

Chrtc 390 Module 12 Class Notes by Paul Flaman

Body-Soul, Mind-Brain and Personal Relatedness Issues

Discussion Questions

1. How do you understand the terms body-soul and mind-brain? Does “mind” mean the same thing as “soul”?

2. Do mental phenomena including human consciousness and self-awareness, free will, attention and/or memory require the existence of an immaterial or spiritual mind/soul interacting with one’s brain/body? Are human qualia (subjective experiences) embodied and/or immaterial? Do friendship, love, intimacy and communion between persons transcend bodies and brains and/or require a spiritual dimension to human persons?

3. Do the findings of neuroscience with regard to the “tightening” links between mind and brain exclude a duality of substance with regard to mind/brain, body/soul?

4. A number of perspectives on the mind/brain body/soul include: 1) radical two-substance dualism, 2) dualistic interactionism, 3) holistic dualism/Thomism, 4) non-reductive physicalism, 5) emergent monism, 6) process philosophy/theology, and 7) eliminative / reductive materialism. These are treated to a greater or lesser extent in this chapter. Do the data of neuroscience exclude and/or support any of these models? Which approach, if any, do you think best fits biblical data and teaching properly understood?

5. Does Catholic teaching, including that of an intermediate state of the human soul between bodily death and bodily resurrection and the intercession of the saints, exclude non-reductive physicalism and/or emergent monism?

6. Which model (s) of the mind-brain / body-soul (see question 4 above), and human persons in relationships, best fits human experience, in your view? Why?

7. Do you think that we human beings will ever be able to understand these issues completely? Discuss this in the light of the Apostle Paul saying: “For now we see in a mirror, dimly, but then we shall see face to face. Now I know only in part; then I will know fully, even as I have been fully known.”(1 Cor 13:12 NRSV)

Introduction to Body / Soul and Mind / Brain Questions

with Some Perspectives From Neuroscience

Nancey Murphy (in Brown et al. 1998, 24-25) summarizes current options for accounts of the nature of the person as follows:

1) **Radical Dualism:** the soul is separate from the body; the person is identified with the soul.

An example of someone holding this view is René Descartes (1596–1650).

2) **Holistic Dualism:** the person is a composite of body and soul and is identified with the whole whose normal functioning is as a unity. Murphy considers Thomas Aquinas (1225-1274) to be an example of someone holding this position.

3) **Non-reductive Physicalism:** the person is a physical organism whose functioning in society and in relation to God gives rise to “higher” human capacities such as morality and spirituality.

Nancey Murphy herself supports this view.

4) **Eliminative / Reductive Physicalism:** the person is a physical organism whose experiences will all ultimately be explained by the physical sciences. An example of someone who supports this view is Francis Crick (1994).

Murphy considers positions 1 and 4 incompatible with Christian teaching. I agree. She supports non-reductive physicalism whereas I as a Catholic theologian consider the person to be a profound union of body and spiritual soul (compare position number 2 above but perhaps using a different name such as Thomism).

Besides the four options for accounts of the nature of the human person as summarized by Murphy, there are also a few others including emergent monism, idealism and process philosophy which we will briefly consider below under “A Few Other Philosophical Views.”

Traditionally, “soul properties” include reason, imagination, perception and consciousness. Today these properties are often treated under “mind.” The colleague of mine Heather Looy, who helped me develop the course on which this book is based, uses “soul” and “mind” interchangeably. I note that “mind” in common usage relates to “thinking,” whereas “soul” is also the seat of feelings and religious experiences in human beings.

If “mind” and “soul” involve “energy,” does this involve energy that is not physical but is immaterial and which transcends physical energy? Also, do “mind” and “soul” involve primarily “qualia” or subjective human experiences? Are human subjective experiences like love and thoughts immaterial? Is what is “immaterial” another kind of substance than what makes up this physical cosmos? The word “substance” etymologically means to “stand under.” It refers to the reality or being that “stands under” the individual characteristics of something such as size, color and weight (compare Aristotle regarding substance and accidents—the latter comes from the Latin *accidere* meaning to “fall upon,” and means something that is contingent on the existence of something else). For Thomas Aquinas God is pure substance, not a physical material reality but an infinite immaterial reality.

Can the human mind or soul exist separately, independently, of the body? Consider our earlier discussion in Chapter 6 above of Near Death Experiences, Out-of-Body Experiences, and the traditional Christian view of an intermediate state of the human soul between bodily death and bodily resurrection. If the human soul can exist separately from the body, is it by itself a person?

If properties of the soul are the same as properties of the mind, and if these can be shown to require the structures and functions of the brain / body, then is “soul” another word for “brain / body”? Although the “brain” is central in the human body (and in other animals with brains), it is important to note that a brain cannot function without a body including sense organs, muscles, and so forth. The brain processes sense data and many movements of muscles begin in the brain. The bodies of humans and other animals also exist in an environment from which the senses obtain information and in which the body moves and acts.

If mental states are simultaneously (always) brain / body states, then must we accept reductive physicalism, that is, the view that only physical reality exists and there is no transcendent dimension to reality, neither an immaterial God nor an immaterial soul? Related to this, let us briefly consider the views of two scientists who hold reductive physicalist views. Francis Crick, has developed “the Astonishing Hypothesis,” that the human person including their joys, sorrows, memories, ambitions, sense of personal identity, and free will, is “in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules.”(Crick 1994, 3) Antonio Demasio does not think that solving the problem of consciousness is beyond human intelligence. Related to this he says:

All the natural history required to understand consciousness is now readily available in evolutionary biology and psychology. Gene networks organize themselves to produce complex organisms whose brains permit behavior; further evolution enriches the complexity of those brains so that they can create sensory and motor

maps that represent the environments they interact with; additional evolutionary complexity allows parts of the brain to talk to each other (figuratively...) and generate maps of the organism interacting with its environment. Within the frame of those interactions the conversation among the maps spontaneously and continuously tells the “story” of our organism responding to and being modified by the environment.... This natural knowledge amounts to the emergence of a basic self, and its presence changes the status of the brain’s sensorimotor maps from nonconscious mental patterns to that of conscious mental images. Constructed knowledge is a solution to the problem of consciousness. It does not require a homunculus [tiny human being / immaterial soul] in the control room of the mind... (Demasio 2007, 52)

Some eminent neuroscientists, however, have shifted towards various forms of dualism: Wilder Penfield (1895-1976), Roger Sperry (1913-1994), John Eccles (1903-1997), and Sir Roger Penrose (1931-). One question critics of dualism raise is how can the immaterial interact with the material? In their view this would seem to violate the law of thermodynamics of the conservation of energy. Later in this chapter we will consider some of the views of John Eccles including his answer to the conservation of energy challenge.

As has been noted several times in this book, science (natural) is limited to the study of the physical, matter and energy. Thus neuroscience only provides material explanations. Whether these explanations are complete or simply describe the material aspects of things cannot be determined by science itself. Also as has been noted in this book, the data underdetermine the theory, that is, the data can often be interpreted in more than one way. Consider one’s worldview. According to the principle of parsimony, plurality is not to be posited without necessity. Does parsimony favor physicalism? Some dualists, however, argue that dualism is really more parsimonious than physicalism. John Hubbard (2020), for example, points out that physicalist attempts to explain consciousness and free will can get very convoluted.

Human experience seems inconsistent with some versions of reductive materialism (physicalism) which consider free will, consciousness, and personal / moral agency to be merely

illusions created by our brains. For most of us, these seem to be very real, among the most real of all of our human experiences. Dr. Heather Looy, a bio-psychologist and colleague of mine, thinks we need to take seriously both the evidence of mind / brain links as well as the human experience of consciousness, and a freely-choosing “self.” Human understanding of brain / mind relationships may be fundamentally limited. The human brain is the most complex reality in the physical universe of which we are aware. Can we fully know ourselves? Is it hubris to think so? Related to mind / brain, body / soul questions some distinguish between the “easy” and the “hard” questions. Easy questions involve addressing the correlations of qualia (a person’s subjective experiences / mind) and physical body / brain states. Hard questions involve trying to explain the cause of consciousness and qualia. Can neuroscience really address these?

Some Christian Views

Although most of the rest of this chapter will focus on some Christian views with regard to body / soul, mind / brain questions beginning with the Bible, we will first briefly note a few other views which have been treated to some extent earlier in this book. Many human beings, both in the past and today, including many people holding non-Christian religious views, believe in some form of human life after the death of the human body including the brain—see Chapter 6 above. Human beings, both in the past and today, have also held various philosophical views including various dualisms (e.g., Plato, Descartes, Eccles), monisms including emergent monism (e.g., Barbour), hylemorphism (e.g., Aristotle, Aquinas), idealisms (e.g., Hegel), materialism (e.g., Marx, Crick), process thought (e.g., Whitehead), and personalism (e.g., Von Hildebrand, Karol Wojtyla)—see Chapter 2 above.

The Bible

In the Bible, the Hebrew *nephesh* and Greek *psyche*, often translated as soul, are used in various contexts to denote a range of meanings including life, person, self. The Bible neither presents a reductionist view of human persons nor a highly systematic and precise anthropology. There is also a development in revelation or thinking within the Bible with regard to certain themes such as the afterlife and resurrection of the body. While the focus in the Bible is on human relationships with God and others, and on bodily resurrection in the New Testament, there are a few biblical texts which have been understood by many Christians to imply an intermediate state of the human soul's continued existence between bodily death and bodily resurrection. Since this question has already been treated to some extent above in Chapter 6 related to whether or not a human person can continue to exist after the death of one's body including one's brain—see the sections on biblical, post-biblical and Catholic teaching on the intermediate state—we will only highlight some points here as well as add a few others.

Jesus is reported as saying to the dying thief, “Today you will be with me in paradise.”(Lk 23:43; cf. Ashley, referring to a biblical commentary by G. B. Caird: by the time of the Pharisees the rabbis taught that at death there is judgment with the unrighteous going to a place of punishment in Sheol called Gehenna, and the just to a place of happiness called Paradise, like the garden of Eden. It is evidently to this that Jesus refers.) Lk 16:19-29 reports Jesus teaching that immediately after dying, the poor man Lazarus is carried by angels to be with Abraham and the rich man goes to the torments of Hades. Between His own death and resurrection Jesus is said to have descended in the spirit and made a proclamation to the spirits in prison (1 Pet 3:18-20. Cf. CCC, nn. 631-7). Clement of Alexandria (150-215 AD) understood this text as a preaching of the gospel by the soul of Christ, in the world of the dead, to the souls

of the sinners of the flood. “This view, in modified form, is proposed by some modern scholars (Goppelt, Vogels).”(NJBC, p. 907)

The Apostle Paul says, “I am hard pressed between the two: my desire is to depart and be with Christ, for that is far better; but to remain in the flesh is more necessary for you.”(Phil 1:23-4) For Paul, “Death is gain, not - as in certain strands of Greek philosophy - in the sense of welcome release from bodily existence, but as intensifying the union with Christ, who has already passed through death to resurrection. Resurrection remains the ultimate goal.... Paul seems to envisage here a “being with Christ” in some (disembodied) state prior to the general resurrection...”(NJBC, p. 793). The Apostle Paul in 2 Cor 5:6-10 also says: “.... we would rather be away from the body and at home with the Lord. So whether we are at home or away, we make it our aim to please him....” Consider also two other New Testament texts. The author of Rev 6:8-9 in a vision sees the souls of those slain for the word and their testimony under the altar, which refers to an intermediate state of their souls between bodily death and resurrection. Although a group of Jews at the time of Jesus and the beginning of Christianity, the Sadducees did not believe in bodily resurrection, spirits and angels, another group of Jews at the time, the Pharisees, as well as Jesus and the early Christians did (see Mt 22:23-30 and Acts 23:6-8; and Cooper 2000, Chapters 1 and 2).

As we also considered in Chapter 6 above under Jewish thought with regard to what happens to the dead, the deuterocanonical Old Testament book of 2 Maccabees approves both belief in the intercessory power of the saints, as well as making atonement and praying for the deceased that they may be delivered from their sins (15:16 and 12:44-5). The latter doctrine, “thus vaguely formulated, contains the essence of what would become (with further precisions) the Christian theologian’s teaching on purgatory.”(NJBC, p. 446)

Fathers of the Church

Although there are some differences among them, many of the Fathers of the Church (Christian writers in the first few centuries following biblical times) held that the human soul is incorporeal, created by God, does not preexist the body, is immortal, death is the separation of the body and soul, and that there is an intermediate state (consider their teachings on the particular judgment of a human being when he or she dies and purgatory) between bodily death and bodily resurrection. Many of these writers were influenced not only by the Bible but also by Greek philosophy including Platonism and neo-Platonism. They, however, did this critically. For example, while they accepted Plato's view of the human soul being immaterial and immortal since these were in line with the Bible as they understood it, they did not accept Plato's views of reincarnation and that the human soul pre-exists the body, since in their view these were not in line with the Bible (see related parts of FEF).

Thomas Aquinas

Aquinas (13 Cent), with a very good knowledge of the Bible, the Fathers of the Church and philosophy up to his time, adapted Aristotle's hylomorphic theory (the soul as the form or animating principle of the body) to Catholic faith. Aquinas understood the soul as the "immaterial" form of the body in an analogous sense to a material form such as the form of a table. The "form" makes something what it is. He understood the soul as immaterial and immortal yet profoundly united with the human body in this life. He understood the human body and soul analogously as a kind of "compound." Compare water as a compound of hydrogen and oxygen. Aquinas understood the whole human soul as present in every part of the human body—compare (the whole) God (not a part of God) being present in every part of the physical universe.

The human soul according to Aquinas is the ultimate principle by which we conduct every one of life's activities. It is the source not only of its powers of intellect (understanding) and will, which do not take place in bodily organs, but also of its sense (external: sight, hearing, smell, taste and touch; and internal: common sense, imagination, instinct and memory) and vegetative (generation, growth, nutrition) powers. Aquinas held that we think or understand without the body but our thinking draws on phantasms (visual, auditory, etc.) from the body and our sense experience. Regarding morality Aquinas distinguished between our freely chosen actions and omissions (what we have responsibility for) and what happens beyond our control (whether inside or outside ourselves). Intellect and will remain in the soul after death, but the sense and vegetative powers, which have the body-soul compound as their subject, do not remain in actual existence (they survive in the soul in a virtual state only) between bodily death and resurrection. He affirmed that after death the saints in the intermediate state experience the beatific vision and can pray for us. Among other things, Aquinas also made contributions to understanding the traditional Christian belief in angels, created spiritual persons without physical bodies (see, e.g., related parts of his ST and SCG).

Catholic teaching

Catholic teaching does not take a "sola scriptura" approach. While understanding the human authors of the Bible to have been inspired by God, Catholic teaching also speaks of a development of doctrine, a growing understanding of the meaning of Revelation (cf. Jn 16:12 regarding Jesus telling the disciples that the Holy Spirit would lead them into a deeper understanding of the truth). A few significant examples follow.

The Fourth Lateran Council in 1215, in line with the Bible and the common view of early Christian writers, affirmed that: "God [Father, Son and Holy Spirit] Creator of all things

visible and invisible, spiritual and corporeal, who, by his almighty power, from the very beginning of time has created both orders of creatures in the same way out of nothing, the spiritual or angelic world and the corporeal or visible universe. And afterwards he formed the creature man, who in a way belongs to both orders, as he is composed of spirit and body....”

The Council of Vienne (which convened from 1311-12) stated: “We condemn as erroneous and opposed to Catholic truth every doctrine and opinion that rashly asserts that the substance of the rational, intellectual soul is not truly and by its own nature the form of the human body, or that casts doubt on this matter.” This teaching was in response to an error of Peter John Olivi.

The Fifth Lateran Council (which met in 1512-17), in response to Averroistic monophysicism, affirmed that: “...the soul is not only truly, of its own nature, and essentially the form of the human body..., but also it is immortal...” (Note: this and earlier Catholic teaching cited in this section are from TCT.) A *New Catholic Encyclopedia* [NCE, vol. 13] article on “Soul, Human” notes that these teachings do not make the Thomistic doctrine official, but in the language most convenient at the time, only tried to defend the mystery of man [the human being / person] in the plurality of his dimensions and the unity of his being. Thomistic theses concerning the human soul have been favorably received by the Magisterium (the teaching office of the popes and bishops in union with them) as one of the best illustrations of the mystery of man.

The Second Vatican Council (which was held from 1962-5), GS, n. 14, speaks of man [the concrete human being / person] as a unity of body and soul. The human body is good—the elements of the material world are brought to their highest perfection in the human person. When man “recognizes in himself a spiritual and immortal soul, he is not being led astray by

false imaginings that are due to merely physical or social causes. On the contrary, he grasps what is profoundly true in this matter.”(Vatican II; cf. also LG, nn. 50-1, re the Church in heaven and on earth).

Pope John Paul II (1996), while speaking of a significant argument in favor of the theory of evolution, also speaks of Revelation telling us that man is created in the image and likeness of God. He continues:

It is by virtue of his spiritual soul that the whole person, including his body, possesses such great dignity. Pius XII [*Humani Generis*, 1950] underlined this essential point: if the origin of the human body comes through living matter which existed previously, the spiritual soul is created directly by God.... With man, we find ourselves facing a different ontological order—an ontological leap, we could say. But in posing such a great ontological discontinuity, are we not breaking up the physical continuity which seems to be the main line of research about evolution in the fields of physics and chemistry? An appreciation for the different methods used in different fields of scholarship allows us to bring together two points of view which at first might seem irreconcilable. The sciences of observation describe and measure, with ever greater precision, the many manifestations of life, and write them down along the time-line. The moment of passage into the spiritual realm is not something that can be observed in this way—although we can nevertheless discern, through experimental research, a series of very valuable signs of what is specifically human life. But the experience of metaphysical knowledge, of self-consciousness and self-awareness, of moral conscience, of liberty, or of aesthetic and religious experience-- these must be analyzed through philosophical reflection, while theology seeks to clarify the ultimate meaning of the Creator’s designs.

The question of evolution and the origin of human persons is treated more fully in Chapter 3 above.

The *Catechism of the Catholic Church* (1997) includes a section called, “Body and Soul but Truly One” (CCC, nn. 362-8), which presents a fairly recent summary of Catholic teaching. Among other things, it says, “The unity of soul and body is so profound that one has to consider the soul to be the ‘form’ of the body: i.e., it is because of its spiritual soul that the body made of matter becomes a living, human body; spirit and matter, in man, are not two natures united, but rather their union forms a single nature.”(n. 365) The Catechism also has sections on the

communion of saints including the communion of the Church of heaven and earth (CCC, nn. 946-62), praying for the dead, the saints interceding for us, life everlasting including the particular judgment, heaven, purgatory and hell, the last judgment, and the new heaven and earth (CCC, nn. 1020-60).

Does the official Catholic practice of the canonization of saints, a rigorous process which normally requires at least two miracles except in the case of a Christian martyr, strongly support not only the intermediate state (see under Chapter 6 above), but also the existence of human persons having immaterial souls? Many Christians, both in the past and in our time, have reported experiences of asking a deceased saint(s) to pray or intercede before God for something specific and of many such prayers being answered. The official canonization of saints normally presupposes God working miracles in response to specific requests for their intercession. If the deceased saints are not really conscious how can they intercede for us? If they are not able to pray for us, why does God often answer such requests, often working miracles in response to such requests? Would this not involve God being deceptive, deliberately acting in a way which supports an illusory human view? Such deception is incompatible with God's nature. Since God is Truth and all-powerful and has worked many miracles in response to requests for deceased saints to intercede for us, this confirms that the deceased saints are really conscious and able to intercede for us. How could they do this if they do not have immaterial immortal souls?

Christian theologian and scientist John Polkinghorne explains miracles as unique events which lie outside the normal scope of scientific investigation. Science can not exclude them. Theologically, "Miracles are not to be interpreted as divine acts against nature (for those laws are themselves expressions of God's will) but as more profound revelations of the character of the divine relationship to creation. To be credible, miracles must convey a deeper understanding than

could have been obtained without them. Hence the language of ‘signs’ used in the fourth Gospel.”(1998, 92-3). An article on miracles in the NCE, vol. 9, notes that: “In theological usage, a miracle is an extraordinary event, perceptible to the senses, produced by God in a religious context as a sign of the supernatural.”

Karol Wojtyla

Karol Wojtyla, who became Pope (and Saint) John Paul II, was a Thomist who used the phenomenological method. In his book *The Acting Person*, he distinguishes what a person freely does or causes by one’s voluntary chosen actions and omissions, and what happens in us such as the involuntary workings of parts of our body and our emotional reactions (consider the various determinisms mentioned in the quote below), and what happens outside of us beyond our control such as the movements of the planets and the freely chosen actions of other persons. Related to this and the soul he says in part:

It is to metaphysical analysis that we owe the knowledge of the human soul as the principle underlying the unity of the being and the life of a concrete person. We infer the existence of the soul and its spiritual nature from effects that demand a sufficient reason, that is to say, a commensurate cause. In this perspective it is evident that there can be no such thing as a direct experience of the soul. Man has only the experience of the effects which he seeks to relate with an adequate cause in his being. [T]he content of what is meant as the ‘experience of the soul’ consists of everything that in our previous analyses was attributed to the person’s transcendence in the action [that is, what the person freely does or causes], namely, obligation, responsibility, truthfulness, self-determination, and consciousness. It is the innerness of all these moments ... [which] make the vital fabric of the inner man, they inhere in his inner life, as thus experienced they are identified with the experience of the soul. But the possible knowledge of the soul is not limited solely to these moments and their specific role; it encompasses in and through them man’s entire, as it were, spiritual ego. (186)

.... [W]hile the body itself is the source of the reactive dynamism, specific for the human soma [e.g., one’s heart beating faster when one exercises], and indirectly also for the emotive dynamism of the human psyche [e.g., one’s involuntary emotional reactions], the integration of these two dynamisms has to have a common origin with the person’s transcendence. Can we infer that it is the soul that is the ultimate source or, to put it differently, the transcending principle and also the principle of the

integration of the person in the action? At any rate, it seems that this line of reasoning has brought us much closer to approaching the soul.

Our analyses indicate something like a boundary in man, which sets a limit to the scope of the dynamism and thus also of the reach of the body... They also reveal a capacity of a spiritual nature that seems to lie at the root of the person's transcendence, but also indirectly of the integration of the person in action. Integration ... tells us that the soul-body relation cuts across all the boundaries we find in experience and that it goes deeper and is more fundamental than they are. We thus have confirmed, even if indirectly, our earlier assertion that the complete reality of the soul itself and the soul's relation to the body needs a more comprehensive metaphysical expression. (258)

The human spiritual soul is thus not something which is tangible or empirically verifiable. Nor, as Wojtyla points out, is the human soul a reality which we can experience directly. But we need to infer its existence to explain adequately all of human experience including consciousness and self-consciousness, free will and voluntarily chosen actions and omissions (for a fuller treatment of Wojtyla regarding the soul of a human person see Reimers 2015). Morally relevant values include the dignity of human persons, truth, the sacredness of human life, fidelity and self-giving love. We can experience these values as transcending our immediate experience but nevertheless as rooted in who God is and who we are.(von Hildebrand) These values, are intangible, beyond empirical scientific verification. To explain our real experience of these values and their call for us to appreciate and respect them requires positing the existence of a dimension within human beings that transcends their physical matter. It requires that we have a spiritual immaterial soul.

Orthodoxy and Protestantism

The Orthodox Churches of the East, like the Catholic Church, consider Scripture including the deuterocanonical books to be inspired by God. In their theology they consider the Bible together with Tradition as well as the Fathers of the Church, especially the Greek Fathers. They also consider the early Church Councils up until the schism in 1054 with Rome to be

authoritative. With regard to the human soul they accept the traditional body-soul dichotomy and unity—their views on the soul are thus quite similar to the Catholic view. Their theology tends to emphasize more the mystery of the human being (cf. 1 Cor 13:9: we now only know in part but in the future life we will know fully as we are known, that is, by God) than Western Roman Catholic theology and in general is not as concerned for precise formulations.

The Protestant Reformers of the West did not question the existence of an immaterial soul. Martin Luther did not accept the view of delayed animation of the human body by the soul at the beginning of life, referring to Ps 51 where the psalmist speaks of being a sinner from conception. For Luther since original sin corrupted the whole human being not just the body but also the soul from conception, the soul needed to be present then.(Luther)

In line with their understanding of original sin corrupting the whole human being, some Protestants saw the soul as produced by the generative act of the parents rather than as created directly by God (the Catholic view). Luther and some Radical Reformers argued that the human soul either dies with the body or “sleeps” until the general resurrection. Another leading Protestant reformer, John Calvin wrote *Psychopannychia* to contest such views. He argued in support of the immortality of the soul from moral consciousness as well as in the light of the same New Testament texts as did Catholics.

Today Protestant theologians are divided. Some defend the traditional dichotomy and understand man as body and soul, which is spiritual and immortal (e.g., R. Prenter; and J. Cooper). Some speak of three parts to the human being: body, soul and spirit (compare, e.g., 1 Th 5:23. With regard to this Cooper (2000, 98) does not consider the “soul” and “spirit” as ontologically separate. Catholic teaching holds that “this distinction does not introduce a duality into the soul. ‘Spirit’ signifies that from creation man is ordered to a supernatural end and that

his soul can gratuitously be raised beyond all it deserves to communion with God.”(CCC 1997, n. 367) Still some other Protestant Christians today see the spirituality and immortality of the soul as an alien intrusion from Greek philosophy and emphasize the “Biblical / Hebrew” view whereby they understand the human being as “flesh-animated-by-soul,” as a psycho-physical unity (e.g., J. A. T. Robinson), whose body is an outer aspect and whose soul as a vital principle is an inner aspect. Death involves the whole human being. Oscar Cullman has revived the idea of death as a state of sleep or unconsciousness until the resurrection. [Note: those who believe the soul is conscious after death interpret the Apostle Paul referring to death as “sleep” in 1 Th 5:10 as a natural metaphor.] This latter group of Protestant Christians understand immortality of the whole human being only in terms of resurrection in Christ. (See NCE, vol. 13, several articles on soul; and Brown, Murphy and Malony 1998, who promote what they call “non-reductive physicalism” in *Whatever Happened to the Soul?*)

Non-Reductive Physicalism

Today some Protestant Christians scholars advocate non-reductive physicalism as an alternative to both reductive physicalism / materialism and the traditional Christian view of the human body united to an immaterial soul. They argue that this view fits with neuroscientific findings regarding the tight brain / mind links while also affirming that consciousness, free will and religious experience are very real (consider “non-reductive” as part of the name). Christian authors who support this view argue that we are ontologically only physical (hence “physicalism” is also part of the name) and do not have an immaterial soul, that the whole person disintegrates with death of the body, and they hope for a reconstitution of the whole person in the future resurrection (see Brown et al.). This view is close to “emergent monism” which some Christians such as Ian Barbour and Arthur Peacocke advocate. The latter name highlights human

capacities as having evolved or “emerged” over a long evolutionary process. “Monism” contrasts with dualism and authors affirming this view hold that we are only constituted ontologically of “one” substance, that is, physical matter.

Proponents of non-reductive physicalism note that in the light of the Bible Christian theology has historically understood human personhood as embodied, unified, and not a distinct substance such as in Descartes’s view of the human soul. Some authors such as Malcolm Jeeves (1997), a Christian psychologist, and Jean-Pierre Changeux, a neuroscientist, and Paul Ricoeur, a philosopher (2000), while opposing dualism and affirming our unified nature, nevertheless, speak of a certain multi-aspectual or duality to human experience. Consider the distinction between studying the brain as an “object” (e.g., what happens in the brain when one sees the colour red) versus the person’s “first person” subjective experience of qualia (e.g., how the person experiences the colour red).

Christian non-reductive physicalists believe in the existence of God, as the Creator, as “Wholly Other” than all that is “not-God.” They understand humankind as part of God’s Creation, as creatures who are embodied, unified, and continuous with the natural world. As Christians they believe in the resurrection of the body. With the Bible they affirm our “image-of-Godness,” our ability to have a personal relationship with God. They understand that God intended and produced us as creatures with personal capacities of consciousness, free will and an ability to relate to God through a process of biological and cultural evolution, but that God did not endow us with a separable, immaterial soul.

The organization and function of material elements—atoms and molecules— involve “upward causality” from the physical to the chemical to the biological to the psychological, to the moral and spiritual, which comprise our emergent mental properties including our internal

subjective experience, awareness, thought, memory, and imagination. These in turn result in and reflect our social character including language, culture, intimacy, and relationships. Our human mental properties and their products (e.g., culture) in turn can have a “downward causal” influence on brain function (and bodily voluntary movements such as deliberately moving one’s arm) because the whole is greater than the sum of its parts. For example, if I ask you to choose to conjure a visual image, this choice leads to a change in activity in visual areas of the brain.

Thus mental properties require a particular physical architecture, but they cannot be reduced to the parts of that architecture. The higher whole can not be fully explained by the lower parts—mental properties have causal powers themselves. The person and personal capacities must be considered in their environment and social context. Free will and personal agency according to non-reductive physicalism are not illusions but are real emergent properties of a brain developing and active in a particular environment.

With regard to human religious experiences including visions and allocutions, Nancey Murphy, one of the main promoters of non-reductive physicalism, affirms that God, who is not part of the physical world, can interact with the physical world including the human brain. Related to this, I, a Catholic theologian, who am not a non-reductive physicalist, ask, if God, who is Spirit and not ontologically physical, can interact with the physical brain why could not a spiritual immaterial human soul? As well, in the Incarnation if the Son of God, who is Spirit, can be profoundly united to a human body including its brain, why could not a human spiritual soul? Moreover, if God has created angels (see the section above on Catholic teaching in this chapter), spiritual beings without bodies who can understand and will (love), why could he not also have created a spiritual dimension to human beings, a dimension which allows human beings between bodily death and resurrection to continue to have some understanding and will,

that is, to experience God's love and to love? If God's creation is not only physical but also includes angels, intelligent spiritual beings without physical bodies, and the human being is a profound unity of physical body and spiritual soul, is this not a richer creation, one that can give greater glory to God?

John Cooper (2000), a theologian from the Calvinist tradition, and I (Flaman 2008), a Catholic theologian, raise a question: How can the identity of a person continue if there is no intermediate state of the human soul, a substantial part of the person, between bodily death and a future bodily resurrection? If God can reconstitute a person identical to you now with the same body and brain and memories, etc., at some future time, although in a transformed state appropriate to the state of the resurrection, then God could also create a human clone of you now with a similar body, brain and memories. Would this clone be you or a different person? We would say that it would be a different person since it could go to different places, have different experiences, create different memories, and so forth, than you. Does one need a substantial part of oneself such as an immaterial soul or self to continue through death in an intermediate state until bodily resurrection to maintain one's identity as the same person? We would answer yes.

Neuroscientist John Eccles' Dualist-Interactionism

Sir John Eccles (1903-1997) was a distinguished neuroscientist and a Christian. Among other things, he won a Nobel Prize for demonstrating that neurons communicate with one another across their synapses by chemical rather than electrical transmission. With regard to the human person, Eccles developed a hypothesis called "dualist-interactionism" with Sir Karl Popper, a distinguished philosopher and agnostic, and Friedrich Beck, a physicist (see especially Eccles 1994). Eccles states that "... nowhere in the laws of physics ... chemistry and biology, is there any reference to consciousness or mind."(1994, 9) He points out that these sciences can

not even begin to explain the very real human experiences of consciousness and one's ability to freely control one's brain (for example, by deliberately thinking in certain ways resulting in increasing the blood flow in certain regions of the brain, as illustrated by brain imaging technologies) and certain bodily movements (for example, to move or not to move one of one's fingers at will).

With regard to materialists who contend that although the physical sciences cannot explain human consciousness yet, but that eventually scientists will be able to do so, Eccles calls this a "promissory materialism"(1994, 168) which he says will never be realized because in his view human consciousness is not something material but immaterial. He also contends that:

... [A]ll materialist theories of the mind are in conflict with biological evolution. Since they all ... assert the causal ineffectiveness of consciousness per se, they fail completely to account for the biological evolution of consciousness ... According to biological evolution, mental states and consciousness could have evolved and developed *only if they were causally effective* in bringing about changes in neural happenings in the brain with the consequent changes in behavior. This can occur *only if* the neural machinery of the brain is open to influences from the mental events of the world of conscious experiences, which is the basic postulate of dualist-interactionist theory."(1994, 10-11).

He adds: "Since materialist solutions [i.e. genetic uniqueness, accumulated experiences ...] fail to account for our experienced uniqueness, I am constrained to attribute the uniqueness of the self or soul to a supernatural spiritual creation."(1994, 180) Eccles concludes that the human person has an immaterial soul and that the only explanation for its existence is a creation of God, and that the soul survives death. According to his hypothesis, the human immaterial self or soul at the quantum level, without violating the law of the conservation of energy, interacts (two-way) with the neocortex. Don Page, a renowned physicist at the University of Alberta in a private communication informed me that the law of the conservation of energy applies to a limited

system. He said that it does not necessarily apply to the whole universe or the particular matter of the brain.

In the book, *Whatever Happened to the Soul?* (Brown et al. 1998, REF), Nancey Murphy who argues for non-reductive physicalism (see this section above) says Eccles' dualism cannot be disproved by science. Malcolm Jeeves raises an objection to Eccles' application of quantum indeterminacy, saying neurons are too large and a change in a single neuron is not enough to cause a significant change in a brain state.(1997, REF) He, however, seems unaware of Eccles' later development of his hypothesis (1994) with microsites in the neocortex. Eccles hypothesizes how the immaterial self or soul can increase the probability of exocytosis of presynaptic boutons (an action potential in a neuron does not always release neurotransmitters into the synapse between neurons but only 30-50 percent of the time), not just of one but of many (up to 100,000) on a neural unit or dendron, formed of a bunch of apical dendrites. He says there are approximately 40 million dendrons in the human brain and he speaks of their related psychons (units of human experience; cf. what many call qualia). Eccles also thought there may be some psychons which relate with other psychons but not directly with dendrons. He says there is much that we still do not know about psychons. Eccles, who died in 1997, spent much of his long life's work developing and refining this hypothesis. He presents it as a hypothesis, which he argues is compatible with scientific data and human experience, to stimulate further research.

Related to free will, that is, the person being freely able to influence changes in the brain and bodily movements by means of one's immaterial self or soul, Eccles accepts the data of Benjamin Libet's experiment that indicates that something happens in the brain before the awareness of intending to choose to act.(Libet 1985) Some determinists including some neuroscientists have interpreted this kind of data to indicate that free choice is not real but an

illusion. Eccles, however, points out that action potentials do indeed occur before the influence of the self or soul or mental state on the brain which acts to increase the probability of exocytosis, that is, that the action potentials of many neurons in a dendron will more often result in the release of neurotransmitters from the presynaptic boutons into the synapses to influence neighbouring neurons.(Eccles 1985 and 1994). It is beyond my purposes here to explore the complex topic of human free will and freedom and their limitations further. For those interested there is an interesting and informative video (1 hour 37 minutes) available at: <https://www.youtube.com/watch?v=9uRTjfhIf4M> (2016) on a four-year interdisciplinary project called, “Closer to Truth – Big Questions in Free Will,” directed by Al Mele of Florida State University and supported by a grant from the John Templeton Foundation. This video shows several scientists explaining some of their related scientific experiments and interpretations, as well as several philosophers and theologians’ views regarding free will, responsibility and moral agency. Related to the question of human freedom and its limits, and the moral agency of human persons and personal responsibility, see also Chapter 7 above including the sections on “An Integral Vision and Anthropology is Needed” and “The Objective-Subjective Distinction Regarding Morality.”

As someone who is convinced that we have an immaterial soul and free will I find much appealing in Eccles’ hypothesis. A question I have, however, is whether the interaction between the immaterial self or soul and the body only occurs in the neocortex of the brain. For example, when one touches something with one’s finger, one experiences the qualia (the subjective experience of touch) or psychon in Eccles’ words, not in one’s neocortex but in one’s finger. With regard to this consider the view of Thomas Aquinas (see above in this chapter) that the whole soul is present in every part of one’s body. Consider also a contemporary Thomist

Benedict Ashley who says that the brain does not see, hear, feel or walk, but that the person sees, hears, feels and walks with one's eyes, ears, skin, feet and brain.(1985, 323-4)

Is the view of Eccles, a neuroscientist, merely a more sophisticated form of Cartesian dualism? Descartes with his limited knowledge of the brain thought that the immaterial soul interacts with the body through the pineal gland rather than the neocortex as did Eccles with his extensive knowledge of the brain. With regard to this we can note that Eccles (and Popper) does not speak of the brain and mind as separate substances (cf. Descartes), but as pertaining to different "worlds."

Can Eccles' theory be reconciled with the part of Aquinas' view that the human intellect per se operates without a bodily organ, but its thinking is accompanied by images (visual, auditory ...) derived from the senses and stored in a body organ.(cf. NCE, vol. 13, "Soul, Human") On the other hand, can Aquinas' view including what he says about the sense and vegetative powers of the soul be integrated with the recent findings of modern science including neuroscience? It is beyond my purposes here to address the views of Aquinas more fully here (see also Jensen 2018). I would, however, like to recommend *Theologies of the Body* (1985) by Benedict Ashley. He is a contemporary Thomist who relates many things Thomas Aquinas says to much of the findings of science including neuroscience, as well as to biblical scholarship, and theological and philosophical developments since the time of Aquinas. Ashley supports Catholic teaching and many of Aquinas' conclusions. Among other things, he also defends the real existence of angels, created intelligent spiritual beings without bodies, with a number of theological arguments. He argues in part that their existence is compatible with an evolutionary view of the physical universe.(1985, 645-57)

A Few Concluding Questions and Reflections

Related to the different views presented in this chapter with regard to mind-brain, body-soul questions we can ask, “Does which view one holds makes any difference?” Reductive materialism which excludes the transcendent dimension of reality including a transcendent God would exclude a person having a personal relationship with such a God, which in fact not only many Christians but also many other human persons are convinced they have. Among various Christian views including Thomism (holistic dualism), Non-Reductive Physicalism (and Emergent Monism) and Dualistic Interactionism, does it make any difference which view one holds?

Christians who support non-reductive physicalism (compare also emergent monism) sometimes argue that dualism has contributed to seeing the body as bad or not important, to sexism, to the mistreatment of animals and to the ecological crisis (see related parts of Brown et al. 1998). Related to this it is important to note that there are different kinds of dualism. Certain kinds of dualism such as Gnosticism and Manicheanism did in fact disparage matter and the human body. A kind of dualism common in the Middle East when the Priestly Creation Account of Gen 1-2:4a was written (see under Ch. 3 above) also considered women more tied to the evil of matter and so was sexist. Descartes’ dualism which considered animals to be merely machines without feelings certainly fostered a lack of proper respect for animals. But these are not the case with all those who hold holistic dualism including Thomism and dualistic interactionism. With regard to the latter Eccles in his writing expresses a sense of wonder for the marvelous human body and brain. My own learning more about the human brain has led me to appreciate more how wonderfully God has made us (see Ps 139). Pope John Paul II, a Thomist and Personalist, promoted a high regard for women (see, e.g., his *Mulieris Dignitatem* 1988),

respect for animals who he acknowledged can experience pain (see, e.g., his *Salvifici Doloris* 1984), and promoted ecology, that is, that we human beings are called to exercise proper stewardship of our environment (see, e.g., “The Ecological Crisis: A Common Responsibility” 1990). Although some authors including Nancey Murphy and John Cooper would categorize Pope John Paul as a holistic dualist, since he, together with Catholic teaching distinguishes the human body and spiritual soul, we can ask whether “dualism” is the best word to describe Thomism and Catholic teaching which understand the human body and spiritual soul as together forming one human nature. I think it is important to affirm our psychosomatic unity—the body is not a “prison” of the soul but its natural “home,” the basic goodness of all creation including our bodies, and our responsibility to be God’s wise and loving stewards of animals and our ecosystem, that is, concerns shared by Christians who support non-reductive physicalism. Affirming the existence of a human immortal spiritual/immaterial soul and our transcendent dignity, I think, can be seen not as contrary but as complementary to this.

All Christians following the Bible (Gen 1:26-27) affirm that human beings are created in the image of God and are very good. If all human beings are not only ontologically physical but also really have a spiritual immaterial and immortal soul, does this strengthen the defense of the great dignity and sanctity of life of all human beings / persons including those whose brains are only beginning to develop, that is, unborn human beings, and those with serious brain damage or disorders including those in a persistent vegetative state (see Chapters 3 and 5 above)? It seems to me that having a spiritual / immaterial immortal soul does imply that each of us, whatever our limitations, has a greater natural inherent created dignity, because we have an ontological dimension like God who is Spirit and Eternal, compared to if we do not have a spiritual immortal soul and are not like God in this way. We are special not only because God treats us as special

and calls us to do the same, but because each of us has a spiritual immortal soul. Related to this Pope John Paul II affirmed that, “It is by virtue of his spiritual soul that the whole person possesses such a dignity even in his body.... [Other views are not] able to ground the dignity of the person.”(1996)

Some Christian mystics such as St. Theresa of Avila speak of the closest possible spiritual union of a human person with God in this life as a kind of mystical marriage. If we in fact have a spiritual immaterial soul, does this enable a more intense union with God who is Spirit and immaterial than if we are only ontologically physical, that is, only composed of matter? It seems to me that it does. Also, if we have a spiritual immortal soul this allows the human person, as Christian tradition and Catholic teaching affirm, to experience an uninterrupted communion with God (including the beatific vision in heaven), and from heaven to play an active role in the communion of saints, in an intermediate state between bodily death and resurrection of the body, compared to ceasing to exist as a person during that time. Having a spiritual immaterial immortal soul, therefore, seems to be very good for us human beings, “good news” compatible with the Good News of salvation in Jesus Christ, and really has no downside if properly understood.

In closing this chapter I ask, “Which view or theory better fits with the data of human science and experience, reason and Christian Revelation?” A truly “catholic” (holistic) view is open to all truth and affirms the unity of truth.