Aristotle’s Functionalism: Psyche’s Relevance to Contemporary Philosophy of Mind

Abstract

While functionalism often attributes its roots to Aristotle’s On the Soul, contemporary philosophers of mind have left behind crucial features of Aristotle’s philosophy by losing his distinction between mind and soul. I propose a revision to our present concept of mind, instead situating it as an aspect of the Aristotelian concept of soul, which allows for a more robust account of functionalism that encompasses the entirety of the human being as a system of demonstrative, functional capacities. I argue that Aristotle’s applied theory of the nature of souls offers greater fecundity to discourse in philosophy of mind, specifically in discussions of the possibility of strong artificial intelligence, the contemporary movement across disciplines towards the externalized concept of mind, and in ameliorating some of the insurmountable critiques of alternate theories of mind. Furthermore, a thoroughly Aristotelian form of functionalism provides a possible solution the problem of holism, one of the major predicaments contemporary functionalism faces. The Aristotelian view of the mind qua soul is to be contrasted with Cartesian dualism as well as reductive materialism, as those are two historically-dominating theories of mind that have defined the way in which philosophers consider the mind.

Background

Reductive materialists hold that the existing universe is only comprised of matter; that is to say, “there is nothing over and above the physical”.¹ Conversely, Descartes was the first to champion substance dualism, which distinguishes matter and mind as two distinctly different

¹ Smart, “The Content of Physicalism”
substances.\textsuperscript{2} This was the catalyst to a completely new understanding of the relationship between mind and body. Both materialism and dualism offer contributions towards our understanding of the nature of the mind; however, each faces significant obstacles that contemporary philosophers of mind have yet to ameliorate.\textsuperscript{3}

Thomas Nagel claims, “philosophers share the general human weakness for explanations of what is incomprehensible in terms suited for what is familiar and well understood, though entirely different. This has led to the acceptance of implausible accounts of the mental largely because they would permit familiar kinds of reduction.”\textsuperscript{4} Nagel recognizes the propensity for reductive materialism; however, there is a severe deficiency one faces when claiming mental states are fundamentally physical states: the inability to account for qualia, that is to say, for the specifically subjective experiential aspects of the world. The “hard problem of consciousness” defined by David Chalmers in 1995 demonstrates this continued struggle with explaining the relation between a seemingly non-material element of the mind and a material world.\textsuperscript{5} Chalmers offers that experience is itself a fundamental element of mind that is irreducible to a “more fundamental” material basis; however, Chalmers does not leap to granting experience, and therefore the subject of the experience, a separate ontological status from material. Instead, he only grants that this understanding of the mind and subject postulates foundations “over and above” matter. Chalmer’s “hard problem of consciousness” pulls from Thomas Nagel’s 1974 paper, “What is it Like to be a Bat?”, highlighting the difficulty of accounting for the subjective,

\textsuperscript{2} Descartes, \textit{Meditations on First Philosophy}
\textsuperscript{3} It is important at this point to recognize as well that for the sake of my argument, I will be focusing on Cartesian substance dualism and extreme reductive materialism, which can mean either identity theory or some form of eliminative materialism. While I do recognize there are more subtle and sophisticated versions of both dualism and materialism, for the sake of contrast, I will be focusing on the more extreme theories for each.
\textsuperscript{4} Nagel, Thomas. “What is it Like to be a Bat?”
experiential element of consciousness.⁶ Nagel argues that, while we could behave as a bat behaves, hanging upside down, eating fruits, doing bat things, there is still something that would distinguish our experience of acting like a bat from being a bat. That is to say, there is something it is like to be a bat. Chalmers describes this subjective aspect as being distinctly experiential, stating:

When we see, for example, we experience visual sensations: the felt quality of redness, the experience of dark and light, the quality of depth in a visual field…Then there are bodily sensations, from pains to orgasms; mental images that are conjured up internally; the felt quality of emotion, and the experience of a stream of conscious thought. What unites all of these states is that there is something it is like to be in them. All of them are states of experience.⁷

Each of these elements of subjectivity indicates a subjectivity that would be insufficiently explained utilizing materialism.

Conversely, dualism has yet to offer a solution to Princess Elisabeth of Bohemia’s counterargument to substance dualism.⁸ She posited that discussing causation from one substance to another is wildly problematic. In order for something to be non-physical, it cannot exist in space or presence in the material world, so the possibility of it having causal power on the tangible world requires a strange explanation. One is forced to mediate this mind-body interaction problem in order to explain the causal relationship between, for example, the body being hurt and the mind feeling pain.⁹

⁹ It is worth pointing out here as well that this idea of the mind feeling pain as an experiential phenomenon is more than compatible with an Aristotelian understanding of the human, that is to say that it is the mind that is realizing the capacity to be in pain, rather than the c-fibers “experiencing” pain or a disconnected cogito that happens to experience the correlating bodily experiences of the subject.
For both dualists and materialists, the largest theoretical obstacle is this relationship between mind and body, subjectivity and material objectivity, regardless of whether one grants a unique ontological status to the mind that sets it apart from the rest of the world.

The basic premise of functionalism is that mind can be understood through the summation of three parts: environmental stimuli acting on the subject, mental states as a complex, interrelated system, and the consequent functional and behavioral outputs.\(^{10}\) A single mental state, then, is the node situated at the intersection between these three elements, with the mental state being defined purely in terms of the individual function it performs within the larger system.

Functionalism’s historical foundations are often attributed to Aristotle. This basis can be found in his work *De Anima (On the Soul)*, which defines the soul biologically, as stated, “... the (human) soul is to be identified with whichever powers and capacities enable a natural, organized human body to fulfill its defining function, which, according to Aristotle, is to survive and flourish as living, acting, perceiving, and reasoning being.”\(^{11}\) In this way, Aristotle establishes the foundations for an explanation of the relationship between the soul and the body that avoids the problems that have arisen in other theories of mind and soul across the following two thousand years.\(^{12}\)

One of the major aspects of functionalism that itself challenges a materialist framework is the concept of multiple realizability. This defines mental states in terms of roles realized in the

---


11 *SEP Functionalism 2.1 Early Antecedents*

12 For the sake of this project, and for the sake of avoiding the possible materialist and dualist interpretations of functionalism that may be equivocated with this meaning, the functionalist interpretation I am defending is the Aristotelian functionalism put forth (and later clarified in their 1995 essay “Changing Aristotle’s Mind”) by Hilary Putnam and Martha Nussbaum. While there is considerable clash as to whether Aristotle is a functionalist in terms of contemporary functionalism, I will consider him a functionalist insofar as he exemplifies how a contemporary functionalist ought to be.
world rather than physical composition. This distinguishes functionalism from materialism and dualism because of the possibility of this realization across material compositions. For the functionalist, the matter is not the sufficient cause of the mental state, but rather, is a necessary cause for it.\textsuperscript{13}

\textit{Psyche}

Aristotle recognizes ψυχή (psyche, soul) as the entirety of a living thing, the combination of all of its capacities to act within the world.\textsuperscript{14} That is to say, rather than defining the soul as immaterial and separable from the body, Aristotle defines the soul biologically. The soul is defined hierarchically based on these capacities, with plants possessing a nutritive soul, reflecting the ability to grow, reproduce, and take in nutrients. Animals have sensitive souls, as they have all of the capacities of plants, as well as the additional facility to move of their own volition and to perceive the world around them, both of which are necessary for them to interact with the world. Humans are the only living things with the capacity to think, reason, and imagine, in addition to all of those possessed by animals and plants. In this way, these capacities are necessarily realized from one “soul-tier” to the next, building in a way that allows for lower-level faculties (consuming energy, reproduction) to exist without higher-level processes (desires, thoughts, sensations), but not vice-versa.

Unlike the other metaphysical commitments of contemporary philosophy of mind, Aristotle’s psyche is conducive to recognizing the soul as distinguished from the body, without facing the mind-body problem. In \textit{De Anima}, Aristotle states:

\textsuperscript{13} That is not necessarily to say that the matter is entirely irrelevant, and a mental state could be enacted through any material composition, but rather, is positing that pain can be realized through more than one material.

\textsuperscript{14} Aristotle, \textit{De Anima}, 413b7; b27—32
It is not necessary to ask whether soul and body are one, just as it is not necessary to ask whether the wax and its shape are one, nor generally whether the matter of each thing and that of which it is the matter are one.\textsuperscript{15}

Here Aristotle is discussing the inseparability of the psyche from its matter, that they are neither two separate things nor are they identical to one another; their inseparable juxtaposition \textit{just is} what comprises an organism. Aristotle’s point that the mind and the body are two aspects of a single entity avoids the difficulty substance dualism has of accounting for the causal relation between the mind-substance and the body-substance. Rather than attempting to answer how a wax and its shape can be related, Aristotle finds this question to be incomprehensible; there is no causal relationship between the wax and its form, as they are one and the same.

\textbf{i. Nous}

As aforementioned, Aristotle says psyche throughout \textit{De Anima} in reference to the entirety of the actualized soul, while using a different term to discuss the mind: νοῦς (nous). Nous is characterized to be the intellect, or reason, of the person, considered to be the part of the soul that has the capacity to know and understand. This further distinguishes the mind to be functional in its definition, recognizing it as possessing capacities to be realized in function. Aristotle characterizes the mind by saying, “That part of the soul…which we call mind (by mind I mean that part by which the soul thinks and forms judgments) had no actual existence until it thinks.”\textsuperscript{16} This is to say, the mind just \textit{is} the realization of our capacity to think and reason. While it ought to be acknowledged that Aristotle never specifically spoke of mental states as such, it seems this narrower understanding of the mind as specifically the part of us that contributes the capacities to think and utilize rationality offers a definitive view of the elements that distinguish humans as distinctly thinking creatures.

\textsuperscript{15} Aristotle, \textit{De Anima} ii 1, 412b6-9
\textsuperscript{16} \textit{De Anima} iii, p 165
Benefits of Adopting Psyche

Richard Sorabji, in his article “Body and Soul in Aristotle”, defends the necessity for the continued utilization of “soul” in Aristotle because, as he says,

The word ‘soul’ may sound archaic to some modern ears, and people may be tempted to substitute the word ‘mind’. But then they are likely to confine the functions of the soul to what we call mental acts, and this will take them away from Aristotle’s conception of the soul.\textsuperscript{17}

I take this point made by Sorabji to be a central tenet, as understanding Aristotle’s psyche requires us to abandon our contemporary interpretation of the soul as an archaic, spiritual entity in favor of an (admittedly counterintuitive) understanding of the soul deeply rooted in biology.

While this may appear to be descriptive of the soul, rather than definitive, Richard Sorabji interprets, “Aristotle’s statement, that the most appropriate account of the soul is the one which picks out these capacities, already suggests the thought that perhaps the soul just \textit{is} these capacities. This thought is confirmed when we notice that Aristotle speaks of the capacities as \textit{parts} of the soul”. Moreover, in Aristotle’s own words, he demands a “non-aggregative form of unity” in discussing the nature of these capacities.\textsuperscript{18}

This understanding of the human as a series of realized capacities when added to functionalism has multifaceted implications on our understanding of the mind in the world. A deeply biological account of the soul, and therefore understanding of the mind and human consciousness, contributes additional necessary requirements for artificial intelligence to be recognized as such. This situates the role of non-mental, experienced phenomena and the relationship between animal cognition to human cognition as well. Additionally, adopting the biological psyche in conjunction with \textit{nous} as realized capacities further situates the mind as a reflection of the movement in cognitive science and philosophy of mind toward externalized

\textsuperscript{17} Ibid., p 64
\textsuperscript{18} \textit{De Anima} ii 3 414b28-32, cf. iii 9 432a-b6
(“E”) theories of mind. Lastly, this may offer a possible solution to the problem of holism obstructing functionalist theories.

Alan Turing offered an inherently behaviorist account of artificial intelligence, positing the situation such that if a person were to have a conversation with a computer and found the computer indistinguishable from communication with another human being, this computer would be demonstrating human-like sentience. John Searle, in his Chinese Room argument, responded that if someone were in a room and had a complex enough set of instructions, one could claim to “know” Chinese without understanding a lick of it. That is to say, certain inputs of words in Chinese would have specific character responses that the person in the room could copy down in response. With enough complexity, the person inputting bits of conversational Chinese (who is presumably fluent in Chinese) would find the responses indistinguishable from another fluent Chinese speaker, all the while the individual inside has no necessary understanding of Chinese. The same could be applied to AI, says Searle, as behaving like a human could be achieved without internal processes of consciousness reflecting our own.

To adopt Aristotle’s soul is to recognize that the communicative and computational elements of the human mind is conceptually dependent upon the fulfillment of necessary lower-level capacities, such as the capacities to reproduce, take in nutrients, and grow. For these to be taken as necessary to having a rational soul, and therefore *nous*, it would then by extension be necessary for strong AI to realize these capacities as well. This would mean an artificially intelligent thing would have to realize all of the necessary functions and capacities of a human being, not just the performative element of conversational communication. This seems to reflect and cement a more succinct requirement for strong AI, as the Turing Test recognizes the
importance of behavior, but does not seem to encompass the extent to which the consciousness seems to be intimately connected with the complexity of the human experience with the world.

This ultimately has further interesting implications on the relationship between certain behaviors exhibited in both humans and animals that have not been understood in the context of life. An example that comes to mind is the understanding of sleep. Viewing living things as conglomerations of capacities rooted in biology, some of which being necessary to and definitive of the essence of the living thing, would offer a place in which sleep could be recognized as a necessarily-realized capacities within the sensitive soul (animals), and by extension, the rational soul (humans). This reflects our understanding of similarities in behavior between non-human animals and people, essentially validating experiences of the world that seem to cross the boundary between mental experiences (of feeling sleepy or tired, inability to concentrate or think at full capacity) and biological impulses (physical weakness, nodding off).

The second addition this understanding of the soul offers is that this seems to ultimately be reflective of the movement in philosophy of mind and cognitive science toward “E” theories of mind. In other words, theories such as David Chalmers and Andy Clark’s “Extended Mind” thesis and others’ work in “Embedded”, “Embodied”, and “Enacted” cognition. In the case of extended mind, this is illustrated in the functional equivalence of some isolated minds to other minds acting in conjunction with an external aid. The example given in Chalmers’ essay is that of two people going to the museum for the day, one with a perfectly functioning memory and capability to arrive at the museum (Inga), the other with some sort of memory problems,

19 Clark, Andy, and David Chalmers. "The Extended Mind." Analysis 58, no. 1 (1998): 7-19; Thompson, Evan (2007). Mind in Life: Biology, Phenomenology, and the Sciences of Mind. Harvard University Press. Wilson, Robert A. and Foglia, Lucia, "Embodied Cognition", The Stanford Encyclopedia of Philosophy(Spring 2017 Edition), Edward N. Zalta (ed.). As these are each incredibly nuanced theories of mind, to attempt a thorough description of each would distract from the focus of this paper; however, the gist of each of these theories demonstrate a movement towards situating the mind into a larger context in relation to the environment.
resulting in a dependence upon a notebook to aid him (Otto). If we are to understand the mind as functional, and one mind functions equivalently to another than utilizes an external aid, it would thus be understood that the mind would extend beyond physical limitations of the brain to encompass the external element (in this case, Otto’s notebook). The relationship with Aristotle’s *psyche*, then, is that through understanding the entirety of a person through such realized capacities as the ability to experience the world through sensation and move around in it, is to define what is it to be human in terms of a necessary relationship to the external world. According to Aristotle’s characterization, the possibility of the rational soul existing predicates upon an established, realized relationship with the external world. An enactivist, who would claim cognitive capacities are deeply interrelated and dependent upon interaction with the external world would I think be quite enthusiastic about the implications of Aristotle’s view of the soul, as the possibility of having a rational soul only arises once the capacities of the sensitive soul have been realized.

The problem of holism in functionalism states that if the entire system of mental states that comprises our understanding of the mind requires the complex interconnection between various beliefs and internal states in order to exhibit any one mental state; other people who do not share the same internal states would be incapable of expressing the same mental states as another person. Considering functionalism relies on this interdependence of mental states to define the mind, any variation in individual mental states results in this change in the composition of the whole structure. That is to say, if holism is true, with one slight variation in mental states, two individuals who both believe that it is raining in Oregon today would be unable to have the exact same belief, despite it appearing that they ought to be able to. This destabilizes our ability to discuss the mind as a universally applicable concept to humanity, as
each representation of the mind would be defined by a variety of different systems. In order to define the mind, there must be a cohesion across all minds, regardless of whether that coherence is based in functionalism or not. This cohesion, with the addition of the psyche, could be thought of through these underlying capacities. Having a static conglomeration of capacities groups all people together as being fundamentally the same, while allowing for the differences holism posits in the realization of those capacities.

**Conclusion**

Functionalism steers a middle path between extreme reductive materialism and Cartesian dualism in a way that quite clearly parallels Aristotle’s discussion of the soul. This offers a mechanism for understanding our place in the world beyond reductive means without making assumptions about the nature of the mind. Ultimately, Aristotle’s concept of psyche results in a theory of mind consistent with contemporary understandings of the relationship between mind and its environment, a notion that is altogether novel in its antiquity. Although an Aristotelian view of mind, soul, and matter may not be the absolute answer to all future enquiry, revisiting his metaphysics and psychology has demonstrable benefits conducive to the movements in philosophy of mind in cognitive science surrounding “E” theories of mind, a more thorough recognition of the relationship between the mind as soul as capacities and the recognition of its effects in the world, the reimagining of how we can tackle the problems functionalism faces, and ultimately, a fresh perspective devoid of entrenchment, through which we can recognize that materialism and dualism are not exhaustive options for understanding the mind.
Bibliography


Lorenz, Hendrik, "Ancient Theories of Soul", *The Stanford Encyclopedia of Philosophy*


