts of living phenomena.
References


