

MEMETIC INTENTION AND THE IMPLICATIONS FOR AGENCY

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The mind-body dilemma has historically been one of the more pernicious problems plaguing philosophers' intent on solidifying the mind as a construct for empirical inquiry. Thomas Nagel so aptly stated, "Consciousness is what makes the mind-body problem really intractable."¹ The areas of focus in mind research that deal with the essential foundations of consciousness, like our sense of agency, often find themselves mired in conceptual elements; they are unable to produce lasting, universal, operational definitions because the mind-body problem frames the issue as unwaveringly abstract from its inception. While certainly ambitious, my hope is that my endeavours here may be useful in framing a dialogue about elements of consciousness in a familiar, scientific framework that help to, at minimum, narrow the impact of the mind-body problem on the study of consciousness. In order to accomplish this, I will first attempt to tether pre-existing filaments to create a workable analogy between evolutionary biology and the study of the mind. With such a paradigm established, I will then elaborate on the idea of the meme as being analogous to the gene by introducing the concept of memetic alleles. I will then attempt to demonstrate how this type of bottom-up approach can be useful by demonstrating its applicability to the thorny philosophical realm of intention. Finally, I will attempt to show how this can formulate the necessary infrastructure to bring seemingly unfalsifiable arguments like the hard problem of consciousness within the realm of scientific exploration. This inquiry will by no means be exhaustive, but will act as an initial step in the direction of creating falsifiable parameters in areas previously thought to hold little room for systematization.



¹ Thomas Nagel, "What Is It Like To Be A Bat?" *The Philosophical Review*, no. 4 (1974), doi:10.2307/2183914.

The Evolutionary Analogy and The Mind

In 1959, Karl Popper re-published his own book, *The Logic of Scientific Discovery*, in English which had such a pervasive influence on European scientific thought. While the work itself was filled with incredible insights, one of the novel and ingenious theses put forward was one that would continue to spark creative philosophical insights in even Popper himself for decades to come. He argued that scientific theories operated under the same selection principle as genetic evolution: trial and error. This process consisted of two parts in the Darwinian sense: variation (the production of genetically different individuals) and selection (the survival and reproductive success of those individuals).² Similarly, scientists form conjectures (analogous to variation) which are then subject to falsification (analogous to selection).³

Over the years, Popper continued to build on the notion of thought as an analogous model to Darwinian evolution until the torch was picked up by evolutionary biologist Richard Dawkins who inadvertently (and often to his own chagrin) founded the science of memetics. In taking up the project, he coined the term 'meme' to further flesh out the analogy's ideological equivalence to the gene. The meme is a unit of behaviour or thought that exists in the minds of individuals and can replicate by moving from one mind to another. Though limited to a single chapter of his magnum opus *The Selfish Gene*, the premise put forward in favour of memes as replicators was revolutionary. Dawkins argues that despite being foundational to biological science, genes are not fixed units that can be easily measured in exact detail. Rather, they are abstract units that vary in length and in the number of constituent alleles (alternative forms of a gene) depending on the borders the examiner sets for discussing the phenotype in question. Nonetheless, these units can be used for empirical inquiry despite such abstract parameters. The only unwavering

² Karl Popper, *The Logic of Scientific Discovery*, (London: Routledge, 1959), 89-84.

³ Bence Nanay, "Popper's Darwinian Analogy." *Perspectives on Science*, no. 3, 2011, 337-354.

criteria Dawkins cites as being paramount to the essence of a gene is that the unit is a replicator. Memes, he argues, also propagate as they leap from brain to brain:

“When you plant a fertile meme in my mind, you literally parasitize my brain, turning it into a vehicle for the meme’s propagation in just the way that a virus may parasitize the genetic mechanism of a host cell...belief in life after death is actually realized physically, millions of times over, as a structure in the nervous system of individual men the world over.”⁴

Dawkins further argues that not only do memes share the necessary trait of replication, but they also share the same criteria for success: fecundity, longevity and copying fidelity while additional factors like self-perpetuation and mutually-reinforcing memes, or memplexes provide greater benefit. He has made a compelling case for the analogy, but it raises the question of how a conceptual schema of selection affects the mind-body problem. Popper argued this very problem to be the solution.⁵ Dawkins, however, was far more skeptical. While the analogy may not be an unconditional solution, it does nonetheless craft a framework in which the mind can be dissected using the same rigorous and empirical methods that are employed in the “hard” sciences (i.e. biology, chemistry, and physics). At the very least, it can act as a bridge for understanding the mind and its components through the lens of similarly viewed biological components. It is worth noting that with Dawkins’ argument there is *potential* to solve the various mind-body dilemmas, however, this is a topic of discussion for another time.

Updating the Analogy

Dawkins himself cautioned against following the analogy of genes too rigorously, and yet despite being met with great

⁴ Richard Dawkins, *The Selfish Gene*, 4th ed., (Oxford: Oxford University Press, 2016), 249.

⁵ Popper, “Natural Selection and the Emergence of Mind,” 8 Nov. 1977. Lecture.

controversy in the scientific realm (which has certainly not been helped by pop culture's hijacking of 'memes'), memetics nonetheless resonated with many academics. In fact, using the notion of memes as a framework for systematizing Theory of Mind is not new and has been artfully elaborated by philosophers such as Daniel Dennett who furthers the inquiry of "mind-viruses", and Susan Blackmore, who integrated technology into the memetic picture. Truly, the idea of the idea has gained momentum.

Though memetics has taken off, it is surprising that what can only be described as the Achilles' heel of the analogy upon which memetics rests remains unaltered. Dawkins himself stated "Mememes have...nothing equivalent to alleles" and while proposing a solution of mental capacity as an expedient, acknowledged the lack of analogy as a potential problem.⁶ This need not be one, however, as alleles have specific characteristics that are reflective of those that apply to the realm of the mind. First, they are foundational units that are combinatorial, where any viable pairing is both necessary and sufficient for a gene.⁷ Second, alleles are competitive, and thus, the actualization of a single allele forces out competing ones. Similarly, various foundational units of the mind can be seen to meet these same criteria. Take for example, beliefs. The belief that mixing yellow and blue produces green can be combined with the belief that paint has the capacity to be mixed. The resulting belief is that if one acquires blue paint and yellow paint, it is then possible to create green paint. The idea that it is possible to create green paint is a meme that may consist of any number (hundreds or even thousands) of foundational beliefs. However, those elementary beliefs are the instrumental data points that facilitate the meme in much the same way alleles determine the parameters of a gene.

⁶ Dawkins (2016), *The Selfish Gene*, 255.; Mental capacity here is referring to both storage capability and processing time constraints.

⁷ This is true when we keep in mind that the term 'gene' does not denote how many pairs of alleles are required.

Do beliefs compete? Absolutely. Much like alleles adhere to inherently consistent laws constrained by biology, beliefs must follow the logical rules of rationality. This is not to say beliefs must be rational by objective standards, but rather, rational based on the subjective rationality of the individual holding the beliefs. For example, one cannot believe both, that green is a colour and not a colour while remaining rational by the standards of deontic logic. Therefore, this rationality paradigm supposes that when a certain belief prevails, competing beliefs are expelled.

There are two caveats to this view of memetic alleles that I wish to address. First, if one is to accept such an analogy, then he or she must be prepared to reconsider the definition of the meme as espoused by Dawkins. In this instance, a meme would be the product of conceptual fragments rather than the foundational unit itself. Second, it is evidently true that this view of memetic alleles is not perfectly analogous because, for example, memetic alleles can pair with each other (similar to beliefs). Furthermore, belief pairings can produce a belief that can then become a meme, and in turn, when paired with another belief meme, can become a memetic belief pairing, forming yet a greater belief meme. Nevertheless, the comparison between the two still stands, and though it is yet to be determined what sorts of conceptual elements can constitute a memetic allele, it seems that there are some natural candidates.

Application to the Philosophy of Intention

The philosophy of intention presents itself as one of the more difficult philosophies of mind because there seem to be only scraps of cognitive and neuroscientific research upon which to rely. This makes the task of defining what constitutes an intention somewhat difficult. Nevertheless, this has not stopped philosophers from engaging in rigorous, ongoing dialogue, and while there appear to be very few widely accepted theories, Michael Bratman's belief-desire model of intention seems to be a critical tether in merging intention with Theory of Mind. The

theory, extracted from Bratman's original work, "Intention, Plans and Practical Reason,"⁸ can be reduced to its simplest form in the following way: intention is forged in the conflux between beliefs and desires.⁹ It should be evident how this corresponds to the notion of memetic alleles as discussed earlier. If we can accept beliefs to be an example of such a concept, then we ought to explore whether desires can fit the two criteria in the same way as beliefs. If they can, then it is important to explore the implications of the potential success of such a framework. To demonstrate that desires may fit into our framework we must first show that they are combinatorial. Then, it should stand true that they are competitive. The first premise is relatively easy to contend with. It is readily apparent that desires are combinatorial: for instance, if one desires something sweet as well as something healthy, a person may then desire an apple.

The second aspect proves to be more difficult to address because the logical limitations are not so simple, as demonstrated by the belief schema (one cannot rationally believe both B and ~B). This occurs because insofar as desires are concerned, it is possible, and often considered rational, to desire mutually exclusive outcomes. Take the example of an individual on a diet. It is entirely reasonable for this individual to desire a piece of chocolate cake while also desiring to refrain from eating the cake. At first glance, this may seem to be a fatal flaw in the analogy. Upon closer inspection, however, rational contradictions in desires are still consistent with the biological framework if they pertain to one of two categories of essential components: independent or dependent components. Independent components are those that dictate the outcome of a pairing, and

⁸ Michael Bratman, *Intention, Plans and Practical Reason*, (Harvard: CSLI Publications, 1999).

⁹ While this seemingly discounts the issue of cognitivist and non-cognitivist views on intention, it is also true that cognitivism operates on something similar to a beliefs-desires model, but rather than beliefs being distinct concepts, they are conflated with intention. This does not detract from my argument, but it would require the assumption that memes are both essence and product, thus forcing some further deviation from the analogy. However, I do not view the cognitivist case to be very compelling and therefore, omit the discussion of the topic from my paper.

dependent components are those that either must match the independent component or be rejected from the pairing. For example, in transcription, strands of RNA have sequences of nucleotides called codons (the independent component) that dictate which complementary sequence, known as an anticodon (the dependent component), it can pair with. Put simply: the parameters of the first component dictate the appropriate pairing. Likewise, we can see how this applies to desire. In our previous example of the dieter, the belief that her blood sugar is low, represented in her subjective memetic makeup, might consequently be followed by the belief that she ought to eat the piece of cake. If, however, contiguous alleles (those which are in close proximity to each other) were to dictate the belief-desire pairing, “I can lose weight/I desire to follow through on my diet” and “there is an apple in the refrigerator/I desire to eat the apple” then these belief-desire pairings may have greater power in “coding” for the intention. In contrast, it would be irrational for a person to have the belief “I like apples” and to subsequently state, “I do not wish to eat an apple” without other corresponding beliefs pushing them in this direction. This becomes obvious when applied to our everyday psychological interactions. Suppose, for example, someone stated, “I absolutely adore the ballet!” and in response, we offered them an extra ticket to accompany us. Were they to answer, “No, I do not wish to go to the ballet,” we might be perplexed but assume that this is explicable based on the weight of other beliefs the person holds. For example, we might ask them something akin to, “Why not? Do you have other plans that day?” Therefore, beliefs can dictate possible desires in a similar fashion to guanine nucleotides pairing with cytosine nucleotides. The only significant difference is that instead of four or five possible components there are a near infinite number of potential belief pairings. Which belief is present, however, will limit the parameters of the possible desire pair. Thus, in this way desires too are exclusionary. When one belief is present, certain desire pairs defy the internal logic of the system and, as a result, would be precluded from occurring.

Despite differing views on how it works the notion that there must be internal rationality and belief-desire consistency is more or less axiomatic among intention researchers. Gertrude Anscombe, for example, notes how simple it is for us to infer from behaviour what the intention was.¹⁰ Even children show a capacity to distinguish between an intention that was successfully accomplished and one that was not, and what action had been intended, even when it was not successful.¹¹ This is because most humans are privy to the same rationality parameters and though beliefs and desires may differ, we are acutely aware that they are related. Anscombe also notes the fact that beliefs and desires have different “directions of fit” in that when an error occurs in a belief-desire pairing or belief-desire-action pairing, it is not the belief that we take issue with. The belief is the subject of the intrinsic system of rational logic as touched on above, and thus fits with an individual’s experience of the world. A desire’s direction of fit must conform to beliefs in order to be rationally reflective of the world.¹² The philosophical case made for rational intention is compelling and fits well with the analogy for memetic alleles. Therefore, it seems reasonable to argue that beliefs dictate one’s desire and that the collection of related belief-desire confluences can be described as the meme we informally call intention.

Implications for Agency

Memetics has in many cases successfully trudged forward unfettered by the absence of a robust analogical foundation. The concept is of such a nature that the argument itself does not require this foundation. Then it is reasonable to ask what good does further parameterizing such an analogy do, other than act as a constraint on possible memetic explanations and arguments? I argue that refining this analogy between the gene and the meme

¹⁰ Gertrude Elizabeth Margaret Anscombe, *Intention*, 2nd ed., (Cambridge, MA: Harvard University Press, 1963), 7-9.

¹¹ Andrew N. Meltzoff, "Understanding the Intentions of Others: Re-Enactment of Intended Acts By 18-Month-Old Children." *Developmental Psychology*, no. 5 (1995), doi:10.1037//0012-1649.31.5.838.

¹² Anscombe, *Intention*, s. 32.

would not necessarily serve to benefit the study of memetics but rather, be advantageous for the empirical study of consciousness. It was not so long ago that scientists treated all genes as a single entity defined by the shape of a double helix. It was not until the constituent parts were broken down and the effects of different genes were sequenced that the scientific method demonstrated something spectacular: different segments have different effects on phenotype. I believe that when it comes to the study of consciousness, real progress in understanding cannot be made until the term ceases to be used as a generalization untouchable by scientific methodology.

To see how this might be relevant, let us switch from the bottom-up approach employed thus far and begin to appraise the notion of consciousness from more of a top-down perspective. Perhaps these conceptual landscapes can meet somewhere in the middle. If, for example, we look at consciousness and attempt to determine an area that is inherent to most people, we may stumble upon the realm of human agency. This temporary sensation of being a pilot navigating one's unique biological vessel is a feeling that is endemic to the human condition. However, where does this feeling of agency stem from? Certainly, most people (unless they are of a fatalist bent) believe their actions are within their volitional control. Even the most determined determinists cannot completely slough off the sensation of agency. But what can be said about thoughts? While you may encounter a few stragglers who would argue that thought remains within the realm of our control, this myth can readily be dispelled. Simply try to predict your next five thoughts and you will immediately find yourself at the mercy of your mind's whims. If thoughts, then, are not under our control, what can be said of desire? It seems not; as even the layperson is well-versed in wanting what they believe they ought not to have. What of desire's prerequisite, belief, then? After all, we often hear the phrase "choose to believe". It is important to recognize that beliefs rely on information about the world. Consequently, when we know

that a person holds maladaptive beliefs due to a lack of exposure to critical information, we often become reluctant to blame him or her for having those ill-informed beliefs. For example, we do not make the argument that Ptolemy was stubborn for clinging to the belief that the Earth was the center of the Universe; we instead acknowledge that the information he was exposed to at the time led to him formulating this belief, and that competing information was not sufficiently accessible. For this reason, it is understandable why individuals who lack certain types of information hold the beliefs that they do.

If thoughts, beliefs and desires are not within our control, what of their progeny, the intention? This seems to be where the view of agency arises from. Moreover, this of course raises the question, what is it about intention that instills a sense of agency into the conscious mind and culminates in the perception of choice between following through on an action and opting out? The current view posits that there is some criteria inherent in all intention that can explain this. I find this generalized treatment of intention to be the Gordian Knot of agency that, if cut, could lead to real progress both philosophically and scientifically. However, it is first necessary to acknowledge that intentions and their corollaries are not unique states of mind, but rather, combinations of non-volitional events that can be measured. When approaching memes of intention in the same way as genes, it becomes evident that all types of intention are different and ought to be treated as such. We can then do away with this obfuscating problem of “pure will” debated by intention philosophers and realize that intentions all have differing degrees of strength psychologically.¹³ For example, the statement “I will sit in a chair while I work” does not carry the same psychological depth as “I will be a better father than the one I had”. With the memetic allele model, differentiation and testing can yield results in a similar way to what previously ensued following genetic testing. This would be done by correlating

¹³ Outlined by Donald Davidson as the problem of intentions purely in the mind, in which no steps are taken in any capacity to act upon them (2001).

specific brain activity with constrained belief-desire amalgamations. This can ultimately lead to a refined understanding of the phenomenon of human agency which in turn, can piece together the great puzzle of our species—What is consciousness?

Conclusion

This paper attempted to propose an introductory look at a systemization of the impalpable realm of human consciousness. Philosophical puzzles of this nature are sufficiently shaky to eliminate most bottom-up approaches at their outset. I believe this is unnecessary and that there are ways to apply tried-and-true experimental frameworks onto areas originally thought ethereal. The connection between an idea and a biological unit are more similar than they might appear at the outset: both are replicating forms of information. Thus, there is good reason to believe that applying similar testing paradigms might yield promising results. I attempted to demonstrate here how this can be applied to notions that are often excluded from scientific study. Humans once perceived outer space to be the realm of the gods and unknowable to mere mortals. It turned out that the laws of science worked there too.

Works Cited

- Anscombe, Gertrude Elizabeth Margaret. *Intention*. 2nd ed., Harvard University Press, 1963.
- Bratman, Michael. *Intention, Plans and Practical Reason*. CSLI Publications, 1999.
- Davidson, Donald. "Intending." *Essays on Actions and Events*. Oxford UP, 2001.
- Dawkins, Richard. *The Selfish Gene*. 40th Anniversary. Oxford University Press. 2016.
- Meltzoff, Andrew N. "Understanding The Intentions Of Others: Re-Enactment Of Intended Acts By 18-Month-Old Children." *Developmental Psychology*, vol 31, no. 5, 1995, pp. 838-850. *American Psychological Association*, doi:10.1037//0012-1649.31.5.838.
- Nagel, Thomas. "What Is It Like To Be A Bat?". *The Philosophical Review*, vol 83, no. 4, 1974, pp. 435-450. *JSTOR*, doi:10.2307/2183914.
- Nanay, Bence. "Popper's Darwinian Analogy." *Perspectives on Science*, vol. 19, no. 3, 2011, pp. 337-354.
- Popper, Karl. "Natural Selection and the Emergence of Mind." Darwin College Lecture Series, 8 November 1977, Darwin College, Cambridge University. Lecture.
- Popper, Karl. *The Logic of Scientific Discovery*. 2nd ed., Routledge. 1959.