

Neuroscience, Christian Anthropology, and the Role of Women in the Church

by Nancey C. Murphy
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Introduction

In the Ancient and Medieval periods it was widely believed that all of the features distinguishing humans from inanimate objects were to be accounted for as functions of the soul. Latin had two words, *anima* and *animus*, both translated into English as 'soul.' *Animus* is also translated 'mind'; *Anima* is also translated as 'life principle.'

With the development of modern biology it is no longer assumed that anything non-physical needs to be added to inorganic matter to produce a living organism; rather, life is due to complex organization. Thus, insofar as the soul was understood as the life principle, there is no longer a need for such a concept.

Insofar as 'mind' is equivalent to *animus*, modern philosophical discussions of the person came to focus on the relation of mind to body. Modern mind-body dualism has been plagued with philosophical problems. These problems were due both to changed conceptions of soul or mind, and these, in turn were due to changing conceptions of matter. In Aristotle's thought, souls were but instances of the metaphysical concept of *form*. Form was an essential constituent of all material entities, supplying active powers to otherwise passive matter. One might say that the whole metaphysical system was designed to accommodate the notion of soul. With the rise of modern physics came a new conception of matter itself, no longer a principle correlative with form, but self-sufficient. Now the concept of form has no application, and souls or minds are anomalies in an otherwise purely physical and causally self-sufficient universe. In response to this change in physics, René Descartes rejected the moderate and holistic dualism of Thomas Aquinas in favor of a radical dualism closer to that of Plato and Augustine.

Over the course of modern history, the problem of mind-body interaction has come to be seen by most philosophers as insuperable. At the same time, astounding advances in the neurosciences have contributed greatly to physicalist accounts of mental and emotional phenomena.

Yet many Christians are reluctant to accept a physicalist account of the person because they believe that body-soul dualism is essential to Christianity. My plan here is to present just a small sampling of neuroscientific findings that show the role of the brain in processes that have been attributed in the past to the soul. Second, I'll review some of the developments in Christian scholarship, over the past century, that have been calling into question the need for body-soul dualism. Finally, I shall make a somewhat speculative suggestion that women would have been much better off in the church, and thus in society at large, if Christians had not adopted dualism in the early centuries of their history.

1 Neuroscience and the Soul

My claim is that all of the capacities once thought to be functions of the soul are now being studied by cognitive neuroscientists as brain functions. I would elaborate on this claim by emphasizing that these are capacities enabled by our complex neural systems, in interaction with cultural resources, and also resulting from our interaction with God.

While recent philosophy has focused more narrowly on the mind, older concepts of the soul incorporated the emotional and appetitive aspects of human life. I believe that Aquinas had the most elaborate and perceptive account of the functions of the soul.¹ Aquinas followed Aristotle in recognizing three levels of functioning: that which we share with both animals and plants, that which we share with only the animals, and that which is distinctive of humans. The faculties attributed to the lowest aspect of the soul--nutrition, growth, and reproduction--have

¹Thomas Aquinas, *Summa Theologica*, Ia, 75-83.

long fallen within the sphere of biological explanation. There is one additional capacity that current biologists would add: the capacity for self-repair.

A number of the faculties we share with animals have also been understood biologically for some time: locomotion and sense perception. Neuroscientists have located the motor cortex, auditory and visual cortices, olfactory lobes, and so forth. Another capacity we share with the higher animals is emotion. It was once thought that all emotions were mediated by the same neural machinery, the “limbic system,” but more recent research suggests that there are different systems for different emotions.²

In addition to the five exterior senses, Thomas postulated four “interior senses” and these capacities show up in particularly interesting ways in contemporary neuroscientific research. The *sensus communis* (common sense) is the faculty that distinguishes and collates the data from the exterior senses--for example, associating the brownness and softness of the fur, the barking, and the smell in order to allow for recognition of the one substance, a dog. In contemporary neuroscience an explanation for this ability is referred to as “the binding problem,” and it is considered one of the most difficult problems in current research, second only to the problem of consciousness itself.

For an example of a capacity that is more readily yielding to research, consider a second of Thomas’s interior senses, the *vis aestimativa* (translated as the estimative power or instinctive judgment). This faculty allows for apprehensions that go beyond sensory perception, apprehending, for example, the fact that something is useful, or friendly or unfriendly. One relevant area of research is the investigation of the neural basis for recognition of intentions in both humans and animals. Humans and other social animals come equipped with neural systems that predispose them to pick out faces. The amygdala has been shown to be necessary for interpreting facial expressions, direction of gaze, and tone of voice. Neurons in the same region

²Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon and Schuster, 1996).

are responsive to the sight of hands and leg motions typical of walking. Thus, there are neurons whose function is to respond to visual stimuli that indicate the intentions of other agents.³

Joseph LeDoux is well-known for his investigations of emotion. What he writes about "emotional appraisal" is relevant to distinguishing this estimative power from the *sensus communis*:

When a certain region of the brain is damaged [namely, the temporal lobe], animals or humans lose the capacity to appraise the emotional significance of certain stimuli [but] without any loss in the capacity to perceive the stimuli as objects. The perceptual representation of an object and the evaluation of the significance of an object are separately processed in the brain. [In fact] the emotional meaning of a stimulus can begin to be appraised before the perceptual systems have fully processed the stimulus. It is, indeed, possible for your brain to know that something is good or bad before it knows exactly what it is.⁴

So in Thomas's terms, the *vis aestimativa* is a separate faculty from the *sensus communis*, and it works faster.

Among the rational faculties, distinctive of humans, Thomas distinguished the active and passive intellects. The passive intellect is a sort of memory, closely resembling what current neuroscientists call declarative memory, and this has been found to be dependent on the medial temporal lobe of the brain. Active intellect is responsible for abstracting concepts from sensory experience and for reasoning and judging. These latter capacities are less well understood in neurobiological terms. However, they all involve the use of language, and language use and acquisition are an important area of current study. Two regions of the brain, Wernicke's area and Broca's area, have long been known to be involved in language. Language memory involves a variety of regions; selective damage due to strokes or tumors shows that access to

³See Leslie Brothers, *Friday's Footprint: How Society Shapes the Human Mind* (New York: Oxford, 1997).

⁴Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon and Schuster, 1996), 69.

common nouns, proper names, verbs, and even color terms depends on separate regions.⁵

Furthermore, syntactic and semantic capacities depend on different regions of the brain.⁶

The third of Thomas's rational faculties was the will. This he defined as the capacity to be attracted to goods of a non-sensory sort. Along with intellect, this is the seat of moral capacities. Furthermore, since God is the ultimate good, the will also accounts for the capacity to be attracted to God. Neuroscience now contributes to our understanding of both morality and religious experience.

Antonio Damasio has studied the neural processes that go into practical reasoning, that is, the ability to make both moral and prudential judgments. In his book, *Descartes' Error*, he reports the case of a nineteenth-century railway worker, Phineas Gage, whose brain was pierced by a metal rod. Gage recovered physically and his cognitive functions (attention, perception, memory, reasoning, language) were all intact. Yet he suffered a dramatic character change after the accident. The doctor who treated him noted that he had become "fitful, irreverent, indulging at times in the grossest profanity which was not previously his custom, manifesting but little deference for his fellows, impatient of restraint or advice when it conflicts with his desires, at times pertinaciously obstinate, yet capricious and vacillating, devising many plans of future operation, which are no sooner arranged than they are abandoned."⁷ Damasio's wife Hanna was able to determine from the damage to Gage's skull exactly which parts of the brain would have been destroyed in the accident--selected areas of his prefrontal cortices. Damasio concludes from this and other similar cases that this area of the brain is "concerned specifically with unique human properties, among them the ability to anticipate the future and plan accordingly within a complex social environment; the sense of responsibility toward the self and others; and the

⁵Paul Churchland, *The Engine of Reason, The Seat of the Soul: A Philosophical Journey into the Brain* (Cambridge, MA: MIT Press, 1995), 132-143.

⁶Peter Hagoort, "The Uniquely Human Capacity for Language Communication: From POPE to [po:p] in Half a Second," in Robert J. Russell, Nancey Murphy, Theo C. Meyering, and Michael A. Arbib, eds., *Neuroscience and the Person: Scientific Perspectives on Divine Action* (Vatican City State and Berkeley: Vatican Observatory and Center for Theology and the Natural Sciences, 1999), 45-56.

⁷Antonio R. Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: G.P. Putnam's Sons, 1994), 8.

ability to orchestrate one's survival deliberately, at the command of one's free will."⁸ In short, what Thomas described as the "appetite for the good" appears to depend directly on localizable brain functions.

A number of neuroscientists have begun to study the role of the brain in religious experience. For example, patients with temporal lobe epilepsy often develop strong interests in religion, and this has led to speculation that the temporal lobes are involved in certain sorts of normal religious experiences as well.⁹

What are we to make of all this? It is important to note that no such accumulation of data can ever amount to a proof that there is no mind or soul in addition to the body. But if we recognize that the concept of the soul was originally introduced into Western thought as an *explanation* for capacities that appeared not to be explainable in biological terms, then we can certainly say that for scientific purposes the hypothesis has been shown to be unnecessary.

A second caution is in order. It would be easy at this point to fall into the reductionist's error of claiming that 'morality' or 'religious experience' is *nothing but* a brain process. However, the fact that acting according to an ethical principle requires the participation of brain circuitry does not invalidate the principle. The problem of reductionism in general is one of the most challenging and interesting. I can't give an adequate response here, but let me make one suggestion to help distinguish between a reductive and a non-reductive view of the person. There are two routes by which to arrive at a physicalist account of human beings. One is to begin with dualism, say, of a Cartesian sort, and then subtract the mind or soul, along with the soul's traditional functions. The other route begins with science. We recognize a certain "layered" feature of reality: subatomic particles at the lowest level combine in increasingly complex structures to give us the features of the world known to chemists, and these in turn combine into incredibly complex organizations to give us biological organisms.

⁸Ibid., 10.

⁹Fraser Watts, "Cognitive Neuroscience and Religious Consciousness," in Russell, et al., eds., *Neuroscience and the Person*, 327-346.

The version of physicalism I espouse argues that, just as life appears as a result of complex organization, so too sentience and consciousness appear as nonreducible products of biological organization. To conceive of how it is possible to get 'mind' out of matter one needs to appreciate not only the development from inorganic to organic, but also from mere homeostasis, through goal-directedness, information processing, goal evaluation, consciousness, and sociality to self-consciousness.

2 The Development of Christian Physicalism

My claim in this section of my essay will be that Christians can and should do without the concept of soul. But this is emphatically *not* a matter of pressure from science, but rather is a result of scholarship, beginning a century ago, calling into question the legitimacy of body-soul dualism. This began with the recognition that the Old Testament has been badly translated. The Septuagint is a Greek translation of the Hebrew scriptures, dating from around 250 BCE. This text translated Hebrew anthropological terminology into Greek, and it then contained the terms that could be understood in the way those terms were defined in Greek philosophy. The clearest instance of this is the Hebrew word *nephesh*, which was translated as *psyche* in the Septuagint and later translated into English as 'soul.' It is now widely agreed that *nephesh* did not mean what later Christians have meant by 'soul.' In most of these cases, it is simply a way of referring to the whole living person.

Lacking any comprehensive history of these developments, I followed the discussions by consulting theological and biblical reference works from different periods. In the liberal half of the Protestant scholarly world there was a wide consensus by the middle of the twentieth century that interpretations of New Testament teaching had also been distorted by reading Greek philosophical conceptions back into them. However, this is still being debated among more conservative Protestants. Catholic thought is interesting here. I found no difference between liberal Protestants and Catholic biblical scholars, but a variety of positions, throughout the past century, among Catholic theologians.

Given the agreement among both Catholic and liberal Protestant biblical scholars, it is puzzling why disputes about New Testament teaching have not been settled. New Testament scholar Joel Green shows that differences of interpretation are due to different readings of non-Canonical books from the intertestamental period--particularly regarding the question of the "intermediate state": does the New Testament teach that there will be a period of conscious existence between death and bodily resurrection? If so, this would seem to require that we have souls to fill in that bodily gap. But this leads me to ask: do Christians really need to work through a long list of non-Canonical books in order to determine what the Bible teaches on this issue? The unlikelihood of an affirmative answer leads me to this conclusion: the New Testament authors are not intending to teach *anything* about humans' metaphysical composition. If they were, surely they could have done so much more clearly!

Helpful support for this conclusion comes from New Testament scholar James Dunn. Dunn distinguishes between what he calls "aspective" and "partitive" accounts of human nature. Dunn writes:

in simplified terms, while Greek thought tended to regard the human being as made up of distinct parts, Hebraic thought saw the human being more as a whole person existing on different dimensions. As we might say, it was more characteristically Greek to conceive of the human person "partitively," whereas it was more characteristically Hebrew to conceive of the human person "aspectively." That is to say, we speak of a school *having* a gym (the gym is part of the school); but we say I *am* a Scot (my Scottishness is an aspect of my whole being).¹⁰

So the Greek philosophers were interested in the question: what are the essential parts that make up a human being? In contrast, for the biblical authors each 'part' ('part' in scare quotes) stands for the whole person thought of from a certain angle. For example, 'spirit' stands for the whole person in relation to God. What the New Testament authors are concerned with, then, is human

¹⁰James D. G. Dunn, *The Theology of the Apostle Paul* (Grand Rapids, MI: Eerdmans, 1998), 54. Dunn attributes the aspective/partitive account to D. E. H. Whiteley, *The Theology of St Paul* (Oxford: Blackwell, 1964).

beings in relationship to the natural world, to the community, and to God. Paul's distinction between spirit and flesh is not our later distinction between soul and body. Paul is concerned with two ways of living: one in conformity with the Spirit of God, and the other in conformity to the old aeon before Christ.

So I conclude that there is no such thing as *the* biblical view of human nature *insofar as we are interested in a partitive account*. The biblical authors, especially the New Testament authors, wrote within the context of a wide variety of views, probably as diverse as in our own day, but did not take a clear stand on one theory or another. What the New Testament authors *do* attest is, first, that humans are psychophysical unities; second, that Christian hope for eternal life is staked on bodily resurrection rather than an immortal soul; and, third, that humans are to be understood in terms of their relationships--relationships to the community of believers and especially to God.

I believe that we can conclude, further, that this leaves contemporary Christians free to choose among several options. It would be very bold of me to say that dualism *per se* is ruled out, given that it has been so prominent in the tradition. However, the radical dualisms of Plato and Descartes, which take the body to be unnecessary for, or even a hindrance to, full human life, are clearly out of bounds. Equally unacceptable is any physicalist account that denies human ability to be in relationship with God. Thus, reductionist forms of physicalism are also out of bounds.

3 Souls, Bodies, and Women

I want to argue, now, that there are important gains to be had for Christians by rejecting dualism in favor of a nonreductive physicalist account of human nature. I was writing this paragraph the Saturday before Easter, and so most prominent among the theological benefits of physicalism is re-capturing the first Christians' emphasis on bodily resurrection as our hope for eternal life. For centuries we have had a view of eternal life that has combined a Platonic view of immortality of the soul with resurrection. Most Christians believe that when the body dies, the soul departs to

be with God; then at the end of history the soul will be reunited with a resurrected body. Mid-twentieth-century scholars such as Oscar Cullmann have teased apart the contrasting account of life after death, and have rediscovered the centrality of the resurrection of the body in primitive Christian proclamation. While the radical distinction they made between Greek and Hebraic thought was later called into question, the recognition of the importance of bodily resurrection stands as a permanent achievement.¹¹

It is important to see how the contrasting accounts of life after death--resurrection versus immortality of the soul--lead to different attitudes toward kingdom work in this life. Lutheran theologian Ted Peters whimsically describes the dualist account of salvation as "soul-ectomy." If souls are saved *out of* this world, then nothing here matters ultimately. If instead it is our bodily selves that are saved and transformed, then bodies and all that go with them matter--families, history, and all of nature.

Jewish scholar Neil Gillman lends weight to my suggestion. His book, titled *The Death of Death*, argues that resurrection of the body, rather than immortality of the soul, is the only authentically Jewish conception of life after death. Why are physicalism and resurrection important to Jews? For many reasons, Gillman replies:

Because the notion of immortality tends to deny the reality of death, of God's power to take my life and to restore it; because the doctrine of immortality implies that my body is less precious, important, even "pure," while resurrection affirms that my body is no less God's creation and is both necessary and good. . . . If my body inserts me into history and society, then the affirmation of bodily resurrection is also an affirmation of history and society. If my bodily existence is insignificant, then so are history and society. To affirm that God has the power to reconstitute me in my bodily existence is to affirm that God also cares deeply about history and society.¹²

¹¹Oscar Cullmann, *Immortality of the Soul or Resurrection of the Dead* (New York: Macmillan, 1958).

¹²Gillman, *The Death of Death*, 238, 262.

Gillmann's reflections on resurrection and its importance for appreciation of bodies serve as a transition to the topic with this I'll end this lecture: the role of women the church and society. Sherry Ortner, a generation ago, pointed to the paradoxical fact that body-soul dualism provided justification for the devaluation of women.¹³ I say this is paradoxical because one would have expected that the possession by women of an immortal soul would serve as justification instead for equal respect. Ortner's thesis is that the valuation of the soul over the body was parallel to a valuation of culture over nature. Women's ties to nature due to their roles in procreation led to their being perceived as *more* bodily than men, and therefore as inferior.

Rosemary Radford Ruether traces the development of these ideas from ancient Greece to the present. Plato gives human (male) consciousness a status that transcends nature. The visible world and bodily existence are an inferior realm. Matter is seen as the source of moral chaos. Mind is entrapped in matter and becomes subject to the passions. In the *Timaeus* "Plato says that when the incarnate soul loses its struggle against the passions and appetites, it is incarnated into a woman. . . ."¹⁴ Aristotle described ruling-class males as the natural example of mind and reason, while women, slaves, and barbarians are naturally servile people, represented by the body and its passions.

Ruether writes that "the end of the Greco-Roman world of late antiquity sees patriarchal culture exhausted in its efforts to impose its control on the recalcitrant realities of nature and society. . . . Only by extricating mind from matter by ascetic practices . . . can one prepare for the salvific escape out of the realm of corruptibility. . . . All that sustains physical life—sex, eating, reproduction, even sleep—comes to be seen as sustaining the realm of 'death.'"¹⁵ Christian misogynists associated women with their bodies, and women's bodies with fallen

¹³ Sherry Ortner, "Is Female to Male as Nature Is to Culture?" in *Woman, Culture, and Society*, ed. M. Z. Rosaldo and L. Lamphere (Stanford: Stanford University Press, 1974), 67-87.

¹⁴ Rosemary Radford Ruether, *Sexism and God-Talk: Toward a Feminist Theology* (Boston: Beacon Press, 1983), 79.

¹⁵ *Ibid.*

nature. Patriarchal theology regarded women as an “inferior mix” of body and soul, and thus in need of male headship.¹⁶

This is the history as feminist theologians and historians report it. But is this not *just* history, an unfortunate set of ideas and associations that no longer influence contemporary Christians? I believe that much of this outlook is still with us. Ancient and Medieval Christianity adopted and adapted a key element of the Greek worldview, the notion of a hierarchy of beings, with deity at the top, a gradation of lesser spirits, and the natural world below. In Christian translation, the hierarchy ranged from God through the angels, humans, animals and plants, to the inorganic level. Humans, considered dualistically were bisected by the all important line of metaphysical significance: their souls above and bodies below. This is a hierarchy of command as well as a hierarchy of value; value being seen in terms of incorruptibility versus corruptibility, order versus chaos.

Until I began lecturing on the dualism-physicalism issue I believed that this hierarchical worldview was a thing of the past. However, several pervasive and stubborn responses to my physicalist proposals lead me to believe that the attitudes it represents are still alive and well in American Christianity. One reaction is the claim that denying the existence of human souls entails the denial of God’s existence. I then explain that the term ‘physicalism’ is used both as a term regarding the human person and as the name of an entire worldview that denies the existence of all spiritual realities. I point out that I am using it only in the first sense, and that physicalist anthropology has not implications regarding the existence of God. But many people I talk to continue to assert that it does—sometimes quite vehemently.

A second response that I have found surprising is the claim that if we have no souls it is impossible for us to have any relation with God. My reply is to concede that for centuries Christians have thought of their interaction with God to be mediated by their souls. We have the metaphor from Augustine’s *Confessions* of entering into the roomy chambers of his soul and

¹⁶ Ibid., 94.

encountering God there. This image has informed Christian spirituality ever since. But it is only a metaphor. Second, most of the Christians who raise this objection are among those who believe in divine action in the physical world. So, I ask, if God can act in the rest of nature why could God not act in human bodies, in ways we are capable of experiencing? Here, too, I find persistent resistance. I'm told that because God is spirit, God can only act on a spiritual soul—like affecting like.

Episcopal theologian Owen Thomas has written extensively on the need to reform the American spiritual tradition, balancing an overemphasis on a spirituality of inwardness and solitude with one based on living out the Kingdom of God. He cites with approval the thesis of literary critic Harold Bloom, who writes that the true religion of America since the nineteenth century has been a form of Gnosticism, rather than anything like original Christianity or Judaism. Bloom's thesis is overstated and his criticisms of some American church bodies are rather vicious. However, if his central thesis about American self-understanding is correct, it provides an explanation for the two persistent forms of resistance to physicalism that I have described. Bloom quotes Ralph Waldo Emerson's "Divinity School Address" of 1838: "Jesus belonged to the true race of prophets. He saw with open eye the mystery of the soul. Drawn by its severe harmony, ravished with its beauty, he lived in it, and has his being there. . . . He saw that God incarnates himself in man, and evermore goes forth anew to take possession of his World."¹⁷

Thus, the aspect of Gnosticism that Bloom attributes to Americans is the belief that the physical world is fallen, and that humans have within themselves sparks of God; this spark can find its way back to the unfallen world in a solitary act of knowledge.¹⁸ Religion in its essence is "a knowing by and of . . . a self-within-the-self, and the knowledge leads to freedom . . . from nature, time, history, community, other selves."¹⁹

¹⁷ Harold Bloom, *The American Religion: The Emergence of the Post-Christian Nation* (New York: Simon and Schuster, 1992), 23.

¹⁸ *Ibid.*, 27.

¹⁹ *Ibid.*, 49.

If Bloom is on target in arguing that, in contrast to their official theologies, Christians take their souls to be little bits of or versions of God-stuff, this would explain the unreasoned assumption that denial of the existence of souls is tantamount either to denying the existence of God or the human ability to interact with God. It also underwrites the continued denigration of human bodies, of ministry to bodies, and concern for nature as a whole. And insofar as it is true that women's lives are necessarily more attuned to the life of the body, it underwrites denigration of women as well.

So what is needed in our churches is not merely a call to return to the physicalism of our biblical sources, but a more thorough critique of the worldview that divides reality into two spheres: the higher spiritual world of God and souls, and the lower physical world of bodies and the rest of nature. The great metaphysical divide for readers of the Scriptures should not be placed between matter and spirit, but rather between God and *all* of creation.

Conclusion

A fitting conclusion of this essay is James Dunn's lovely summary of Paul's account of human nature:

In sum, Paul's conception of the human person is of a being who functions within several dimensions. As embodied beings we are social, defined in part by our need for and ability to enter into relationships, not as an optional extra, but as a dimension of our very existence. Our fleshness attests our frailty and weakness as mere humans, the inescapableness of our death, our dependence on satisfaction of appetite and desire, our vulnerability to manipulation of these appetites and desires. At the same time, as rational beings we are capable of soaring to the highest heights of reflective thought. And as experiencing beings we are capable of the deepest emotions and the most sustained motivation. We are living beings, animated by the mystery of life as a gift, and there is a dimension of our being at which we are directly touched by the profoundest reality within and behind the universe.

Paul would no doubt say in thankful acknowledgement with the psalmist: "I praise you, for I am fearfully and wonderfully made" (Ps. 139.14).²⁰

My goal here has been to show that our status as embodied creatures in no way contradicts the fact of our sociality; it does not undermine our ability to attain the highest heights of our reflective thought, or our capacity to be sustained by deep emotions and motivations. Least of all is our embodied selfhood an obstacle to being touched by "the profoundest reality within and behind the universe."

²⁰ James D. G. Dunn, *The Theology of the Apostle Paul* (Grand Rapids, MI: Eerdmans, 1998), 78.