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# LIMIT CONDITIONS IN AN ENCOUNTER OF THEOLOGY WITH NEUROSCIENCE

*Andrew Irvine*

*Insofar as theology is responsible to its religious sources, it seeks to answer religious questions, such as, for Christians, "What must I do to be saved?" However, theology also involves asking whether such a question is the right one at all. This essay attempts an innovative approach to this question by investigating the intelligibility of "the soul." Much recent neurobiology suggests that, even if a defensible notion of soul can be presented, it is unclear that it would allow meaningful talk about salvation.*

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## **Introduction: the question concerning salvation**

If there is something about human beings that is saveable, what is it? What makes it saveable? This "something" has been variously named; here it will be called psyche, or soul. Such radical questions are theologically vital today, because certain neuroscientific research suggests that, even if a defensible notion of soul can be presented, it is not clear that the notion would have any content allowing meaningful talk about "salvation." In light of this, this essay attempts an encounter between seemingly quite uncompromising positions: in neuroscience, eliminative materialism; and in theology, Eastern Orthodoxy. Through this test case, certain "limit conditions" of exchange between theology and neuroscience may become apparent.<sup>1</sup>

## **Theology as "interested observation"**

Theology,<sup>2</sup> like any inquiry, is partial to its own interests. When theologians describe human being, they work with terms that help them to understand religion with relevance to *theos*, God—for example: soul, mind, choice, conscience. This terminology is not

self-fulfilling prophecy, though. As the "new physics" of the twentieth century has evinced, observation is never uninterested: objects of inquiry appear different, according to different methods of inquiry. In this sense, theologians have *a priori* commitments regarding which terms best make sense of human being, and they rightly require convincing of the need to let go their commitments.

Yet, theology, like every other inquiry, ought to be conducted with interests that are "pure." So, for instance, theologians, taken as a community of disciplined inquirers seeking rational understanding of religion with respect to God, are normally adamant that they do not merely invent the objects that they study—that is, that their terms refer to things, situations, relations that are not merely linguistic. If "the soul" is a referent within theological language, then an underlying expectation is that the soul is a reality in a world in which it is referable, and that it is positively usable in other discourses, too. The minimal affirmation is that the soul have a public "persona."

W. Mark Richardson has enumerated a set of theological interests relevant to inquiry

into the soul. They constitute "a recognizable core understanding of human agency ... [that is] inalienably wedded to what is frequently called commonsense psychology."<sup>3</sup> Commonsense psychology (CSP, also frequently called "Folk Psychology") holds that terms such as those that theologians use refer to real features of human being. CSP trusts first-person reportage as an accurate indicator of the reality of a first person, an "I," as such. However, the accomplishments of neuroscience in this century have contributed to a fragmentation of a shared horizon that helped to validate commonsense psychology. One problem for a present-day theologian seeking to pose the question concerning salvation, then, is that neuroscientific pictures of human being equivocate on the reality-status of the referents of CSP commitments. For example, the picture projected by eliminative materialism (EM), a neuroscientific hypothesis which rejects CSP outright in favor of experimental neurobiology, may imply that any theological claim about human being is meaningless, inasmuch as it is "inalienably wedded" to CSP. Still, theologians who intend to maintain the pub-

*Neither is the soul a body-part: it is difficult to fix for examination because that would annihilate the object of study, which is not merely a body but animated human being.*

lic reality of the soul should be willing to submit their claims alongside those of EM. As previously noted, to affirm such a degree of publicity does not imply that theological inquiry is disinterested observation; but neither should an honest test of theological claims begin by preferring a "purely" non-theological account as the norm by which to measure them. Such a maneuver, if possible, would be both unfitting and irresponsible to

the engendering religious situation in which the question concerning salvation arises—a falsely humble "cultural cringe" before scientific hegemony.

### **The mythic horizon of theological psyche-logy**

An integrative "psyche-logy," responsive to neuroscience without ceding theological interest, is imaginable. In the first place, treated as a formal term, the "soul" symbolizes the defining aspect(s) of human being with respect to God, without necessarily specifying its character. That the soul has been important to theology in the past and less esteemed in neurobiology is not an essential characteristic of this symbol: perhaps the biochemical activity of the brain is the most religiously significant aspect of human being.<sup>4</sup> Secondly, whether from inherited dogmatic prejudices or from experience of human behavior, theologians have tended to image the soul as in need of salvation. Indeed, it is an image of the fundamental condition of human being (though less fundamental for current neuroscience).<sup>5</sup> Thirdly, the soul perhaps is not present to empirical analysis in the way the brain is. Theological interest in the soul involves a mythic framework. Even if neurobiological inquiry found the "same" soul in the "same" predicament, neurobiological modes of discourse are sufficiently different from theological modes that it would not be

apparent that the same things had registered without an involved hermeneutical meta-inquiry.

Myth is discourse that images what is most valuable but least graspable about reality, and it does so indirectly and poetically.<sup>6</sup> It is a way of world-making. Within this horizon, one can call theological psyche-logy, without disparagement, a "soul-searching." However, myth is not the only hori-

zon for theology and, therefore, does not preclude engagement with the sciences. It is a proper theological task to inquire after the truth of the symbol of the soul. Thus, theology may be interested in science in overlapping ways. With respect to truth, does the CSP specification of the soul correspond to something real? Is it verifiable at least somewhat independently of religious and theological assertion? Is theology absolutely committed to CSP? With respect to the instrumental side of the question of salvation, if there is a soul, is it saveable, and how? Clearly, a serious engagement between theology and science necessitates sensitive checking and cross-checking. It is a hermeneutical engagement, not a wholesale demythologization or "operationalization" of theology for the sake of science (the cultural cringe). Myth refers to the empirical world, not as that world's superficial embellishment, but inasmuch as poesis assumes materials with which to create,<sup>7</sup> Christian myth images this by underscoring the contingency of salvation upon actualizing choices.<sup>8</sup> From a theological perspective, then, one may conclude that the soul of human being is responsible being, that is, being required to choose.<sup>9</sup> Thus, the most important theological interest in a dialogue with neurobiology is to test whether the notions of choice and responsibility are intelligible in the biological context.

## **Toward integration**

### *1. Scientific psychologies*

With the rising success of scientific methods in explaining natural events in the human environment, ambitions grew to understand through explanation what human beings are in themselves. In part, these ambitions rode tandem with rejection of ecclesiastical power in society. Church power depended, some argued, on a rhetoric of an immortal soul whose everlasting fate lay in the care of the Church. But that soul was an occult notion that did not explain anything—unless the irrational subjugation of masses

of people to Church power. So, a vicious ecclesial circle.<sup>10</sup>

This historical current stimulated attempts to explain the soul more scientifically, including modern psychoanalysis, behaviorism, and neurobiology. Yet, differences among these sciences are strong. For instance, some neurobiologists take a stand against psychoanalysis and other forms of CSP, arguing that these are no less occult than religious authority. Advocates of EM (that stand in its strongest form) expect to do away with any talk of psyche. Paul M. Churchland states:

Eliminative materialism is the thesis that our common-sense perception of psychological phenomena constitutes a radically false theory, a theory so fundamentally defective that both the principles and the ontology of that theory will eventually be displaced, rather than smoothly reduced, by completed neuroscience. Our mutual understanding and even our introspection may then be reconstituted within the conceptual framework of completed neuroscience, a theory we may expect to be more powerful by far than the common-sense psychology it displaces, and more substantially integrated within physical science generally.<sup>11</sup>

Churchland's thesis has merit: after all, no psychoanalyst has ever seen an id; but his complaint is akin to cosmonaut Yuri Gagarin's boast that he did not see God while he orbited the earth. Gagarin mistakenly supposed that all theologians think God is an entity in and of the cosmos. Neither is the soul a body-part: it is difficult to fix for examination because that would annihilate the object of study, which is not merely a body but animated<sup>12</sup> human being. Among scientific psychologists, this is treated as an aspect of the so-called mind-body problem. EM is one of several non-dualistic, physicalist approaches to resolving the difficulty.<sup>13</sup>

To be true to EM, though, we should not consider it any kind of modern psychology. For its advocates, it is the way of the future: "completed" neuroscience will not

bring about any reduction of mental events to physical events, but will supersede the unwieldy and false language of mentality and psyche. The notion of “completed neuroscience” is only one of a variety of references to the *anticipated* success of EM.

The rejection of CSP works in the following way. Advocates of EM argue that CSP constitutes an empirical theory of human being. This is in contrast to other views, which either take CSP to be a normative theory,—that is, a representation of how a properly functioning human being (one whose being is in a state of well-being)—would understand him/herself—or do not consider it a theory at all but simply the reflective gleaning of the kinds of states, attitudes, decisions, beliefs, etc., that are the content of mental events.

If CSP is an empirical theory, then it may be tested in the following ways: first, for a theory truly to account for the phenomena to which it refers, it must demonstrate explanatory and predictive success. Paul Churchland acknowledges that CSP stands up reasonably well under this test.<sup>14</sup> For example, if I see someone having a drink of water, I can hypothesize that the reason is that they feel thirsty with a usual confirmation of my hypothesis. The feeling of thirst thus becomes an effective explanation for the observed behavior of drinking water, and not only for one experimental subject but for many. However, the extent and importance of CSP’s failures should also be recognized. On this score, Churchland especially emphasizes an inability to generate knowledge about learning processes.<sup>15</sup> Relevant here is a second test of a theory’s truth, the extent of “its coherence and continuity with fertile and well-established theories in adjacent and overlapping domains.”

If we approach *homo sapiens* from the perspective of natural history and the physical sciences, we can tell a coherent story of his constitution, development, and behavioral capacities which encompasses particle physics, atomic and molecular theory, organic chemistry, evolutionary theory, biology, physiology, and materialistic neuroscience. That story, though still radically incomplete, is already extremely powerful, outperforming...[CSP] at many points even in its own domain. And it is deliberately and self-consciously coherent with the rest of our developing world picture. In short, the greatest theoretical synthesis in the history of the human race is currently in our hands, and parts of it already provide searching descriptions and explanations of human sensory input, neural activity, and motor control.

But...[CSP] is no part of this growing synthesis.<sup>16</sup>

Making allowance for his penchant for bathos, Churchland does have a significant claim against CSP here. At the same time, Churchland’s seemingly unintentional allusion to CSP’s “own domain” is a noteworthy concession. The idea of a domain re-

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flects this essay’s terminology of horizons and resolutions.

A claim for the virtues of EM is made at length by Patricia Smith Churchland. Briefly, the EM resolution of the mind-brain problem is entirely in terms of the structure and biochemical activity of the brain and nervous system. This establishes relations of continuity between humans and other animals, since “neurons and their modus oper-

and are essentially the same in all nervous systems—our neurons and the neurons of slugs, worms, and spiders share a fundamental similarity.”<sup>17</sup> That similarity has been key to research programs of EM, since the same activities that are masked by so much complexity in human beings can be studied in environments of relatively simple organization. Although EM refuses the language of CSP, it does not affect to simplify human beings. From the level of basic cellular form and function, Smith Churchland builds up a picture of the increasing complexity and interactivity of structural organization and biochemical processes, and develops accounts of behavior, without resort to language of agency, responsibility, freedom, or choice. The challenge posed to theological description of human being by EM in its constructive program is just the adequacy of its accounts of human behavior, which prescind from introduction of CSP concepts. However, criticisms have been leveled against EM from several quarters.

Several criticisms may be made of the Churchlands’ position. First, and in good CSP fashion, it may be suggested that “there are more things in heaven and earth than are dreamt of in your neuro-philosophies.” Admittedly, such a claim has counted against CSP and in favor of EM. Where advocates of CSP had perhaps assumed that there could be no reduction of mental to physical, in fact neurobiologists have made extraordinary levels of knowledge available about the biochemical goings-on of human beings. Both Churchland and Smith Churchland are adamant about taking a naturalist stance. The question is, why do they restrict the character of nature to what current physical sciences, perhaps slightly extended, can make known?

A second criticism is leveled at the construal of CSP as an empirical theory that involves defining the content of CSP as a set of regulative propositions. Since observations of human behavior showed that these propositions were not obeyed, CSP must be taken to be a false theory. John Searle questions whether CSP is an empirical theory in

quite the way advocates of EM pose it. “Consciousness has an ineliminable subjective ontology,” he writes.<sup>18</sup> The “postulates” of CSP are not postulates at all; they are *experiences* and therefore exhibit subjectivity:

[W]e do not *postulate* beliefs and desires to account for anything. We simply experience conscious beliefs and desires. Think about real-life examples. It is a hot day and you are driving a pickup truck in the desert outside of Phoenix. No air conditioning. You can’t remember when you were so thirsty, and you want a cold beer so bad you could scream. Now where is the “postulation” of a desire?<sup>19</sup>

A third and related criticism is that EM is a theory that, for all its pretensions to monism, is really just a half a dualism. Searle again:

Now why are they [materialists] so anxious to deny the existence of irreducible intrinsic mental phenomena? Why don’t they just concede that these properties are ordinary higher-level biological properties of neurophysiological systems such as human brains?

...[A]t least part of the answer has to do with the fact that they accept the traditional Cartesian categories, and along with these categories the attendant vocabulary with its implications. I think from this point of view to grant the existence and irreducibility of mental phenomena would be equivalent to granting some kind of Cartesianism.... What I want to insist on, ceaselessly, is that one can accept the obvious facts of physics—for example, that the world is made up of physical particles in fields of force—without at the same time denying the obvious facts about our own experiences—for example, that we are all conscious and that our conscious states have quite specific *irreducible* phenomenological properties. The mistake is to suppose that these two theses are inconsistent, and that mistake derives from accepting the traditional vocabulary.<sup>20</sup>

Three further criticisms can be made. First, Churchland’s focus on defining CSP in terms of propositional attitudes flattens language to a mere projective function.<sup>21</sup> But human beings also “do things with words.”

The poetic indirection of myth bears this out. Linguistic action, just as one example of human activity, is accomplished very differently from the way in which biochemical processes occur. Secondly, Churchland tests CSP according to criteria of predictive success and coherence with other theories, but not according to criteria of representational correspondence to reality. Hence, there is no obligation upon him, as there is upon most theologians, to "save the appearances." Churchland's freedom here, unlike the freedom postulated by integrative theologians, seems sheerly arbitrary. And finally,

***Clearly, a serious engagement between theology and science necessitates sensitive checking and cross-checking. It is a hermeneutical engagement, not a wholesale demythologization or "operationalization" of theology for the sake of science (the cultural cringe).***

Churchland's claim that CSP has stagnated for two to three thousand years might actually suggest the efficiency *and accuracy* of CSP in judging what goes on in nature, such that human beings have succeeded in dynamic engagement with changing environments for millennia.

*II. A humble theological claim for the soul*

William Seager recognizes the difficulties of EM, and the unlikelihood of a complete, reductive explanation of mind, since the kind of information necessary to provide such an explanation (explanations are "accounts of phenomena that aim at truth and which seek to make the phenomena intelligible to their target audience") is unlikely to be intelligible to any human being.<sup>22</sup> Seager suggests a realistic goal is *resolution*—correlating different entities and theories about them, without explicating physical causation at every point.<sup>23</sup> This concession, together

with the final criticism made of Churchland above, raises a major preoccupation of this essay, namely, what constitutes theological humility? Theology, inasmuch as it responds to its engendering religious situation, is an articulation of the claims and the being-claimed of a Christian life-world. Proper theological humility would, thus, be committed to these various claims, even in acknowledging imperfect understanding as to the claims' performance.<sup>24</sup>

Orthodox theologian, John Zizioulas, insists that personhood is fundamental to human being. ("Personhood" answers to soul, psyche, in the present context.) It is Zizioulas' fundamental term for describing human being and the basis of responsibility—it is not freedom in an unconditioned sense (freedom from biological constitution, or "biological hypostasis," as Zizioulas puts it), but transcendence of the biological situation in such a way as to be responsible for it (the freedom of our

biological hypostasis). Personhood contrasts with the horizon of "biological anonymity" (my term) that helps validate EM: as Patricia Smith Churchland indicates, EM succeeds, in part because all neurons share a basic structural homology. However, some questions might be asked, informed by Zizioulas' study: If the *prosopon* merely masks real biological anonymity, then why do humans "face" one another, "lose face," and so on? What is the reason for the infinite nuance of human relations? A serious account would resist biological anonymity by recognizing the powers of personhood.

Asserting the primacy of personhood is not, for Zizioulas, a disavowal of our biological constitution, but a realization of its proudest claim: that it is God's image. Simultaneously, to be human is to be so claimed. In other words, that we think of ourselves as persons is not obviously a bio-

logical necessity, and to this extent it is a free, decisive act: yet, neither is it obviously a choice for which the “I” can take credit or blame (hence, the religious intensity of debates over abortion and euthanasia). Zizioulas says that any assertion of personhood admits of being claimed by God.<sup>25</sup> Personhood should lead to a thankfulness, communion, *orthodoxy*, which mark a transformation of the biological hypostasis:

The eternal survival of the person as a unique, unrepeatable and free “hypostasis,” as loving and being loved, constitutes the quintessence of salvation, the bringing of the Gospel to man. In the language of the Fathers this is called “diviniza-tion” (*theosis*), which means partici-pation not in the nature or substance of God, but in his personal existence.<sup>26</sup>

This divinization realizes what Zizioulas will call “ecclesial hypostasis.”

However, the biological constitution of the human being must be called “tragic,” because it is not only a basis but a subversion of the saveability of the person. As eliminative materialists take for granted—and not they alone—humans die. The tragedy is not that we delude ourselves about our real (bio-

logical) nature, *à la* Nietzschean resentment. Rather, “it lies in [the human being’s] tendency toward becoming a person through it and failing. Sin is precisely this failure. And sin is the tragic prerogative of the person alone”<sup>27</sup> Zizioulas presents, then, an account of the soul as emergent from, and yet somehow

also preceding, the biological constitution of human being.<sup>28</sup> This echoes non-EM neuroscientific theories of the “emergence” or “supervenience” of personal reality from biological existence. It implies that one ought not disavow the biological constitution of human being, but look for a kind of “new birth” in which that biological hyposta-

sis is itself constituted through the “hypostasis of ecclesial existence.”<sup>29</sup>

Clearly, Zizioulas would only refuse a neurobiological account insofar as it takes place outside of a horizon concerned with salvation. That the horizon entails Christology is evidence of its modesty, in my view: humans express humility first and foremost, in attempting Christology (or Buddhology, or the Tao of the sage, etc.), in owning the transcendent virtue of a “perfected human”:

Christology...is the proclamation to man that his nature can be “assumed” and hypostasized in a manner free from the ontological necessity of his biological hypostasis, which, as we have seen, leads to the tragedy of individualism and death. Thanks to Christ man can henceforth himself “subsist,” can affirm his existence as personal not on the basis of the immutable laws of nature, but on the basis of a relationship with God which is identified with what Christ in freedom and love possesses as Son of God with the Father.<sup>30</sup>

Christology is both the proclamation to and the proclamation of human being of its ownmost possibility. It is thus, Christologically, that the peculiar reciprocity of the

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soul’s emergence and preemergence can make sense for Zizioulas. The soul’s dignity and humility coincide in the biological constitution’s Christological transcendence into ecclesial hypostasis.<sup>31</sup>

Nevertheless, we do still die; the body corrupts. Life in the Church does not prevent this. Zizioulas acknowledges this and argues:

[W]e really need a new ontological category—not to destroy the distinction which I have made between biological and ecclesial hypostasis, but to express the relationship of these two to each other. In fact the encounter between the ecclesial and the biological hypostases [perhaps the paradigm for the present exploration] creates a paradoxical relationship in human existence. Man appears to exist in his ecclesial identity not as that which he is but as that which he *will* be; the ecclesial identity is linked with eschatology, that is, with the final outcome of his existence.<sup>32</sup>

As eschatological, the preemergence of the soul might be described as “advenient” (a counterpart to the neuroscientific theory of supervenience alluded to above). Zizioulas does not detail the exact character of the eschatologically completed human being—for instance, with regard to the “eternal survival of the person,” whether it is “subjective” or “objective” immortality, to use terms that process theologians have long employed. The intelligibility of objective participation in life is a preliminary question of no little note in regard to Orthodox theology. But it should also be observed that Zizioulas does not speak of the biological hypostasis in its ecclesial, eschatological transformation as un-dying, but as transcending death.<sup>33</sup>

## Conclusion

What can a theologian learn from this test case in constructing an integrative psyche-logy? This has been an unusual exchange, in that much care has been exerted to qualify theological credulity for neuroscientific findings. The point has been not so much to limit theological assertion as to understand limit conditions for the encounter of theology and neuroscience. Prime among them must be the genuine humility of frank interestedness in the inquiry. Other limit conditions have also been at least somewhat clarified, and two are noted here. First, the study of Zizioulas has hardly refuted EM (and EM would direct pointed questions to Zizioulas). However, it does challenge eliminative materialists to complete neuro-

science—if they can—before the completion of human personhood takes place and the Church triumphs—if it does. Both these completions are “eschatological” in their way. Yet, both empirical science and Christian faith have built-in resistances to the possibility of completion. There will, therefore, always be a degree of competition between the accounts while their horizons differ; but they are not mutually exclusive. Each owes humility to the other. In addition, a core problem must be recognized before a serious encounter can occur, namely, to describe the relationship, if any, between emergence and preemergence, supervenience and advenience. It is still not clear that there is a way to reduce the different trajectories these concepts plot for the relation of soul and body to a final account; but the viability of a resolution involving Christological interest has been maintained by attending to Zizioulas’ theological construal of biological constitution as fundamentally *personable* and, so, basic to human responsibility. These conditions, then, supply a modest proposal for a genuinely humble exchange between theological and neuroscientific inquiry.

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### Endnotes:

1. Some might question the absence from this essay of a concerted critique of EM as dogmatically reductionistic. That critique is warranted. However, in this essay, I prefer to recognize the ambitions of eliminative materialists, like the Churchlands, at face value, for the sake of elucidating "limit conditions" for a mutually uncompromising encounter between theology and neuroscience. Let compromise (and/or correction) be a possible outcome, not a precondition, of the encounter.
2. Unless otherwise indicated, by "theology" and "theologian" I mean a discipline and a practitioner within Christianity.
3. Richardson, p. 351.
4. Keck addresses this possibility and, through it, conditions for the contemporary possibility of the question concerning salvation.
5. On the other hand, more than once neuroscience and related scientific/technological developments have prompted controversies about the integrity of being with well-being in the person. "Surgical"

operations on the brain, ranging from the famous accident of the railroad foreman Phineas Gage, to frontal lobotomy, demonstrated that a person's public identity and well-being somehow is implicated with the physical condition of the brain. Gage (1823-1860) survived an accident in which a tamping iron more than a meter long and weighing six kilograms was shot completely through his skull and cerebrum, although he was "no longer Gage" according to John Harlow, a doctor who attended Gage over several years. See Finger, pp. 272-273. More recently, the antidepressant, Prozac, has occasioned public controversy over just what kind of "medical miracles" we will tolerate and which should be left to God. See Kramer.

6. By poetic indirection I mean principally that myth invokes a person's or community's active participation for the realization (poiesis) of its reference structure. Myth is "merely myth," in the pejorative sense, when mythic consciousness dies. Two theologians dealing with comparable notions are Hart and Oliver.

7. A further implication, important for this essay, of the idea of poetic indirection is that there is, after all, a sense in which religion invents the soul. If theology is completely at the behest of religious life then practitioners of other kinds of inquiry would have grounds to dismiss it altogether. However, insofar as theology is autonomous with respect to religious interests, it has a comparable standing with other disciplines. Thus, if theologians find reasons for the plausibility of the soul, it is at least possible that inquirers in other disciplines may do the same.

8. Theologians have then gone various ways, more or less consonant with the mythic presentation. The doctrine of double predestination and the Social Gospel, for instance, are very different interpretations, each with serious dissonances.

9. Cf. Richardson, p. 352, where he states that the first of the core theological beliefs with regard to human being is that the Creator desires a relationship with finite creatures that entails reciprocity and responsibility: "The divine-human relationship is a moral relationship, involving promises, obligations and goods to be pursued." Also cf. Barbour, pp. 360-61: "The Old Testament sees man as *rooted in nature*, sharing the finitude, creatureliness and death of all living things.... Man and beasts are equally perishable. Yet man is distinguished from this animal world by his special relationship to God. Man alone is a *responsible self* who can be addressed by God. Man, as a free purposeful agent who can respond to the demands of righteousness and justice, is made "in the image of God." Man's 'breath' or 'spirit' is not a separate entity but the animating principle of the total person, the vitality of the whole individual in his biological, mental, and emotional life."

10. See Flanagan, p. 1. He writes: "In 1663, thirteen years after his death, all of Descartes' works were put on the Index of the Roman Catholic Church, even though his writings contained two proofs for the existence of God as well as arguments for the incorporeality and immortality of the human soul. Descartes was a threat because he took the science of his day so seriously that he considered extending Galileo's mechanical conception of the physical universe to human behavior." See Robinson, p. 197, where he interprets modernity as a broader rejection of a Renaissance worldview, "the triumph of naturalism over spiritualism." Also see Zilboorg, p. 180, where he, too, identifies a sixteenth/seventeenth century shift away from "metaphysics," foreshadowing "the coupling of psychology with physics; the words *anima* and *spiritus*, so monotonously popular theretofore, began to be supplanted...." Marx's critique, more

subtle than his slogans sometimes sound. makes the point plain: "Religion is the sigh of the oppressed creature, the sentiment of a heartless world, *the soul of soulless conditions* [emphasis added]. It is the *opium* of the people." See Marx, pp. 43-4.

11. P. M. Churchland, p. 67.

12. Is this slipping the soul back in through the back door of Latin? The move is slightly more subtle; it is a suggestion that the kind of phenomena prompting any psychology *appear* to be not merely mechanical effects of the position of some kind of on-off switch. The most basic question asked by all psychologies, then (and by an integrative psyche-logy), is whether the appearance is true to reality.

13. Seager identifies five physicalist approaches. In descending order of sympathy for CSP they are: type-identity theory, psycho-functionalism, token-identity theory, psychological instrumentalism and eliminative materialism. Cf. Seager, Part I.

14. P. M. Churchland, pp. 72-3.

15. *Ibid.*, pp. 73-4.

16. *Ibid.*, p. 75. Churchland's seemingly unreflected allusion to CSP's "own domain" is a noteworthy concession. The idea of a domain suits this essay's terminology of horizons and resolutions.

17. Smith Churchland, p. 36.

18. Searle, p. 56.

19. *Ibid.*, p. 59. On this point, it seems to me that Richardson presents CSP in a more "theoretical" way than Searle thinks is realistic. I have tried to steer a path between, by reducing the stipulative claims of a theological commitment to "human being is responsible being."

20. *Ibid.*, pp. 27-8.

21. P. M. Churchland, p. 85.

22. Seager, p. 18. Note that Seager eschews the Churchlands' zeal for "supersessionist" language in describing the goal of EM.

23. *Ibid.*, p. 13.

24. I take this to be a crucial attitude for a theology that regards human beings as such, irrespective of their particular religious commitments. Such is the evangelical genius of Orthodox theology, as discussion to follow may indicate; I also connect this approach with the example of Valerie Saiving in her now-classic feminist theological consideration of the human situation. See Saiving, pp. 37-9.

25. See n. 6.

26. Zizioulas, pp. 49-50.

27. *Ibid.*, p. 52.

28. On emergence as an explanation of personhood within neurobiological theory, see Cole, pp. 343-50; Richardson.

29. Zizioulas, p. 53.

30. *Ibid.*, p. 56.

31. The Chinese tradition has been on the whole more able to image the self-sameness of human dignity and humility than have many strands of Christian tradition. For example, the Xunzi, 19.6, reads: "Heaven is able to beget the myriad things, but it cannot differentiate them. Earth can support man, but it cannot govern him. The myriad things under the canopy of heaven and all those who belong among living people depend upon the appearance of the sage, for only then is each assigned to the proper station." See Xunzi, p. 67. See also Ivanhoe.

32. Zizioulas, p. 59.

33. *Ibid.*, pp. 64-5.

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*Andrew Irvine is in the third year of the Ph.D. program in theology at Boston University. He comes from Narromine, Australia, where he belongs to the Uniting Church in Australia. After earning his baccalaureate in English Literature at the University of Sydney, he worked for two years for the National Council of Churches of Australia, in education and fund-raising for community development and emergency relief. His interests include liberation theology and philosophies of culture.*

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