

Are Human Minds Merely Computers Made Out of Meat?

*Can human mental activity be adequately explained solely by material means and if not, does this give us grounds for regarding human persons as drastically different in kind from other animals?*¹

Statement of the issue:

Belief in a soul has been the mainstream position for the majority of human existence. Most peoples and cultures have believed that human beings continue to exist after the death of their bodies, in some form or other. But now in the 21st century what can we reasonably think about what elements constitute the human person? Is the human being made of only one component, such as matter, or is the human made of two – such as mind and matter, or body and soul – with one component being material or “stuff” and the other immaterial or “spiritual”?

With the rise of modern science a view has challenged the age-old notion that there is an immaterial “self” or “spirit” to the human being. This predominant view in science is that there is no spiritual component to the human being, humans are just material, with the material being loosely defined as that which has mass, shape and size and can be perceived by the senses. According to materialism, the human being is just a physical, material entity.

Nevertheless, there is still much talk today about “spirituality”, one’s soul, etc. Just turn on television program’s like Oprah and you can verify this. Very seldom however, do we see an explanation as to just what this “soul” or “spirit” is or how we even know that we have such a thing. Why do we attribute spirituality and souls to human beings?

There can be only one rationally defensible answer; because human beings have intellectual powers that cannot be adequately explained by material components and processes. Thus the principle of **Ockham’s razor** is invoked. Given two explanations of the same thing, the one that is simpler, that is the one that appeals to the fewest causes to explain the thing in question, is preferable. *But Ockham’s razor has both a positive and a negative aspect*: if an explanation is not sufficient, then it compels the inquirer to look further. If an explanation suffices, reason and common sense prohibits us from looking further. All factors being considered equal, the simpler option is to be preferred.

How can we decide the issue? We know the essence of a thing by the actions it performs. The actions and properties of a human being will tell us what underlies those actions, what the thing must *be* in order for those actions to occur.

The question is certainly one that should interest everyone. Blaise Pascal once wrote,

That immortality of the soul is a matter which is of so great consequence to us and which touches us so profoundly that we must have lost all feeling to be indifferent as to knowing what it is. All our actions and thoughts must take such different courses, according as there are or are not eternal joys to hope for, that it is impossible to take one step with sense and judgment unless we regulate our course by our view of this point which ought to be our ultimate end. Thus our first interest and our first duty is to enlighten ourselves on this subject, whereon depends all our conduct.²

“Soul” in Greek philosophy was used to signify whatever it is that makes a thing live. There are plant souls (with the powers of nourishment and growth), animal souls (with the powers of sense and movement) and human souls (with rational powers). Mind does not equal soul. Plants have souls but not minds. Nor strictly

¹ We are greatly indebted to Mortimer J. Adler with much of the information provided in support of the Aristotelian position in this essay. For his in-depth discussion of these issues, see his *The Difference in Man and the Difference it Makes* (New York: Macmillan) and *Intellect: Mind Over Matter* (New York, Simon and Schuster, 2000).

² Pascal, *Pensées*, 194

speaking is mind is equivalent to consciousness. After all, there can be mind without consciousness, like when a person is asleep or unconscious. It is clear then that one can make fine distinctions between the terms “mind”, “ego”, “soul”, “I” or “self”. However, for the sake of simplicity, we will use these terms synonymously here, albeit with one important exception:

IT IS IMPORTANT TO NOTE THAT WE MUST NOT, FROM THE OUTSET, EQUATE “BRAIN” WITH “MIND”. IT IS THIS VERY IDENTIFICATION THAT IS UNDER DISCUSSION HERE. IN ORDER TO AVOID BEGGING THE QUESTION, THIS IDENTIFICATION MUST BE DEMONSTRATED, NOT ASSUMED.

Consequences of the issue:

If there is any rationality for believing in the immortality of the human soul, such as in Christian, Jewish, and Islamic belief, it is in being able to know the immateriality of the intellect or soul. Man as made in the image of God by special creation, the immortality of the human being, and a being endowed with free will and moral responsibility hangs in the balance. These beliefs are bolstered by reason if the human being can be demonstrated to have an immaterial component and it is rationally untenable if the human being does not.

The line of demarcation between animals and human beings – between brutes and persons, is right here. If animals differ in kind from human beings, we are rationally justified in treating them differently. If they do not, but differ only by degree, a sharp line *cannot* be drawn separating humans from animals, the distinction between animals and persons is meaningless or arbitrary, and there is no special dignity to be given to human beings. We would need to adjust our treatment accordingly because any justification for differential treatment will be unreasonable and *ad hoc*. If the difference is only of degree, then, as some men may be superior to others, there would be grounds for treating some humans differently than other humans as well. If there is nothing distinctively human, there are no grounds for human equality. In fact, some animals may be worthy of better treatment than handicapped human beings.

If we would still be justified in treating animals as food, the principle goes from superior kinds can use inferior kinds as a means to an end” to “superiors in degree can use inferiors in degree as a means to an end”. It is quite easy to see where this might lead.

Free will is impossible and human “choice” is to be explained merely in terms of the laws of physics and chemistry. If free will is impossible, then so is any goal oriented activity and moral responsibility and the human right to seek happiness is illusory.

Therefore the issue involves consequences of great magnitude.

Part I: The Human Mind: Computer or Power of the Soul?

Roughly speaking, there are four positions one can take on this issue:

1. Materialism – Mind = brain. The mind is entirely made up of matter and is nothing over and above the brain and its functions. There is no soul or immaterial component of the human being.
2. Epiphenomenalism – The physical brain produces immaterial mind events. The “self” or “I” is an offshoot of the physical brain activity. The mind is like smoke and the brain is the fire. Mental states merely ride “on top of” the brain.
3. Moderate dualism – The mind is a power of the soul and is an independent and immaterial substance over and above the body, however this substance would be incomplete without the body, as it is naturally united to it.
4. Absolute dualism – The mind and soul are completely separate from the brain and body, and this “self” is unnaturally “trapped” in the body. The human person is truly and by nature an immaterial being.

By a large margin, 1 is the most popular view today and widely held in modern science. The popular philosophy under lying this position is *metaphysical materialism*; the view that all reality consists of matter (physical things and energy). Therefore, the mind too is nothing but a brain, a computer made out of meat.

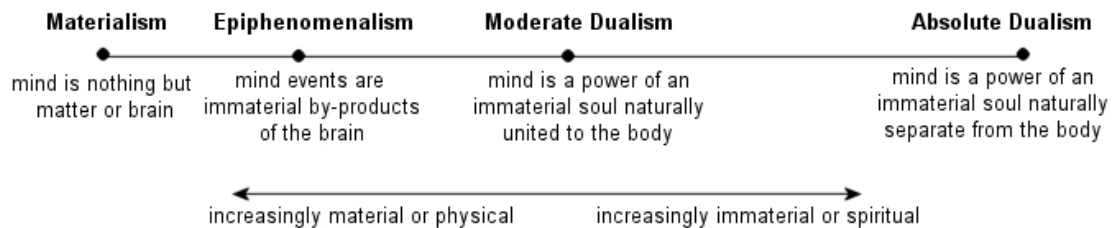
2 is a more recent view held by some philosophers. The advantage of it over strict materialism is that it can account for some of the apparent immaterial aspects of the human being.

4 is the position held by dualists such as Plato and Descartes.

3 is the position held by Aristotle and St Thomas Aquinas and is the position defended here.

Since time and space do not permit a full discussion of all, we will mainly focus on contrasting moderate dualism with the most widely held position today - materialism. Regarding the remaining two however, we will first make a few brief remarks and then proceed with discussing materialism in contrast to moderate dualism.

Philosophical Positions on the Mind/Body Relationship



Absolute Dualism – The motion that the mind, soul, or self is completely independent of the body. Human beings are constituted entirely by two utterly different and separate substances; body and soul (Plato) or matter and mind (Descartes). While convenient for supporting religious beliefs about the immortality of the human person, this view suffers from a number of defects.

1. **Contrary to Common Experience:** Common sense supposes that the human being is one indivisible entity. It is the same person that sees a beautiful landscape while on a hike and that knows and appreciates that beauty. It is the same entity that senses (with the body) and knows (with the mind). The connection is *seamless* and best explained as one entity, not two.
2. **Functional Relationship:** If the mind and brain are independent, there is no reason why one should affect the other. But drugs taken into the body alters the mind. A heavy blow from a boxer forces the mind into unconsciousness. If these two entities are completely separate, changes in the body should not affect the mind.

Epiphenomenalism – The idea that mental events are simply immaterial byproducts of a physical brain is initially attractive because it seems to account for the immateriality of certain mental events while yet retaining the primacy of the material brain. In this sense it is a moderate position that yet leans more towards the materialism in that the brain retains predominance. Some defects of this view are:

1. **Determinism:** The “self” as only a byproduct of the brain (the self is to smoke as the brain is to fire) cannot exert any causality upon the body. There is no possibility of an “I” to take the helm and control ones actions. Physical laws of nature cause the mental states. (The reverse order could not be the case, for then the epiphenomenalist position would lapse into the absolute dualist position). Thus, epiphenomenalism cannot account for human freedom, which contradicts our common experience.³
2. **Knowledge of other Minds:** It is obvious that we do know that other people have minds and mental events of their own. But if mental events do not exert any causal influence on the body, we would have no way of knowing about other minds, and thus our inference to other minds would be unreasonable, which denies our common experience that we do in fact know other minds. It has

³ See below under the problems with materialism and human freedom. Positions that deny human freedom are self refuting in that a proponent cannot even say that his position is chosen freely based upon good reasons, nor can he expect his opponent to choose it for good reasons either.

also been argued that epiphenomenalism is incompatible with knowing our own minds and thus is incompatible with knowing that epiphenomenalism is true. Knowledge of a mental event requires causation or an active ability by a mental event. If mental events do not cause anything (as epiphenomenalism holds) then they cannot cause knowledge, even knowledge of the truth of epiphenomenalism.

Defining the Topic of Concern

As said above, the purpose here is to contrast the materialist position with the moderate dualist. Materialism is the identification of brains with minds, or minds with machines stem from mechanical explanations of mental events (many contemporary psychologists, neurophysiologists and artificial intelligence pundits assume this position) The main argument in favor of materialism is an appeal to Ockham's razor. This is a simple principle of reasoning. People should not multiply entities beyond what is needed to explain something. If one thunderstorm can satisfy the question as to why your power went out, there is no need to come up with a long winded theory in addition to the storm, about starving squirrels, forced out of their homes and eating the power lines for want of better food. Materialism is *simpler* than dualist views because it posits only one thing – matter to explain the human person instead of two things. *The debate between materialism and dualism hinges on the necessity issue. Is there a need to go beyond a strictly material explanation of the human person?* If so, then there will be some aspect of the human person for which materialism cannot explain.

Our Position

In opposition to metaphysical materialism, the moderate dualist argues that the intellect is an immaterial component of human nature. In other words, it is the position of the moderate dualist that human mental activity cannot be adequately captured and explained in purely material terms. In addition, it is this very immateriality that marks a clear line of demarcation between mankind and the rest of the animal kingdom. If human beings lack immaterial intellects, then their minds differ only in *degree* from the minds of other animals. This immaterial intellect however, cannot function without the brain, in other words the brain is a *necessary* but not a *sufficient* condition for the intellectual powers. Intellectual activities depend upon the brain but are not reducible to the brain.

Contra Materialism

If minds are immaterial, then they are inherently unobservable by the senses. Only bodies are observable – but it is false to conclude that the unobservable does not exist. This is the *non sequitur* of metaphysical materialism. We can make rational inferences to the unobservable, based upon what we can observe. We know our own mental processes by introspection – we know that we are knowing. We know the minds of others via inference from sense perception of their behavior and speech.

Initially we can cite two defects of metaphysical materialism:

1. Rests on an unproved and unprovable foundation “nothing immaterial exists”. This principle may be true, it's not self-contradictory on its surface, but it needs to be proven and not assumed.
2. It is difficult to explain some mental phenomena, by purely material means; i.e., when depressed your brain doesn't hurt – *you hurt*. Mind events have different properties than brain events and therefore are not the same thing.

The first problem with materialism is straightforward. We will now elaborate on the second in three ways; the dissimilarity between mind events and brain events, the problem of free will and the problem of personal identity.

The Dissimilarity Between Mind Events and Brain Events ⁴

Many features of our mental lives are distinct and difficult to capture in physical/material terms. For example:

⁴ For an elaboration of these points, see Richard Swineburne's *The Evolution of the Soul* (Oxford: Clarendon Press 1997) and J.P. Moreland's and William Lane Craig's *Philosophical Foundations for A Christian Worldview* (Downers Grove, Intervarsity Press 2003) p. 233-238

1. **Spatial Location** Thoughts do not seem to have a particular location, but the parts of your brain do. Your love for your mother is not behind your right eye and ten millimeters from your right ear.
2. **Color and First Person Experience** Mental images can have color. Imagine if you saw some children on a beach playing with a beach ball. Your mental image is full of colors, but the accompanying brain event (neurons firing and chemical processes) do not have those colors. Brain events are not red, yellow, blue, etc. The same could be said about “fuzziness” or things of this sort. Mental events have different properties than the physical brain events that may correspond with them.

First person subjective experience of a phenomenon is not the same as a physical description of it. One can physically describe what goes on when one eats their favorite food, but that is an entirely different thing than *actually experiencing* the eating. Physical descriptions of pain and pleasure are not the same things at all as subjectively experiencing them. Having something as an object of experience is not merely a physical notion because the subjective *feel* is omitted. The presence of qualities *as felt*, distinguishes the physical event from the mental event.

3. **Private Access** Additionally, mental events are also distinct from brain events in that mental events have an exclusive first-person access that brain events do not. If you close your eyes and imagine a leprechaun, you have an awareness of small red bearded fellow in a green outfit. But if a neurophysiologist opened your brain, he would not see a leprechaun sitting there waving at him. So, at least some mental states are restricted to a sort of private access, only the person having them knows about them. A scientist may know *that* you are dreaming, but he cannot see the content of your dreams like watching a movie. “Reading someone’s mind” would be much different than opening up their head and looking inside the hemispheres of their brain. One’s own mental life is immediately available to them in a way that is not available to anyone else. A brain surgeon knows more about your brain than you do, but he does not know more about your mind. Can the materialist name just one example of any physical event that has such a private access?
4. **Incorrigibility** Mental events are also incorrigible where physical events are not. In other words, I can be mistaken about physical events but not about my mental images. You cannot be wrong about what is currently happening in your mind, not only is a brain surgeon restricted from knowing your mental events, he can even be mistaken about the what is happening in your brain. His knowledge of the brain is fallible and his knowledge of your mind non-existent, while you have incorrigible knowledge of your mental events.
5. **Intentionality** Another difference is that mental states have *intentionality* – meaning that they are simply *about* or *for* other things. One can have feelings *for* or *about* another person, have opinions *about* politics, intend *for* something to be done, etc. Physical things, while having physical relations to other things (to the left of, on top of, heavier than, etc.) are not *about* other things.⁵
6. **“Content and Propositional Attitudes”**⁶ belief, hope, fear, desire = “propositional attitudes” having an attitude towards a proposition

How can there be desires, hopes, and beliefs if materialism is true? The point here is that there is no sensible way to think about these things if materialism is true - materialists ought to be “eliminativists” about these sorts of mental properties - its a sort of “folk psychology” that ought to be replaced. But its quite obvious we do have these things

Leibniz's Problem - "Moreover, it must be confessed that perception (and he means our mental life generally) and that which depends upon it are inexplicable on mechanical grounds, that is to say, by means of figures and motions. And supposing there were a machine, so constructed as to

⁵ Intentionality in inanimate things cannot be accounted for physically, but if such intentionality were present in these things it would indicate a designer. This is the basis for Aquinas’ “fifth way” of proving God’s existence.

⁶ This point is taken from Alvin Plantinga

think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain a perception. Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for." (*Monadology* 17)

The point is that Thinking cannot arise from a mechanical interaction of parts - take a bicycle for example it does what it does by a moving of physical parts - a mechanical interaction of parts. Leibniz says thinking cannot arise this way, and the same would be true for electricity, magnetism, etc. Electrons and quarks are simple but they don't think. If the simple electron or quark can't think, it doesn't matter how many of them you put together - they won't add up to something that can think (a proton can't think by virtue of the unthinking quarks that make it up, nor can an atom think by virtue of the unthinking protons that make it up, nor a molecule, etc.)

Let's look at "belief" - what would a belief be if materialism were true? It seems it would be some sort of long standing neuro-event of some kind - a lot of neurons working together. (100 billions neurons in the brain). For the materialist, a belief will be something like that.

What then are the properties of beliefs? Neuro-physiological properties or electrochemical properties - they way they fire, respond to one another, etc. BUT IT WOULD ALSO HAVE TO HAVE "BELIEF THAT P", BELIEF HAS TO HAVE A *CONTENT* OR SEMANTIC PROPERTY, IN OTHER WORDS A MEANINGFUL *PROPOSITION* WOULD ALSO HAVE TO BE INCLUDED AS WELL.

Here's the question - how can an assembly of neurons firing a certain way have a proposition? What accounts for the content? What connects the neurons to the proposition. All we got here is a bunch of neurons. Examine this neuro event as carefully as we please, look at its connections and individual neurons, strength and rates of fire, synapses, etc. Nowhere here will we find so much as a HINT of content. We never see the way the neurons are related to the propositions content. Why THAT proposition as opposed to any other? As a matter of fact the properties here seem totally irrelevant to content. They're just not the right sort of thing.

Its not just we don't know HOW it works (like I don't know how a transmission works) rather we see that there seems no way that it COULD work. It's more like what we really see is that it can't. We can see that its not possible. We can't see how such an event COULD have event. In the same way we see that the number seven COULD NOT weigh 5 pounds. Its obvious that it couldn't. Maybe its not as obvious as that, but if you think about you can see that neurons firing is not the right kind of thing to account for belief in a proposition - kind of like saying an elephant could not be a proposition. (again maybe not AS obvious as that but that its the same kind of situation) we can see to at least some degree that this can't happen.

Obj - "You say we can't see how a neuro-event can have content. But this is easy because something like this happens all the time. The computer analogy - its a material object. Propositions are stored on the hard drive - suppose I type "Naturalism is all the rage these days". Does the pluses and minuses or magnetic pattern analog stored on the hard drive also express the content of "naturalism is all the rage these days"? (like the same sentence would in German?) That bit of the computer disc is also a material object and so therefore material things can perfectly well have propositional content. So your claim against materialism is completely bogus."

Resp - Its true a sentence has content via language, its the way humans communicate and we use sounds to get the person to entertain a certain thought (I say "dog" and you think about a dog) or proposition. "Naturalism is all the rage these days" gets me to think about it. Such statements have "content" in the sense that they are used by human beings to get them to think certain thoughts. Humans use these things in a way that they express propositions. A sentence has content just because beings like us use it in a certain way. So the kind of content here is what we might call SECONDARY or DERIVED CONTENT - its content is derived from the original or first order content enjoyed by human thoughts.

So this objection fails.

Therefore beliefs point to substance dualism.

Van Inwagen obj - matter thinking is mysterious, but a non-physical thing thinking is equally mysterious. How can anything think is a mystery. We can't form a mental image of either. So the same problem remains.

Plantinga's Resp - he's mislocated the problem. It isn't that we can't form a mental image of matter thinking. There are a lot of things we form mental images of but that we still believe (we can't form mental images of propositions either but we still there are such things). We can't form a mental image of the number 17 being prime doesn't mean 17 can't be prime, or we can't form a mental image of a chiliagon but that doesn't mean there can't be one. Forming mental images is not the problem. Not being able to form a mental image of something then is not a good reason for thinking there can't be something like that. The problem is that WE CAN SEE THAT IT CAN'T BE SO. (that something seems impossible is different from not being able to imagine it) Its not that we can't form a mental image of it, rather We can see that its not the right sort of thing to have content. So the reason for rejecting the idea that matter thinks is not our inability to form a mental image of it, but that we see its just not the right sort of thing for the job.

The same does not go for an immaterial object. Its not that we can see that an immaterial thing can't think - if so we would have an argument against the existence of God. It would go like this

No immaterial thing can think
God (supposedly) is an immaterial thing and thinker
Therefore there is no such person as God

But this is clearly not a sensible argument

Van Inwagen obj 2 - how does a soul think?

IF you think a human being is a self or soul, it doesn't have parts. Its a basic activity of the self, not an interaction of physical parts. Its done immediately and directly, not in virtue of something else. The self is just the kind of thing that does that (its nature). Its like asking in virtue of what does an electron have a charge? Well its just its nature to do so. There is no answer other than that is its nature.

Matter thinking is not just mysterious; it's an apparent impossibility. That's not a problem for thought; it's a problem for materialism.

Leibniz's Law of the Indiscernibility of Identicals All of this raises the question of identity. It is important to know that if two things can be distinguished in any way, they are not identical. Two balls with exactly the same properties, say being red and the same size, still occupy different areas of space and are composed of different matter, therefore they are not strictly identical. "Identical" as in the case of identical twins, is only a loose usage of the term. Since "we can predicate identity where difference is not found, but we cannot predicate identity where difference is found",⁷ a commonly accepted philosophical "rule" known as Leibniz's Law of the Indiscernibility of Identicals states that given any two contemporaneous things, if the things are identical, whatever is true of one will be true of the other. If something is true of one but not true of the other, the two are not identical. It is a necessary feature of everything that all are identical to themselves. If $a = b$ then a and b have all of the same properties. If the mind and brain are strictly identical, then they must have all the same properties. "Mind" and "brain" in that case, would be strict synonyms. The dissimilarities noted above however, indicate a difference between mental events and brain events, and therefore according to Leibniz's law, the two events cannot be the same thing. There are things true of

⁷ Aquinas, *Commentary on the Physics* Book IV, lec.23 p. 310. This is Aquinas' version of the Leibnizian "law of the indiscernibility of identicals".

mental states that are not true of brain activity, and vice versa. Therefore the two cannot be the same thing, even if they always occur together. We can summarize these points with arguments like the following:

The mental event is purple with white stripes
But the brain event is not purple with white stripes
Therefore the brain event is not the mental event

Mental events have exclusive first person access
But brain events do not have exclusive first person access
Therefore brain events are not mental events

Freedom of the Will

Materialism also has a problem accounting for human freedom. Strictly material things move in a mechanistic fashion according to the laws of physics and chemistry. *If the “self” is only the physical brain, then it is quite difficult to explain how the merely physical self can change independently of the natural laws of physics and chemistry, and if it cannot, then the materialist cannot explain one of the most obvious facts of our experience – the ability to choose one thing over another.* And if there is no free choice, then all ethical obligations are useless and rewards and punishments for behavior are given for nothing. If the human person cannot freely choose to act or not act, then they deserve no reward or punishment for their actions. Any position that reduces to determinism cannot even be argued for. To argue for such a view is self-refuting. In other words we cannot be persuaded to accept such a position based upon argumentation, for a persuasive argument presupposes the listener has the free ability to see the good reasons offered for a position, and then choose to accept or reject it based upon those reasons. *If our thoughts come only from a brain determined by physical laws, things other than our selves, we have no intelligent reasons for accepting or rejecting any viewpoint, including materialism.* After all, we did not (allegedly) choose it, it was chosen for us.

Personal Identity

The materialist view of the self cannot account for identity over time. When the parts of physical things are replaced, they do not retain their identity. Imagine a computer with a new hard drive; it is not exactly the same computer. The more parts you replace, to that same degree the less of the identical computer it becomes. One could even begin reassembling the old computer in another location. If all of the parts of the computer are replaced, it is an entirely new computer. But physical body does just that - it replaces its parts. By eating we take in new matter and replace the damaged matter that our body sheds. There is a constant ebb and flow of new matter within the physical body (brain included). Science tells us that *all* of our cells are replaced every several years. Hence if the mind or self is only material, the self now is not the same person as a few years ago. The self would be a new self like the new computer. There is no identity over time if the human person is only matter.

The matter of a man is throughout his life continuously being consumed and restored and so the parts of the body “ebb and flow”. This view of personal identity over time as grounded in something other than the physical body was the view of Aquinas when speaking of the identity of the resurrected person:

For what is no obstacle to a man’s numerical unity while he continues to live manifestly cannot be an obstacle to the unity of one who rises. But in the body of man, so long as he is alive, it is not with respect to matter that he has the same parts, but with respect to his species. In respect to matter, of course, the parts are in flux, but this is not an obstacle to his being numerically one from the beginning of his life to the end of it. An example of this can be taken from fire: While it continues to burn, it is called numerically one because its species persists, yet wood is consumed and new wood is applied. *It is also like this in the human body, for the form and species of its single parts remain* continuously through a whole life; the matter of the parts is not only resolved by the action of the natural heat, but is replenished anew by nourishment. Man is not, therefore, numerically different according to his different ages, although not everything which is in him materially in one state is also there in another.⁸

⁸ SCG IV 81, 12

We cannot be sure that we still have all of our “original atoms” that we had at earlier stages in *our* existence. Does that mean our identity is equally suspect to that same degree? Even if it could be shown that say, you still have the same identical electron bouncing around in your body that you had when you were conceived, it would be absurd to point to it’s position now (say in your left hip) and say “See this electron has always been here – that’s me man right there. That electron is ME the ground of continuity and my enduring self!

But what about “memory”? Appealing to things such as memory to preserve identity will not work, for two reasons

1. Memories can be true or false. To say memory grounds my identity in the past *presupposes true memories*. But what makes a memory true? What makes the difference between a true memory versus a false is *actually having been there*. Since true memories presuppose an enduring self, they cannot possibly be the cause of the enduring self.
2. We sometimes lose our memory. Do you remember what you did on your 4th birthday? Do you remember your birth? Do you always remember what you did after taking medication, or drinking too much? If identity is based on memory, then where there is no memory – there would be no you! (In other words, this position would be forced to say that if you can’t remember it you weren’t there) If you can’t remember your 4th birthday, you didn’t have one! –clearly an absurd position.

Since it is intuitively clear that we do remain the same person throughout our lives, materialism cannot account for this truth and should be rejected.

The Real Relationship Between Brain and Mind

All of the above provides us with good reasons to regard materialism as an inadequate position in describing our mental lives, free will, and personal identity over time. In other words, there are good reasons not to identify the brain and its processes with the mind and the “self”. But what then is the role of the brain? Isn’t it true that we need our brains to think? Isn’t it also true that science can show that when we do think some part of the brain is active?

This point is true and worthy of elaboration. First we must recognize that causality does not mean identity. The brain may be a cause of mental states, but that does not mean the brain *is* the mental state. Summer may cause you to sweat, but sweat is not the same thing as summer. It is not enough then to show that brain events and mental events are causally related and therefore materialism is established. *Establishing a causal relation does not establish identity*. Just because every time I have a mental event there is an accompanying brain event does not mean the two are the same thing. It may very well be the case that brain events cause mental events, or that the two are inseparable, but this does not mean they are not distinct. A left side of a piece of paper is not separable from a right side of the paper, but that does not mean the “left side” and “right side” are not distinct realities. In the same way, in conceptual thought the moderate dualist argues that we cannot think without our brains, but that does not mean we can think only with our brains. The brain is a *necessary* but not a *sufficient* condition for explaining the mind.

A brief explanation of these terms will be helpful to many readers. A *necessary condition* is a required element for an effect, but not one that by itself suffices in bringing about that effect. Oxygen is a necessary condition for fire (without it there could be no fire) yet oxygen by itself is not able to bring about the fire. Air is a necessary condition for human life. It is by no means a sufficient condition, i.e. it does not, alone, suffice for human life. A *sufficient condition* is a full explanation for a given effect. Oxygen and a struck match, some gasoline, and newspaper all compose a sufficient condition for a fire. A sufficient condition for an event does not have to exist for the event to occur (one could substitute the newspaper for something else), but if it exists, then the event will occur.

TO CLAIM HUMAN BEINGS HAVE AN IMMATERIAL INTELLECT IS NOT TO DENY THE SENSORY, ANIMAL ASPECTS OF HIS NATURE AND THAT THE BRAIN IS A NECESSARY CONDITION FOR KNOWLEDGE.

Intellectual acts cannot be described in material terms. It takes more than a material brain for them to occur. This brain is a *necessary condition* for these acts, but the brain is not a *sufficient condition* for them. We cannot think of concepts without the brain, but the brain can't do it alone either. The brain is the support for our minds, but we argue that something else is needed. To use Mortimer Adler's encapsulation:

WE DO NOT THINK WITH OUR BRAINS, BUT WE CANNOT THINK WITHOUT THEM.

Hence the correct relationship between the brain and mind is not a relationship of identity but rather a relationship of necessary condition. The potentiality of the mind needs the brain to provide it with data, but the two are not identical entities.

The Thomistic Argument for the Immateriality of the Mind

In addition to the initial problems of identifying physical events with mental events, we can do more in the way of positively arguing for a moderate dualist position.

Human knowledge of the universal is a grasp of an object stripped of its materiality. When we abstract from a particular triangle and know its essence of triangularity, we have an awareness of a common note that applies to all triangles. It applies to all triangles. This awareness is unable to be represented by any one percept of image. The idea of triangularity is an abstract concept representing the unpicturable essence of the triangle; indeed it lacks any material qualities.

The immateriality of thought is clear from the universal nature of ideas. Sensation cannot go beyond the particular "here and now" things. Materialists have an impossible time explaining how a single sensory image of a triangle can apply to all triangles. Or take another example. Humans can know not only the essence of a horse, a concept that applies equally to all horses, but can generalize even more and know what a "mammal" is, a concept that applies not only to all horses but all mammals. The human mind does not stop there, but can understand "animal", a concept that is even more abstract. We understand clearly what an animal is, and of course the mind can even go further and know what "living thing", "body", and even the most abstract and universal of all concepts, "being". None of these universals are directly sense perceptible.

We can also add that some of our ideas are never sense perceptible in any way. Our courts spend a lot of time defending "justice" and "rights" even though nobody has ever sensed these notions. We can also discuss God and angels; things that are in no way sense perceptible.

The Error of Nominalism

There has been a school of thought that has denied that the human mind knows anything real when it knows essences. Known as **Nominalism**, this philosophy holds that all such terms are merely words made up to conveniently categorize *different things*. In other words, it is a philosophical defense of the somewhat bizarre and counterintuitive notion that every white thing is really a unique and individual color. There is no real "white" that is one and yet in different things at the same time but rather there are only individual "white-like" things that are similar enough that we group them together. The same of course is true for the rest of the universals as well; i.e. there is no one "human nature" just individuals with similar characteristics, no one "dogness" but just individual animals with similar features, etc.

Nominalism however, is either self-contradictory or leads to a vicious infinite regress. It is first self-contradictory to say, "All dogs are not the same". If they are not the same, then why group them together with the phrase "all dogs"? To say that we group a certain set of animals together and call them "dogs", one has to ask why do we group only certain animals and not others? If they have *nothing* in common, the grouping is unjustified.

Perhaps the nominalist will reply that two things are just similar. If the grouping is because they have something in common, then either we can know what it is they have in common or we cannot. If we cannot, then of course the grouping cannot be accomplished. If we do, then this amounts to a refutation of Nominalism. For in recognizing common characteristics we recognize at least two things sharing the same trait (i.e. barking, ability to smell well, panting, etc.). All we have done now is remove one universal "dog" and replaced it with others "barking", "panting", and "ability to smell well". If the nominalist replies that

these are not universals either, but only similar features, then the question comes up again; what makes them similar? *The original question will regress to infinity unless the nominalist admits that there is indeed some characteristic that is identical.* They must resemble each other in something that is identical. If nothing is identical, then there can be no similarity at all. But if an identical characteristic is admitted, it must be universal (because it is an identical trait located in two dogs at the same time) and if we admit that universal, there seems to be no reason to have denied the original “dog” universal in the first place.⁹

Particulars versus Universals

We must remember that universals always refer to a class, not a given particular. The term “dog” refers to all dogs, not just any particular one. “Whiteness” refers to anything colored white, not one particular thing. The objects that we sense are always individual material entities – individual white dogs, a house, a tree, etc. Anything we perceive with our senses is always a particular. *There is no such thing as a particular that exists as a universal.* That would be a contradiction, like a square that is a circle. *There is also no such thing as a material thing that is not a particular.* To be material is to be in a particular place at a particular time, hence not universal. No one has ever experienced, nor could they possibly experience, a material thing that is also universal.

The Argument¹⁰

Thus the human mind can indeed know universals and in this way is open to a whole range of reality, a range not limited by the sense perceptible. Since sensation cannot account for this activity, *the positive edge of Ockham’s razor compels us to look further for an explanation.* Such an operation is only explainable by acknowledging an immaterial component to human knowledge. Hence, we can state our argument by saying that:

What we know are universals

(The concepts by which humans understand things are actually universal. Otherwise no one could have knowledge of butterflies, humans, etc. All would be individual and there could be no science of anything. But there obviously is science, knowledge, etc. So there must be knowledge of universals)

Universals cannot be physical

(Nothing that exists physically is ever actually universal. Whiteness cannot be in a can, “triangularity” cannot be put in a box - therefore none of these universals can be in the brain)

Therefore - what we know cannot be physical

If the universal concepts used by humans were embodied in matter, they could not be universal. That is, if they are in one’s brain they are not universal in nature, but physical.

IN OTHER WORDS, IF CONCEPTS WERE RECEIVED INTO SOMETHING EXTENDED AND PARTICULAR, THEY THEMSELVES WOULD BE SOMETHING EXTENDED AND PARTICULAR – WHICH THEY CLEARLY ARE NOT.

UNIVERSAL CONCEPTS ARE THE KINDS OF THINGS THAT CAN NEVER BE PARTICULAR

Thus human knowledge is an action that is independent of a bodily organ. But this immaterial operation tips us off to something more. Action follows being. Existence is prior to any action. Whatever can act independently of oxygen must be able to exist independently of any oxygen. In the same way, for something to act independently of the body, that something must *be* independent of the body. Sensation is

⁹ Much more can be said about Nominalism. See Mortimer Adler’s *Ten Philosophical Mistakes* (Touchstone, 1987), J.P. Moreland’s *Universals* (McGill-Queen’s University Press, 2001), and D.M. Armstrong’s *Universals: An Opinionated Introduction* (Westview Press, 1989)

¹⁰ See Adler, *Intellect* 49. This is derived from the argument given by Aquinas in the *Summa Theologica* I.75.5 “For if the intellectual soul were composed of matter and form, the forms of things would be received into it as individuals, and so it would only know the individual: just as it happens with the sensitive powers which receive forms in a corporeal organ; **since matter is the principle by which forms are individualized.** It follows, therefore, that the intellectual soul, and every intellectual substance which has knowledge of forms absolutely, is exempt from composition of matter and form.”

required for knowledge in the sense that it provides the initial *object* for knowing, but once the object is provided, sense does not play any role in the *operation* of knowing itself.

All modes of acting follows the mode of being

(Before something can act in a certain way it must first exist in a way suitable to that action)

The act of knowledge is an immaterial operation

(Because what we know cannot be physical - conclusion from the above argument)

Therefore, that which performs the act of knowledge (intellect), is immaterial

The intellectual principle, which we call the mind or the intellect, has an operation through itself or "per se" apart from the body. Now only that which subsists can have an operation "per se." To operate "per se" belongs to what exists "per se." But for a thing to exist "per se," it suffices sometimes that it be not inherent, as an accident or a material form.

Another way of making this same point is to say that the human mind is open to all being and not just one category of being. What the intellect knows in seeing a particular dog is not just the dog's sense perceptible qualities, but the very essence of "dog". This "dogness" is universal. Sense perception cannot get at the universal. One cannot touch or see dogness. In fact, nothing material can touch, receive, or get at dogness because this essence is inherently unable to be apprehended in that way. Things, in order to become objects of the mind, must retain their universal nature and be stripped of all materiality. Being material "gets in the way" of receiving the immaterial. The senses and matter perceive a limited category of existence while the mind can not only see the immaterial essences of natural things such as dogs, but also wholly immaterial things such as numbers, God and other spiritual natures by analogy, and even extending to the realm of merely possible beings. In other words, the mind is open to being with a sort of infinite range while matter is inherently limited. The human mind does much more than a material thing possibly could.

The human mind then, must *be* something immaterial.

The Nature of the Human Soul

Actions lead us to powers and powers tell us about the nature of the thing, that it is the kind of thing that has a certain power. So the soul and its powers are intelligently derived from material events. By studying the powers of the soul, we learn about the soul itself. ***Our knowledge of the soul is an inference that follows necessarily from certain facts. That we cannot see it doesn't mean it is not real.*** I cannot see the love my wife has for me. I cannot see or touch my own mental experiences. One cannot see their right to vote; I cannot see my own seeing to confirm that it is actually mine, etc. Since action follows being, we can attribute the activities of the human intellect to a power of the immaterial component of the human being.

First, the soul is said to be the first principle of life in all-living things. There are dead bodies and living bodies. The difference between them is not a material difference. Therefore, the first principle of life cannot be the body. Aquinas writes:

Now, though a body may be a principle of life, or to be a living thing, as the heart is a principle of life in an animal, yet *nothing corporeal can be the first principle of life*. For it is clear that to be a principle of life, or to be a living thing, does not belong to a body as such; since, *if that were the case, every body would be a living thing*, or a principle of life.¹¹

What is the difference between a dead body and a living one? The same material is there. Sure, as Aquinas agrees, the heart for example is a principle of life – one cannot live without it. But the heart is not the *first* principle of life. We know that if a human dies replacing a material part will not bring the person back to life. This is also true of plants and animals. Once they die, replacing the matter will not return life. In death, something else is going on over and above any problems with material parts.

¹¹ ST I.75.1 emphasis added.

Death then is not strictly a matter of matter. Death may certainly be caused by a material event, but death itself cannot sufficiently be described in scientific terms. There must be an immaterial principle at work in life. If life were merely an arrangement of material parts, there should be no reason why we cannot make a Frankenstein monster. All that would be needed is to gather good working organs together and put them in a corpse. (This would certainly work for a purely material machine such as a car) Of course, we know that this is fantasy. Living things are not just material machines. Death is when the soul, the living principle of the body, separates from the body. It makes a thing be say a human, and enables it to live. When the soul is gone, the human is no longer alive and only a "human" in an equivocal sense. It is not strictly speaking a human anymore - just wait a little while and this will be evident.

This idea of soul as the first principle of life applies to all living things, but the human mind in particular has some very unique powers that merit an even deeper explanation. These powers suggest not merely a soul like other living things, *but a soul that operates wholly without any bodily organ*, indicating that there are good reasons for thinking that this type of soul – *since it can operate without the body, it must be able to exist without the body.*

In Aristotelian terms, *the human soul is the substantial form of the body.* It is united to the body as form is to matter. This is the form that makes the human both be a human kind of substance and live. This form makes the body first be (a *first act* of the soul) and then it gives rise to secondary powers (*second acts*) like seeing, touching, and knowing. When the soul is separated from the body in death, the remaining "body" is not really human anymore in the same sense as it was. The human form is gone, and the remaining matter decomposes into other substances.

The soul however is not a complete substance on its own either. The moderate dualist differs from the Platonic absolute dualist in this regard. The soul here naturally relies on the body for knowledge and thus any separate existence will be an imperfect one. How the separated soul "knows" anything without the body seems to be a problem that goes beyond the realm of philosophy into theology. St. Thomas Aquinas argued that the doctrine of the Resurrection of all human beings was known by theology, and is a quite fitting solution to this problem. In any case, by the analysis here the data indicates the human soul is substantial but not a complete substance on its own.

The Continued Existence of the Soul

Since the mind has an operation that does not directly involve the use of a bodily organ, another conclusion follows - it must be able to subsist without the body. Whatever has an operation proper to itself subsists. The intellectual soul has an operation proper to itself. Therefore the intellectual soul subsists without the body. After all, how can a thing act independently if it cannot even exist independently? That's like saying one can act independently of oxygen but cannot exist independently of oxygen. Being is prior to any action. A thing must be before it can act. So if its action is independent of any body, its existence too must be independent of any body.

This means that the death of your body cannot be equivalent to the death of your soul.

Immortality of the soul

Not only does the soul merely continue to exist after the death of your body, but it seems that it must be immortal. A thing can be destroyed in two ways - from the *inside* by disuniting its essential parts, this is what happens at death when the soul is separated from the body. But the soul is not composed of parts, it is immaterial, so it cannot be destroyed in this way. In other words the human soul lacks any spatial or constituent parts. It lacks spatial parts because it is immaterial. It lacks constituent parts because there are no signs of composition. The ideas that it has are simple – i.e. "dog", "whiteness", triangularity cannot be divided and have no extension. One's ideas of a fly and of an elephant are not different sizes. Since these products are simple, it indicates the subject that has them must be simple as well. Since the soul is simple and unextended, it has no parts and cannot be destroyed by taking away any alleged parts.

The other way of destroying something is from the *outside*, by destroying something exterior to the thing on which it vitally relies. This is a corruption *per accidens* and is what happens to animal souls. As we will see, it seems animals have no operation independent of the body and so when their body dies, the soul dies. However the human soul again subsists independently of the body. The body is not an essential factor in its

existence because it can act independently of this body. *Hence destroying the body does not destroy the human soul.*

It seems then that there is no way to destroy the soul in either of these two ways. It could be that the Creator decides to annihilate a soul by removing existence from it, but this of course goes beyond the realm of philosophy.

The Origin of the Soul

If you do not have a spiritual substance, you cannot give a spiritual substance. Wholly immaterial substances cannot be produced from matter. Matter is in potency to become anything material, but matter cannot become immaterial. Since the material cannot produce the wholly immaterial, it is impossible that the human soul is a product of material evolution. Additionally, it seems that since the soul can act independently of the matter, this independence must be not only in its existence but also in its manner of receiving existence. There is a connection of sameness between a potency and its act (or else something comes from nothing – a thing arises from no potency). If the act is independent of matter, so too must be the potency. James Royce puts it syllogistically¹²:

**What is independent of matter in its being must be independent of matter in its becoming
But the human soul is intrinsically independent of matter in its being
Therefore, the human soul is intrinsically independent of matter in its becoming**

Moreover, since as we have said the immaterial is simple, the immaterial cannot be divided - you cannot cut an idea in two, you cannot divide the form of redness, or take half of love, etc. Ergo, it cannot be that our parents each gave us “half” of our soul.

The only other option is creation. It seems then that the human soul must be created by a spiritual being with a power to bring an immaterial substance into being without any prior matter (because the soul is itself immaterial). While the souls of brute animals are not subsistent without the body (as we will see in the next section), they can be educed from matter (like how a shape is educed from the matter of the clay), but the human soul, which is an immaterial substance, needs to be created by an immaterial being capable of producing an immaterial substance from no preexisting subject.

PART II: WHAT MAKES HUMAN BEINGS DIFFERENT FROM ANIMALS?

Does the human mind differ in kind or only in degree from the mind of apes, horses, dogs, dolphins, and cats? The difference hinges upon the uniqueness of the intellect. This uniqueness will manifest itself in behavior that is distinctly human.

What do we mean by “difference”? There are two types:

Difference in degree – Two things differ in degree when a certain property is held in common, although one thing has more of this property than the other. For example, two squares may be different sizes, but they are both squares.

Difference in kind – Two things differ in kind when one of them has a property that *is not held at all by the other*. A square and a circle differ in kind because the square has four equally straight sides and the circle has none.

To say that human beings differ in kind from animals is to say that human beings possess at least one property that is not held at all by the rest of the animal kingdom. In other words, human beings will manifest a behavior that is totally absent from other animals, not even in the smallest degree. This does not mean of course there are not other aspects that differ only in degree, but only that as far as at least one property is concerned, there is a difference in kind. Citing examples of differences of degree does not militate against there also being a difference in kind.

Of differences in kind, Adler notes that there are two types; superficial and radical:

¹² James Royce, *Man and His Nature* (New York: McGraw Hill 1961) p. 340

Superficial difference in kind – Difference in kind on the surface, but underneath there is only a difference of degree. Water as solid, liquid, and gas appears to be different in kind but really is the same thing at different degrees of temperature.

Radical difference in kind – A truly unique difference not possessed by one but is possessed by the other. It may be that man is the only break in the continuity of nature. If the human mind is radically different from other minds, and this difference is the reason for the difference in behavior between animals and humans, then we are warranted in regarding that difference as radical rather than superficial.

Animals like us have sensory powers that function with their brain, enabling them to see, perceive, etc. They can also, in some degree, remember, adjust their behavior based upon experience, and imagine. Animals also have desires and emotions like anger and fear that motivate behavior. We see animals sometimes doing impressive things, but it is an anthropomorphic projection to attribute intellect to them. There is no question that animals can communicate. Animals can make their wants known, they can warn of dangers, and even bees can communicate the location of a find. With regard to these sorts of properties, human beings and animals only differ by degree. But the question is - is this communication perceptual by concrete signs or conceptual terms?

All of the available evidence indicates the former. To say that animals have conceptual thought and communication is an unwarranted assertion. To reply that “We’ll maybe they just don’t want to talk in such terms” is in fact an admission that they do not. We can only make decisions based upon available evidence, and the burden of proof lies with the person claiming animals communicate in this way.

Ape Talk?

We must make a distinction between *what certain animals actually do* in “animal intelligence” experiments and *the animal psychologist’s interpretation of it*. Rarely are terms like “intellect” or “concept” used with the degree of philosophical precision needed to be of benefit here. There are other distinctions that can be made as well.

First, this behavior always occurs in laboratory conditions, never in the wild. In the wild communicate with grunts and grimaces but these animal expressions work as signals that express emotional states or desires with regards to sense experience. By putting together the signs for “hungry” and “banana” the gorilla’s grasp of communication does not rise above the sense perceptible. We must further note that no ape has ever passed this language down to later generations. The naming and words the chimpanzee learns refer strictly to designating sense perceptible objects.

A possible challenge to those who hold that animals have intellect would be to produce evidence that an animal is capable of understanding the term “last year”. This is a concept that even a five-year-old human can understand. Additionally, Mortimer Adler has illustrated that human children can learn a great number of words without ever sensing the objects to which they refer, but just through verbal descriptions. Chimpanzees cannot do this. All of their vocabulary is does not rise beyond the level of the sense perceptible.¹³ Many other animals have been given educational opportunities by these experiments that far surpass the opportunities given to lower income children, yet the uneducated children show clear signs of intellect and chimps and gorillas do not.

Animals do even seem to have demonstrated an ability to generalize based upon shapes. For example, some animals have learned to find their food on square mats, or recognize different triangles over other shapes. Does this show that these animals can “understand” abstract concepts such as “triangularity”? No, this power of generalization based upon the senses differs from what we mean here by *thought*.

There are two senses of the term “thought”. Human thought should be regarded as “conceptual” while animal thought should be regarded as “perceptual”. What is the difference? Animals can “think” but in a different sense than people “think”. Animal thought stems entirely from what their sensitive powers can

¹³ Adler, *Intellect* 33

perceive, remember, or imagine and never goes beyond these powers of sense. Thinking in animals seems to be entirely a physical process and embodied in physical organs. Their “mind” is in matter.

In conceptual thought, a universal concept is grasped by the human mind. This concept is immaterial. Concepts such as triangularity, “the day before yesterday”, God, “rights”, “justice”, “love”, beauty, etc. are common topics of human discussion. These concepts however are not themselves sense perceptible. One cannot touch “triangularity”, only individual triangles. One cannot see “rights” or “love”, but only physical and individual manifestations of them. “Redness” is immaterial, and if I destroy a red wagon, say by burning, the red in the wagon may be destroyed but “redness” itself remains unharmed. Moreover, these concepts are very real and important; arguably these immaterial concepts are what are most important to us. Often they are what we live and die for, yet they cannot be perceived our five external senses. If one were to ask you what is the physical length of “freedom” or how much does “good” weigh, they of course would be asking something that cannot be answered. It would be a categorical confusion on their part. However, again, these concepts are either quite real or we waste a tremendous amount of energy and time talking about them in our common everyday experience.

Conceptual thought then is about immaterial universals. These concepts are called *universals* because the same property can exist in more than one place at the same time. Love is not limited to being only here in one location and not another. Whiteness can be found simultaneously in snow, a house, a picket fence, and a piece of paper. These abstract concepts are universal in this way. Thus, it is clear from common experience that human beings have these concepts, can discuss and debate them, enjoy them, rely on them for knowledge, and even war over them. Since these immaterial concepts seem to occur only in human speech and thinking, only in human beings does the mind rise above matter.

The Distinctive Behavior of Humans

This radical difference in the mind accounts for the clearly distinctive behavior we see in human persons as contrasted with other animals. Some examples are:¹⁴

Only human beings “bind time” by connecting the present with the past and imagined future. Ergo, only man is a historical animal with historical traditions and development. “Yesterday” and “next week” are imperceptible by the senses. One cannot think about these concepts if their thought is limited to sense perceptions. It is no surprise then that animals live in the present. There are no drastic changes with animals from generation to generation unless a genetic change occurs. Progress then, is a sign of intellect. Even the crudest primitive humans have some tradition and exhibit progress over time. Yet, the ancient animal observers have observed the same behavior we see these animals doing today. Monkeys have watched birds for thousands of years, but have never tried to devise flight of their own. Bees have not improved their health care; bears have not learned to make better homes, and frogs have not consciously produced anti-predator weapons and improved dwellings. Animals do the same thing the same way for centuries with no improvement, illustrating there is no real understanding of what they are doing – they are acting out of instinct.

Some animals may use rudimentary tools (a gorilla may stack boxes to reach a banana), but only humans make machines. One must think abstractly to organize a machine’s parts as a means towards a future end, transcending the perceptual here and now and aiming at a remote goal. The use of abstract thought in building machines is why only humans can build things like airplanes, submarines and computers.

The universal signs in human language give birth to human culture - a new conduit of transmitting information that transcends a mere biological or genetic diffusion:

The human organism exists in an interbreeding population, the human species, but this species is social in a special sense not found in other animals, at least in a developed form. This species lives by communication through a true language, i. e., one in which signs stand for universal, reflexive concepts. Furthermore, it is social in the sense that it develops a culture which transcends determined or instinctual patterns of behavior and includes inventions which are transmitted for many generations not genetically but by

¹⁴ For more see Adler *Intellect*, 29

acculturation and education. This power of communication and invention which rests on an internal and external language, and hence is a power of dealing with the environment, with other human beings, and with one's own behavior through symbols, we call human intelligence. It is the mode of operation of the human organism as a whole, but it is centered in the principle organ, the human brain.¹⁵

Men produce fine arts; say music, for sheer pleasure. The song of a bird doesn't seem to be for this purpose and the same song is repeated by a given species of bird for ages upon ages. Human art is also creative, rather than instinctive. It comes from the will. Animals do not engage in these fine arts.

Only human beings have standards of conduct, call actions "good" and "bad", prosecuting those who violate these standards. Ethics is a very unique trait and is quite abstract (try catching and putting "justice" in a closet). We do not hold animals morally responsible for their actions because we know that they are incapable of knowing "good and "evil" (what your dog may think is "wrong" is only that he will be punished for doing the action – he does not see it as "evil").

Human beings are singularly social in nature, organizing bodies of relationships and beings of reason such as clubs, family reunions, entering into social contracts and making governments. Individual relationships too cannot be grasped by animals. The dog can see a police uniform just as easily as we can, but he cannot understand the office of the policeman and his position in society because again, these are strictly conceptual manifestations. "The President of the United States" is a reality and understandable to all of us, but the animals cannot understand this position because it is based upon a social relationship – an abstract entity.

Only human beings have religion, talk of God and creation, and build places of worship. One cannot talk to their dog about angels. If a dog cannot see it, touch it, hear it, taste it, or smell it – he cannot apprehend it. The range of the human intellect is open to all of reality in this way; it can apprehend and talk about the range of being from the lowest pebble to God.

Humans produce indications that they are aware of their own knowing. Humans know that they know. Unlike mere sensation, the human mind can know its own activity. In other words the intellect is self-reflective; with a concomitant awareness it can both know and know that it knows. Senses cannot be self-reflective. A sense cannot sense its own sensing. Trying to sense your own sensing would be like trying to scratch the tip of your right index finger with your right index finger or look directly at your own eye. Senses cannot "bend back" upon themselves.

All of the above distinctive behaviors of human beings are explainable only by appealing to abstract conceptual thought. In the case of animals, there is no valid inference from sense perception of speech to intellect. Wherefore we conclude that as the souls of brute animals have no "per se" operations they are not subsistent. For the operation of anything follows the mode of its being.

Thus, all of the available evidence indicates that animals know only by sensation and that human beings are capable of much more. Human knowledge transcends the here and now of sense experience. The following chart shows the marked difference in sensation from intellectual knowledge. The data indicates that animals are only capable of the actions on the left column while humans are capable of actions in both:

¹⁵ Benedict Ashley, "Causality and Evolution" in *The Thomist* (1974)

The Differences Between Sensation and Knowledge

Sense	Intellect
singular objects	universal objects
proper sensibles (each sensory organ has a range of reality)	potentially all things
apprehends accidents	apprehends essences and substance
X (a sense cannot sense itself)	self - reflective (the intellect can know that it is knowing), a concomitant awareness

Since human knowledge indicates an ability that does not seem to be possessed by animals in any way, we can, using our criteria above, say with confidence that the data indicates human beings as *radically different in kind* from animals.

Summary

The human mind has activities that cannot be adequately captured or explained by mere material phenomena. The positive edge of Ockham's razor then compels us accept an immaterial component to human nature. If this position is true, *the human mind is not a computer made out of meat*. In fact, if this position is correct about abstract thought, no computer will ever be made to do what the human mind can do. Computers are purely material. The human grasp of universal concepts indicates an operation that cannot be one of a bodily organ such as the brain. Acting independently presupposes existing independently, and thus the soul of the human person can survive the destruction of the body.

Moreover, this human intellectual capacity is unique to the human species. Decades of research in animal "language" projects have failed to produce evidence of an intellectual grasp of universal concepts in animals. Thus while it is clear that animals have a soul insofar as they are living, it does not seem to be the case that they have the same *kind* of soul as a human being and thus human beings are distinguishable as *different in kind* from the rest of the animal kingdom. The best available evidence supports the notion. If at some future date a dolphin or chimpanzee indicates signs of conceptual thought, this conclusion would have to be revised in the sense of attributing powers of an immaterial soul to them. What we have said regarding the nature of human beings would not have to change merely because some animals have such abilities, we would simply be forced to broaden the category of beings to which an immaterial intellect would apply. Thus, the position defended here is open to the possibility of animals having immaterial aspects, but there is no evidence to indicate such. Conversely however, if the moderate dualist position is true, computers will *never* be able to have the power of conceptual thought, and if computers ever do become capable of such thought, then moderate dualism will have been falsified.

What the future holds for animal and computer intelligence of course, we do not know. However repeated and cumulative failures do have an effect insofar as the credibility of the position is damaged. *Repeated trials and failures diminish the integrity of a position*. Adler cites Karl Popper's principle¹⁶ that a theory repeatedly tested and not falsified gains in credibility over time. This is what we currently have with the moderate dualist position. The evidence to date supports it. The flipside to this principle however is *that a*

¹⁶ Adler, 251

theory repeatedly tried and failed becomes more and more implausible, far-fetched, and fanciful. One can always make repeated attempts at proving a principle, but repeated failures diminish its standing. Reason demands that the plausibility of a position be determined on what we know now, the available evidence to date, not what may be in the future.

In summary we can say that the moderate dualist position of the human person, held by Aristotle and Aquinas, can best account for mental events and common experience. It is therefore the preferable option regarding human nature.