

# Mind – Body – Spirituality

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## **Abstract**

The argument of this paper is that the modern brain-consciousness debate has left out one important element: the question of a transpersonal or spirit-like element of consciousness. Thus the problem really is not a mind-body-problem or brain-consciousness problem, but a mind-body-spirit or brain-consciousness-soul problem. Looking at the history of the debate it can be seen that, explicitly or implicitly, this aspect has always been part of the philosophical debate. Most notably, this can be seen in the Aristotelian concept of the soul, which held that form and matter were both together necessary to constitute a unity. But on top of that, a Platonic strand of teaching existed in Aristotle, which was lost. This tradition stipulated an aspect of the soul, the active intellect, that was separate and separable. This idea has inspired other and later writers into postulating an immortal part of the soul. In the modern debate this tradition has been lost and was frequently amalgamated with dualist positions. Phenomenological descriptions of mystical experiences, as well as other unusual (or exceptional) mind-matter anomalies suggest that this aspect of the problem needs reconsideration. For this purpose a transcendental kind of monism is suggested which does not violate the consensus that only a monist description of the world is scientifically viable. Such a position would, in addition, provide the option to incorporate the transpersonal side of the debate.

## **1. Distinguishing Personal and Transpersonal Views**

It is suggested that there are two essentially different aspects of the mind-body problem:

- (a) There is the brain-consciousness or traditional mind-body problem. It is addressed by asking questions like: Can the phenomenal qualities which characterize our experience of “mind” be reduced to the physical qualities of patterned neuron-discharges? Is the brain alone sufficient to give rise to personal consciousness, or do we need a separate entity? Is consciousness a “real”, non-reducible entity which nevertheless is completely causally dependent or supervenient on

neuronal events? In Bunge's (1991) parlance: Who is the subject of first-person-singular sentences like "I am hungry", "I need love", "I feel pain"? Is it the complex neurological system, our brain? Is it a separate substantial entity? Is there no subject at all, and the talk of personal consciousness and psychological states is only a case of improper use of language? In sum, it is the question of how we can understand personal consciousness.

- (b) Apart from this, there is what we would like to term the question of transpersonal consciousness, often brought forward in the disguise of a dualist position: Is consciousness confined and relegated to its physical substrate, the body, in space and time? Or is consciousness reaching further out? Is it able to represent mental states of other, coexistent sentient or conscious beings, thus transcending the physical boundaries of the body it is usually associated with? Is it able to directly pre-sense its own mental states or its body's physical states, thus transcending the present into the future? Is it capable of directly receiving influences from other people's past mental or physical states, other than by the common means of learning, reading, hearing and empathizing, thus transcending the present towards the past? Is there, over and above personal consciousness, a mind-soul-like entity which survives personal death, or is it in any other respect at least partially independent from a conscious person in a way that death does not totally obliterate it? Who would be the subject of such purported transpersonal states of consciousness?

The suggestion, thus, is to distinguish a personal mind-body-problem from a transpersonal or spiritual spirit-mind-body-problem. The personal mind-body-problem focuses on the question of how personal consciousness and the brain with its body are related. The transpersonal spirit-mind-body-problem focuses on the question of whether consciousness has aspects reaching beyond the individual brain-consciousness relationship. It incorporates also the classical question about a "soul-like" entity that would be able to survive death in a certain form.

In order to distinguish these positions I will be using the following terminology: I will use the notions "matter", "body", "brain" in a rather synonymous fashion, depending on the context. They denote the material side of our existence, which could be potentially described by the laws of natural sciences such as physics, chemistry, biochemistry, or the neurosciences.

By "consciousness" I mean the personal awareness of being myself and knowing this fact. It also comprises the particular feeling accompanying this act of consciousness, often referred to as "qualia": the specific internal nature of all acts of consciousness, the way it feels to be conscious as a particular person, the "internal" side of our being. This notion could

potentially also comprise all those elements of our mental life that are not conscious in the first place but contribute to our conscious mental activity, i.e. the pre-conscious cognitive acts, which very often go unnoticed and happen automatically, but could potentially be conscious, once focused upon.

By using “transpersonal consciousness”, “soul” or “spirit” interchangeably, I will be voluntarily trespassing on denominational views, since I would like to point out the generic notion behind the words. I will use these terms to point to all traditions of thought throughout cultures and epochs that have held that some part of the human person is indestructible, survives death, and reaches beyond the personal realm of private consciousness.

Depending on author, time and cultural background different aspects of transpersonal consciousness have been emphasized. With the Christian and Islamic writers from late Hellenistic times onwards personal survival of death has been of prime importance, while Hindu texts would stress the super-individual permanence of “Spirit”, or Buddhist teachings, point to the illusory nature of ego-consciousness altogether and a generic one-ness of all being, which nevertheless is transcendent. Transpersonal consciousness, thus, refers to the potentially transcendent nature of all or part of our human consciousness.

Distinguishing these two aspects of the traditional mind-body problem leads to interesting and illuminating combinations of possible positions which could be and have been held. Table 1 presents what I think are the most important among them.

Classical materialism, or strong identity theories, like those first proposed by the Greek atomists, or in modern days by Armstrong (1968, 1977), hold that everything besides matter is non-existent and illusory. They would certainly not allow for a spiritual entity on top of consciousness, and classical individual consciousness would seem to be an illegitimate notion. Modern, weaker versions of materialism would claim basically the same except that they would not relegate mind to an illusory realm but admit that consciousness can have a partial subsistence. Just how autonomous and causally active that consciousness can be is a matter of debate, and a criterion for discriminating a wide range of subtle materialist positions. It is, however, not the scope of the present paper to give a full overview of distinctions of these positions.

In stark contrast is strong idealism, a position which in the West has probably only been held by Berkeley, but which is very prominent in Eastern, particularly Indian, philosophies. This position holds that only “Universal Spirit” or “Consciousness” is real and everything else does not have substantial existence. A potential modern candidate for this position is Goswami (1990). Classical idealism, as espoused by Plato and again by the German idealists, would go along with strong idealism in the sense

that also transcendental “Spirit” is the only true being. Plato called it the “Idea of the Good”, the German idealists “Geist” – “Spirit”. In contrast to the strong idealist position they were willing to grant some real, albeit derivative, existence to both individual consciousness and matter.

position	body, matter	mind, consc.	soul, spirit	spiritual matter	example
materialism, strong identity	s	o	o	o	Armstrong, Democritus
emergentism, funcionalism, weak identity	s	d	o	o	Bunge AI Searle
strong idealism	o	o	s	o	Berkeley, Goswami
classical idealism	d	d	s	o	Plato, Hegel, Peirce
weak idealism	d	s =	s =	o	Leibniz
strong dualism	s	s =	s =	o	Descartes, Eccles
transcendental dualism	d {s}	d {s}	d {s}	d {s}	Bonaventura, Fons Vitae Jewish mysticism
gnosticism	s	d	s	o	esoteric teachings
transcendental monism	d	d {s}	d {s}	o	neoplatonism, Buddhism, Spinoza, Jung
neutral monism	o {s}	o {s}	o	o	Russell, Feigl
pan- experientialism	d {s}	d {s}	(d)	o	Whitehead
organicism	d {s}	d {s}	(s)	o	Aristotle
Thomism	d {s}	d {s}	s	o	Thomas Aquinas

Table 1: Possible combinations of tenets in the mind-body-soul discussion and historical examples thereof. The following letter symbols are used: s = substantial existence (primary), d = derivative existence (secondary), o = inexistent, illusory. Brackets “( )” indicate that the relation is somewhat unclear or vaguely hinted at, and the equality sign “=” means that the addressed concepts are conceived as identical. Brackets “{s}” indicate that only the unity of the indicated derivatives is substantial.

Leibniz's position seems to be wavering. It is probably fair to call it weakly idealist, for he starts his philosophy with consciousness as primary substance. However, he does not distinguish between spiritual-transpersonal aspects and personal ones. In his monadology (Leibniz 1966), where he develops his system most concisely, he makes a distinction between different types of monads only in degrees, not in principle. But in his system matter is certainly not primary. In a modern reading one could call him a complementarist who held that matter and mind were complementary aspects of reality (Walach and Römer 2000). However, this is a reinterpretation and would reflect the intention, not necessarily the text, of Leibniz's philosophy. Hence, placing him as a weak idealist comes probably closest to his own understanding.

Strong dualism is best exemplified by Eccles' position in modern days, apart from Descartes as the classical source. In these writers it becomes apparent that no distinction is made between individual consciousness and transpersonal aspects of it. On the contrary, the mixing of the two is very likely the hinge around which the claim of dualism moves.

The position I have dubbed "transcendental dualism" was introduced by Jewish sources, most notably the "Fons Vitae – Source of Life", which was written by Ibn Gabirol, known to medieval writers as Avencebrol (1895), cf. Wittmann (1980). It was taken up by Bonaventure, a Franciscan scholar contemporary to Thomas Aquinas. He held that a unity of both individual matter and mind and spiritual matter and transcendental soul constitutes man (Schneider 1973). While individual mind and matter die, spiritual matter and transcendental soul survive death.

An important counterposition, at least in religious terms, was held by all Gnostic teachings (Pagels 1979, 1987). Here a strictly dualist worldview was elaborated: "Matter" as a bad principle was regarded as opposed to some "Universal Spirit" as a good principle, while individual consciousness was less important and only existent as a derivative of the "Universal Spirit". This view has infiltrated a lot of Christian theology, partially through Augustine, who in his early days was a follower of a Gnostic sect himself and could never rid himself of this implicit dualism.

In Neoplatonism, as well as in Buddhism, a different kind of transcendental monism is espoused, and it is possible to also position Spinoza within that frame. Here the only substantial reality is a kind of transcendental "Something" which to name "Spirit" would already be wrong. Rather it is a reality beyond the distinction of mind and matter, consciousness and material world, out of which these distinctions evolve. Plotinos called it "To Hen – The One", out of which all other distinctions – intellect, soul, matter – evolve.

Arguably, Jung had a similar position (Barnes 1945). Some of his writings seem to suggest that matter and mind are derivative of a unified, basic reality (Primas 1996). He called this foundational reality "Unus

Mundus – One World”, following the 16th century alchemist Gerhard Dorn (Jung 1955-1957). Less esoteric was Feigl’s neutral monist position, viewing mind and matter as two sides of one reality without distinct substantial existence (Feigl 1975).

Whitehead’s pan-experientialism is very close to Aristotle’s in that both hold that neither matter nor consciousness have a substantial existence but belong both to an actual being called actual entity or actual occasion by Whitehead (1978). While Whitehead would not talk about a spiritual or transpersonal aspect of consciousness, in Aristotle we have some hints that he was actually holding such a position, although all direct sources to that effect have been lost. Thomas Aquinas’ work filled that conceptual gap in Aristotle’s philosophy. Although Aquinas holds that for the individual mental and bodily aspects are derivative of a primary unity, there still is a separable and distinct soul exemplified by Aristotle’s active intellect.

Thus the history of the debate presents a lot of examples that either explicitly or implicitly have been addressing the question of a transpersonal aspect of consciousness. The present scientific debate is largely focusing on body/matter versus consciousness/mind issues. The question of an individual or trans-individual soul or transpersonal consciousness has been largely banned from mainstream scientific inquiry as speculative and not amenable to scientific debate. It is only recently that, under the heading of “Transpersonal Psychology”, this topic is surfacing again within academic debate. However, this discussion is rarely taken into account by mainstream scientists and philosophers. It is the purpose of this paper to address some shortcomings of the present debate and suggest some lines for future research.

Strong dualist positions from Descartes (1954) to modern day dualists like Eccles (Beck and Eccles 1992, Eccles 1979) and, for instance, Squires (1993, 1994) usually do not distinguish individual mind/consciousness from transpersonal soul/spirit and presuppose, without making this explicit, an identity of mind and soul. If personal and transpersonal consciousness are not distinguished, the debate becomes more complicated and prone to misunderstandings. Making the different aspects explicit helps clarifying notions. We suggest that it is indeed helpful to disentangle the two aspects and look at them separately.

After a historical introduction, we will present two strands of research that might enlighten the discussion: Phenomenological descriptions and empirical data on transpersonal and mystical experiences, and data from anomalies research. The latter area has traditionally been an enclave of research that focused on a potential distinction between matter and mind, or influence of mind on matter, thereby trying to prove the substantiality of mind or consciousness *vis à vis* the scientific mainstream.

Most recently, it has been argued that a potential non-locality of con-

consciousness questions mainstream concepts of a materialist notion of consciousness (Walach and Schmidt 2005). Hence we will briefly touch on this debate. Traditionally, intuitive support for a spiritualist or transcendentalist interpretation of the mind-body problem came from mystical, spiritual or transpersonal experiences. We will examine some claims and data originating from this tradition. In a final section we will try to suggest some avenues for future research.

## 2. A Historical Perspective on the Body-Mind Debate

One general axis of the body-mind debate has been whether individual mind/consciousness is identical with (Armstrong 1968), reducible to (Churchland 1995), derivative of (Dennett 1991), emergent from (Bunge 1991), or supervenient on (Searle 1992) matter or not (Chalmers 1996). The majority of present authors seems to endorse one form or other of a materialist position, in which matter is thought to be primary and the problem which needs solving is the question of precisely how consciousness could arise out of it (Uus 1999). Some authors contend, however, that reductionist positions of any brand fail to address central questions, either in the phenomenology of the mind (Varela *et al.* 1991), in private conscious experience (Chalmers 1996), in the central structure of our most elaborate theory of matter, quantum mechanics (Schwartz *et al.* 2005; Squires 1993, 1994), in the way we always presuppose our mental activity in understanding matter, the mind and its workings (Penrose 1990, 1994), or by pointing out other deficiencies (Beck and Eccles 1992, Eccles 1979, Griffin 1998). Those authors who favor any type of non-reductionist position rarely discuss, whether by consciousness they mean personal, individual consciousness or its transpersonal generalization, an immortal individual soul, or a transpersonal, universal consciousness.

Table 1 and a short exposition of the positions represented in Sect. 1 have shown that the reduction of the debate to personal consciousness is a rather recent restriction. For the most part of history the topic has been discussed in full breadth. The question of transpersonal consciousness comes in two general and partially contradictory brands: In the West, that is Europe and its cultural-philosophical history, there was a strong emphasis, nourished by philosophical tradition and religious faith, that apart from personal conscious mind there is some soul-like entity which survives personal death (Allers 1944, Bergner *et al.* 1976, Heinzmann 1947, Ivanka 1939, Pegis 1934, Seifert 1973). The East, that is Hindu and Buddhist traditions of philosophy, on the contrary, used to emphasize other transpersonal aspects of consciousness, like its non-individual, transpersonal character, its primacy over matter, or its co-derivative existence with matter (Odin 1982, Varela *et al.* 1974). While some Western

concepts like the Platonic and Neoplatonic philosophies were very likely influenced by Eastern concepts (Harris 1982), we nevertheless will focus mostly on the Western concept of transpersonal consciousness.

One example of how personal and transpersonal consciousness are mixed is Aristotle's position and the development resulting from interpretations of his work, like that of Alexander of Aphrodisias or Thomas Aquinas. It is well known that Aristotle's concept of the soul entails that soul is the form of matter. It is only in the unity of matter and form that a concrete being has its existence. Matter in itself is not subsistent, neither is form. Only together they give rise to living beings, from plants to humans. When it comes to humans, however, things change. Aristotle distinguishes between the vegetative and animal soul, which enable life and sensation by giving the body its organic unity, and rational soul, which gives humans their intellectual unity of consciousness. They all are forms of the body, having their existence only in a mutual dependence of matter/stuff and form/idea.

However, there is also the cryptic passage in "On the Soul", where Aristotle says that the most intelligible part of the soul, the *nous poi-etikos* or agent intellect (*intellectus agens* of the scholastics) comes "from outside" (*thyrathen*: it comes from outside through the door, literally translated). This intellect seems to be a part of the soul, according to Aristotle, that can exist separately (*choristos*, De anima 430a17; Aristoteles 1968). This parlance seems to be alien to what Aristotle teaches otherwise. It has given rise to manifold interpretations, one of the most influential being that of Alexander of Aphrodisias, one of Aristotle's commentators. He tried to unite this Aristotelian doctrine with a more Neoplatonist reading of his writings, claiming that the agent intellect, coming from outside, was an independent, soul-like entity (Merlan 1963).<sup>1</sup>

Thomas Aquinas, perhaps the most faithful and understanding commentator of Aristotle's original teachings, took up this idea and moulded it into his own which, on the one hand, tried to give credit to a then "scientific" outlook, represented by Aristotle, and the teachings of theology on the other hand. His famous notion of soul-as-the-form-of-the-body (*anima forma corporis*) means that mind and matter have to be seen as an inseparable unity with neither mind nor matter being primordial or substantial in itself (Pegis 1934, Schneider 1973). On top of that, however, there is the agent intellect, a separable part of the soul, as it were, which

<sup>1</sup>This apparent contradiction within Aristotle himself has to do with the fact that Aristotle's book "Peri Psyches – De Anima – On the Soul" is only part of his psychology. The more esoteric teaching, which was Platonic in its leaning, was contained in his dialogue "Eudemos", which is lost. It can be assumed that this esoteric doctrine of the soul, its spiritual nature and kinship with the "Good", a teaching probably closer to Plato than his extant psychology, was contained in this dialogue and presupposed by Aristotle, when discussing the more mundane side of his psychology in "Peri Psyches" (cf. Gigon in his introduction to Aristotle's "On the Soul", Aristoteles 1983).



would survive personal death, thereby granting all the elements germane to Christian teaching: life after death, personal responsibility for morally relevant actions, and the possibility of an eternal life in bliss in God's grace.

A similar, but slightly different view was adopted by Thomas Aquinas' contemporary and father of the Franciscan tradition of medieval scholasticism, Bonaventure, who held that also the immortal part of man was composed of mind and a spiritual type of matter, thereby forming a spiritual unity. While the mortal part of form and ordinary matter decayed, the immortal part would survive death as a spiritual unity. Souls, like angels, also have "bodies", made of spiritual matter (Bergner *et al.* 1976, Lutz 1909).

This distinction, introduced into the scholarly debate by Thomas Aquinas via Aristotle, seems to have been neglected with the rise of natural science, and most notably in the age of enlightenment. The "soul" as an individual, spiritual entity was dismissed as a metaphysical notion. The scientific enterprise as a herald of enlightenment made the battle against superstition and wild speculation, against human ignorance and man-made bondages its main agenda. Knowledge and scientific inquiry was not only an enterprise in its own right, it also was a movement against traditional teachings (Walach and Reich 2005).

In order to become self-sufficient, human rational endeavor had to break itself free from its religious underpinnings. By letting go of old attachments to religion, science advanced and made progress. It did so by excluding from the scientific enterprise in its strict sense a whole set of genuinely human experiences (James 1985), spiritual, religious, or transpersonal. Nowadays we might be in a position to bring these experiences into the focus of scientific scrutiny.

### 3. Mystical and Religious Experiences

Mystical and religious experiences have been testified in many human cultures and times, and thus are a heritage of mankind (Albert 1996, James 1985). So far, nobody has succeeded in giving a sufficiently elaborated reductionist account of religious experience or human actions which are religiously motivated. There have been some attempts, however. Studies of meditative states suggest that neuronal activities accompanying higher states of consciousness are correlates of a transcendental consciousness in "Transcendental Meditation" (Orme-Johnson 1977). Such consciousness is characterized as contentless, subjectless awareness full of bliss.

A recent imaging study points towards differential activation of the brain during different states of meditation (Davidson *et al.* 2003). Other

correlates, like the often quoted 40Hz activity during meditation (Anand *et al.* 1961), have been found to be artefacts by one study (Ott 2001), but apparently vindicated recently (Lutz *et al.* 2004). Parietal lobe dysfunction or mini-seizures seem to convey some of the phenomenal qualities attributed to spiritual experiences (Fenwick 2001, Fenwick *et al.* 1985, Gammel and Moosbrugger 1982, Persinger 1983). All these attempts describe concomitants of spiritual experiences but fail to give satisfactory explanations. One prominent attempt at both explaining “spiritual experiences” as temporal lobe mini-seizures and inducing them by stimulation (Persinger 1983; Persinger and Makarec 1987) has been clearly demonstrated to be due to a lack in methodological rigor and thus a consequence of social desirability (Granqvist *et al.* 2005).

Another prominent attempt at reductively explaining religious experience as a specific pattern of brain activation (Newberg and D’Aquili 1998) has been criticized on methodological and philosophical grounds to be too shortsighted (Runehov 2004). Many of these attempts have succeeded in pointing out some neural correlates of religious or transpersonal experience, but they are far from reductively explaining these experiences.

An empirical study of reports of religious experiences, as opposed to everyday experience or schizophrenic narratives has shown that they have different content and grammatical structure, and use different words (Oxman *et al.* 1988). Many people through the ages adhering to different religions and practicing within different spiritual systems have testified to remarkably similar types of experiences (Albert 1996, James 1985, O’Hanlon 1978, Storm and Thalbourne 2000, Thomas and Cooper 1980). Some core elements of such experiences are described in the following.

### 3.1 Core Elements of Mystical Experiences

In all cultures and times, the *sudden appearance of bright light* has been a metaphor or a phenomenological descriptor of a mystical experience. Accompanying and following such an experience seems to be a sudden and non-algorithmic way of knowing. Saint Ignatius, in his life recollections, wrote about his enlightenment experience that he “saw” so many “truths” and understood the meaning of all the teachings in a sudden moment that everything he had learned to this point and would learn later was less than he had seen here in one instant. The same topic of sudden understanding, on a deep level, runs through all strands of Christian mystical writings, and can be observed in a completely different context in the modern description of enlightenment experiences contained in Kapleau (1969). Many anecdotes of historical figures, such as Zen patriarchs or Christian saints testify to the fact that they had apparently gained deep wisdom and understanding not from learning, but from spiritual practice.

*The experience of an all-encompassing love* is usually accompanied by a deep appreciation for other human beings, even life forms. Hence the Buddhist practice to avoid eating meat and to prevent hurting others, even if these others are bugs. In the Christian doctrine the original Jesuanic experience of love has permeated the whole of theology and has been reiterated by virtually all teachers of the Christian church. It is condensed in the well-known statement from the Letter of John: God is love.

Although also depending on personal and cultural characteristics, another common element seems to be a nearly ecstatic *experience of bliss and happiness* that carries on beyond the experience itself and transforms the experiencer into someone who has a much stabler and serener affective life. This is not to say that pain or depression cannot afflict them. The writings of Saint John of the Cross indicate the opposite. But at some point during this experience there is the feeling of bliss and happiness which seems to be boundless and radiates out to others.

Part and parcel of mystical experiences seems to be the *experience of transcendence* of the personal self, merging with a larger reality, at least temporarily. This experience gives rise to many puzzling and often contradictory statements, such as the famous “I am all”, or “I am God”. Such statements express the realization of one’s own “greater” nature in such an experience. Usually this larger entity is then described in terms of a known cultural matrix, such as Buddha, Christ, Atman. The commonality of these experiences seems to be that something larger than the self is experienced, of which this self is an integral part. The distinction between subject and object is obliterated. At the same time, this experience is the source of a wider knowledge and gives rise to the potential of wider action.

Most interesting and challenging from an epistemological point of view are reports about *direct subtle experience and knowledge*. Kapleau’s (1969) descriptions of contemporary enlightenment experiences contain some modern examples, and Thurston (1956) describes famous historical examples from Catholic hagiography which have been well documented. Often they contain elements of seemingly anomalous ways of gleaning knowledge.

Nearly in all traditions at least some individuals with deep spiritual experiences have also exhibited *subtle ways of acting* as healers without any medical interventions. The historical Jesus started his career foremost as a healer, and modern exegesis is beginning to discover that (Walach 2005). A famous historical example is the Kabbalist Abulafia. He went to Rome to discuss with the pope the tribulations his people had to go through by the hands of the reconquistadors in Spain. On his long winding way to Italy the papacy changed hands and the new pope threatened him with death, should he walk through Rome’s gates. Abulafia carried on, eagerly practicing his Kabbalah. When he walked through the gates of

Rome one day in 1280, the bells rang for the death of the pope. He had died shortly after Abulafia had arrived (Idel 1988). Although no sensible scholar would say that Abulafia had killed the pope, and certainly Abulafia would have attributed his own delivery from immanent death to God's intervention, it is a good example for the phenomenology of spiritual experiences. The physical world appears to rearrange itself in accordance with certain states of consciousness, without any direct intervention.

### 3.2 Mystical Experiences versus Scientific Approaches

It is obvious that experiences do never happen independent of culture and language, and thus are always interpreted within the cultural and historical matrix in which they occur. Katz (1983), among others, has advanced the argument that experiences are actually *fully* construed by the cultural matrix they occur in. Although the argument is certainly valid for the linguistic framework which is used to convey the experience to others, it is extremely doubtful that a cultural conditioning hypothesis can explain the quite universal features of some experiences listed in the preceding section, some of which are even contradictory to the culture someone was raised in (Hufford 2005).

Quite a few historical examples, for instance, are examples of complete conversion experiences, where the experience itself gave rise to a change of the cognitive and cultural matrix, and not the other way around. Two prominent examples within the Christian context are Saint Paul and Saint Augustine, and Buddha himself would be a good example for an experience that is actually negating, if not annihilating, a cultural context within which it occurred. Experience, then, would be at the basis of mystical or spiritual teachings, albeit usually couched within a framework of culturally available theologemes or philosophemes.

Experience in a general sense is also at the bottom of all scientific endeavor. Science can be characterized as a disciplined mode of possibly public experience of the outer world and the entities inhabiting it.<sup>2</sup> But in contrast to our experience of the outside world, mystical or religious experience is inner experience. Its subject matter is invisible in the same sense as quarks are invisible to the naive observer. But in the same way as competent scientists, trained in their discipline, can observe and retrace the paths of subatomic particles and can deduce out of certain characteristics of their traces their energy, lifetime, charge and mass, persons trained in contemplative disciplines can experience the reality they describe as Atman, Buddha nature, Christ or whatever notions are provided by their traditions (Albert 1996). There is no technology to be

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<sup>2</sup>Scientific results on scales that are very different from the scales of everyday experience, however, are only accessible by "competent observers". The whole subatomic particle zoo and the exotic objects of extragalactic astrophysics, for instance, cannot be directly observed and make sense only to experts.

derived out of such experiences, but there can be a direct impact on political or human actions, teachings or social works. There are remarkable case reports of profound mystical experiences and their effects on individual lives (Kapleau 1969, Thurston 1956) and whole groups (Grundmann 1977, Lerner 1972).

Scientific experience is usually held to be objective, although this can be argued to a considerable extent (Collins and Pinch 1993, Latour 1999), and “intersubjectivity” is probably a more reasonable term than “objectivity”. It is usually accepted that the subject matter of science is an objective, outside world. The subject matter of mystical or religious experience is thought to be inside-outside at the same time: By going inside, it is claimed, some form of reality is experienced. This inner reality, whatever that is, is claimed to be identical with the essence of outer reality.

The validity claims of mystical and inner experiences are less readily testable than scientific predictions. There is no commonly accepted canon of methodology. It is more difficult to establish intersubjectivity in this area, as the ongoing quarrels between representatives of different religions prove. It is more difficult within spirituality to employ methods with reproducible results although, to repeat this point, the sciences also have similar problems sometimes (Collins and Pinch 1993). However, spiritual traditions such as Zen (Hakuin 1994) or traditions of contemplative prayer (Martin 1977, Walach 1996) claim that certain methods of spiritual practice lead to roughly reproducible results. This is possible through pragmatic criteria, for instance in Koan training in Zen Buddhism or in the “distinction of spirits” of the Ignatian tradition in Christianity.

Scientific and mystical experience have in common that they are only accessible after extensive training, which in turn is only accessible to a handful of highly intelligent or specially gifted individuals. It is beyond the majority of normal persons who simply have to believe in what scientists say and can enjoy the technological impacts of their knowledge. Mystical and religious experience usually is also not every man’s bread but open to those who devote themselves to it, although this requirement is certainly not tied up with any intellectual training.<sup>3</sup> The rest of the population could, in principle, make the same experiences if they would devote enough effort to it. So they have to rely on what the experts in the field usually call faith. They indirectly partake in the effects of mystical experience insofar as those who are deeply moved by what they experience sometimes set up philanthropic societies, social groups or inaugurate movements.

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<sup>3</sup>According to many written sources of the Christian mystical tradition, this fact is underlined by seminal writers such as Hugh de Balma, by the anonymous author of the *Cloud of Unknowing*, by the whole movement of the *Devotio Moderna*, it is mentioned several times by Meister Eckhart and also by Saint Ignatius of Loyola. Neither Catarina of Siena nor Theresa of Avila, the only two women who are teachers of the church and who were eminent mystics, had any appreciable intellectual training.

This can help to bring a little bit more justice, social peace or welfare to society at large, but deficient forms of religion and religiosity can also have detrimental effects.

The whole field of the spiritual-religious traditions within society and the teachings and experiences associated with them used to be well contained within religious or similar social institutions. As science has inherited some of the plight of religion following the secularization of the enlightenment, it does not come as a surprise that it now has to deal with some of the questions that were originally the domain of religion. With the mind-body-soul problem these topics come back to science in the clothes of the simple but tantalizing question of what is the basic nature of human consciousness.

While mystical writers within the framework of different religions seem to answer this question differently, even contradictorily, the common denominator of all of them is the affirmation of some sort of transpersonal consciousness. It would be a difficult task in its own right to trace differences and commonalities in the different spiritual traditions. Suffice it here to say that the common denominator of mystical experiences seems to be the transpersonal concept of the transcendence of consciousness, either as a god-like essence of the soul, or as universal mind, or both (Walach 2005). In any case, the materialist stance, be it reductive, identity-theoretic, eliminative, emergentist, supervenient, or epiphenomenalist, is not compatible with a transpersonal concept of mind. The strongest challenge for any brand of materialist concept of consciousness comes from such transpersonal experiences.

#### 4. Near-Death Experiences

Apart from mystical experiences proper, which can be framed as direct experiences of a transcendent reality, another quite challenging kind of transpersonal experiences are near-death experiences. Some near-death experiences have similarities with out-of-body experiences, where the experiencer sees himself lying on a bed or on the floor from above, as if his consciousness floats bodiless on the ceiling. Such experiences are not really a challenge for a physicalist interpretation, as Metzinger's (2003) attempt at explaining them has shown. They would only be a challenge if the experiencer claims to have seen locations and events that were inaccessible to him under "normal" sensory operation. However, as such cases are less well documented than near-death experiences and very likely happen in a fully functioning organism, they seem to be less of a mystery.

Some types of near-death experiences may be readily explainable as products of a dying brain, or a protective mechanism (Metzinger 2003, Whinnery 1997). Other experiences, however, which have been well documented, seem to take place after a time when the brain has been clinically

dead for too long as to be plausibly taken as results of the dying process (Fauth and Rümelin 2003, Parnia and Fenwick 2002, Parnia *et al.* 2001, Sabom 1998, van Lommel *et al.* 2001).

In some cases of a series of near-death experiences, van Lommel has found that the reported experiences, involving precise descriptions of medical help given to the patient, have taken place 30 minutes or later after a heart attack. By contrast, all our medical knowledge today teaches us that after 5 to 10 minutes at the latest after the heart stops beating the brain is clinically dead and no brain activity can be registered any longer (van Lommel 2004, van Lommel *et al.* 2001).

We have two options to understand these data: Either we redefine our concept of death, with dramatic consequences for all our present practices of donor organ surgery, or we redefine our concept of consciousness. For, apparently, at least in some cases conscious activity has been reported without any likelihood of concomitant brain activity.

Another well described case refers to a patient whose brain had been cooled to 15 degrees Celsius such that all physiological activity remained suspended for a surgery of an aneurism of the basal aorta of the brain. The patient later described vivid experiences of parts of the operation which she could not have gathered from incidental information or which could be attributed to kryptomnesia. The experiences took place during periods when the brain was clearly unactive, as documented through continuous monitoring of lacking brain-stem activity (Sabom 1998). Although the tone of the case description with its fundamentalist religious connotations is somewhat repulsive, it contains a precise documentation by a neurosurgeon that is likely to be trustworthy.

## 5. Mind-Matter Anomalies

Some other types of data that are difficult to incorporate within a reductionist-materialist tradition are due to apparently anomalous relationships between mental and material states, briefly mind-matter anomalies. When the Society of Psychical Research was founded in 1882, it was its declared aim to scientifically study claims of the supernatural, which included mediumistic contact with deceased persons or demonstrating direct mind-matter interactions. The community emerging from these early precursors has always been a countermovement to standard reductionist stances, although scientific methods have been used to demonstrate its claims. These claims remain far from being accepted or established, but a host of data have been accumulated which largely remain unknown to and unconsidered by the scientific community. A thorough review with the respective arguments has been presented elsewhere (Walach and Schmidt 2005).

If the existing evidence for mind-matter anomalies were accepted, there would be instances of relations between mental and physical systems (psychokinesis, clairvoyance), between mental and mental systems (extrasensory perception, clairvoyance), or between a mental system and its own or other systems' future states (precognition). Insofar as such relationships are supposed to exist without any exchange of signals and energy, they are anomalies within our currently accepted world view. They point to the potential notion of a broader and wider view of consciousness, and possibly also of physical reality. While it is not within the scope of this paper to reiterate published reviews (Schmidt *et al.* 2005), let us demonstrate the potential challenge by one recent experimental example.

Two spatially separated subjects have their EEG recorded, while one of them is being stimulated by visual or auditory signals. Grinberg-Zylberbaum, who built on earlier and similar work (Duane and Behrendt 1965), reported that the non-stimulated person showed an EEG signature similar to an evoked potential, which he therefore called "transferred potential" (Grinberg-Zylberbaum 1982, Grinberg-Zylberbaum *et al.* 1994).

Several critical points of Grinberg-Zylberbaum's original experimental set-up were amended in later replication attempts (acoustically and electromagnetically shielded cabins, checkerboard patterns for visual stimulation, six EEG electrodes with control for ocular and muscular artefacts). Moreover, a non-parametric testing method based on permutation statistics was used instead of simple visual or correlational analyses. Under well-defined control conditions, we found significant deviations from randomness in the EEGs of non-stimulated subjects while their isolated counterparts were being stimulated (Wackermann *et al.* 2003).

This result is in agreement with data from other groups (Radin 2004, Standish *et al.* 2003, Standish *et al.* 2004), and has meanwhile been replicated with a larger data set and stricter, intra-individual controls (Wackermann *et al.* 2004). If replicable and robust, these results would indicate inherent non-local correlations accompanying brain events and, hence, raise the question of a potential non-local activity of consciousness. This would imply that there seem to be instances in which our individual consciousness can have access to or can influence reality beyond the confines of our individual brain-body-consciousness unity that we call our selves.

From a theory of science point of view, anomalies of this type are significant for consciousness research and have to be considered as a fruitful challenge (Feyerabend 1975, Lakatos 1978, Laudan 1977, 1981). This has rarely been attempted with serious effort (Braude 1978, 1986, 1987). Frequently, researchers feel tempted to either take the corresponding data base seriously and are prompted towards a more or less dualist stance (Beloff 1987), although this is certainly not the only way of conceptualizing mind-matter interactions (Jahn and Dunne 2001). Our suggestion is



to disentangle the mind-body-problem into the classical problem of personal consciousness *vis à vis* its body and transpersonal consciousness *vis à vis* matter in general. We then might be in a better position to look at the data with fewer preconceptions.

I believe that it is highly unlikely that all of the anomalies reported during a long history of systematic research should turn out to be bogus information. Granted, then, that some sort of anomalous mind-matter and mind-mind interaction sometimes occurs, with yet unspecified boundary conditions, frequency, scope, or modifying events, this type of data adds to what is known from the study of mystical traditions.

## 6. Consequences for Consciousness Research

Acknowledging that the mind-body problem does indeed have the two sides of the traditional mind-brain problem and the transpersonal consciousness-matter problem allows for a broader outlook. If mind-matter anomalies are taken seriously then at least some of them speak against a reductionist version of materialism, or else the notion of matter would have to be profoundly revised. In addition, more elaborate non-reductionist versions like theories of supervenience or emergence are challenged by data that point to the potential non-locality of consciousness. This is to say that there seems to be some interaction between consciousness and material events which is not tied to particular narrow domains of space and time.

All physical theory relies on at least a methodological dualism (Atmanspacher *et al.* 1999) in which an observing (and conscious) system is differentiated from the material system studied, producing what is dubbed the Cartesian cut (Atmanspacher 1994). Since every physical theory presupposes this cut, present-day physics as a theory of matter can never be sufficient for explaining it (Schwartz *et al.* 2005), unless physical theory is reformed and provides a concept of matter which is inclusive of consciousness as a dimension capable of direct interaction with material systems (Lockwood 1989). Perhaps this would be a theory in which both matter as we now have it and consciousness as we now understand it turn out to be two sides of one more fundamental essence, much like Spinoza envisaged it (Elitzur 1991, Kirsch and Hyland 1987, Spinoza 1977, Velmans 2002, Walach and Römer 2000).

A concept like that certainly would be more in line with mystical traditions which often state that the essence of the universe is “super-consciousness”, experientially accessible, though beyond the limitations of everyday experience. It should be clear that this “super-consciousness” is profoundly different from what we normally mean by individual, personal consciousness. Thus the materialist intuition could be correct that our

everyday conscious life is derived from our brain processes, while at the same time the dualist intuition could hold that there is some other essence fundamental to both matter and normal individual consciousness.

Traditional spiritual disciplines like Buddhism teach that the personal ego is an illusion arising out of many mental activities, and the loss of this personal self is the goal of spiritual practice (Roberts 1984). This comes close to some forms of neurobiological reasoning which try to understand how the brain succeeds in creating the “illusion” of a personal “self”. The most recent and perhaps most promising attempt at such a theory is probably Metzinger’s (2003) theory of a phenomenal self-model.

Metzinger proposes that a system that is able to represent an image of an outside world and thus is presentational to itself will by necessity generate consciousness. A subjective self-consciousness will by necessity arise if the following conditions are met: (a) The representational system contains a model of its own states, and (b) represents this model *vis à vis* its own relations to the outside world. This is to say that representational systems form a so-called phenomenal model of intentionality relations out of their own interactions between themselves, the outside world, and the modeling of the relations of the system with the outside world. This self-model of subjectivity is fully transparent against its own representational nature and will be ignorant of the fact that it is itself only a model or a mode of presentation. Hence, it will mistake its own mode or representationality for a real entity and give rise to the naive realist position of subjective dualism that is prevalent in folk psychology.

This theory successfully reconstructs how a phenomenal self could arise – as an illusion, as it were – out of the systemic modeling of a neural system that tries to present an individual perspective onto the surrounding world to the system itself. The theory also makes clear that the illusion of selfhood arises out of a necessary condition for the system to function properly: In order to break the self-relational loop into potential infinity, the model itself has to be transparent, meaning forgetful of itself, as being only a model. In other words: it is precisely the ignorance of the system for its own properties as being only a modeling relation and presentation that creates the illusion of selfhood. If that were not the case the system would need too much computational effort for modeling its relations with itself and hence forgo its evolutionary goal of economically and successfully representing the environment to the individual.

This model is close to some intuitions of classic Buddhist thought: Once the (separate) self-nature is discovered as illusory, the individual can experience itself free of greed and egocentricity, and thus proceed to liberation. In Metzinger’s terminology this would be the philosophical-neurocognitive striving of a self-conscious system for elucidating its own state, thus reducing the transparency of its representation. In this way, a fully enlightened subject in Metzinger’s model would be similar to an en-

lightened subject in the classic Buddhist psychology: she or he would have understood the empty nature of selfhood. Thus, a materialist program might be successful at this personal level, and even in line with spiritual teachings. The corresponding loss of ego or personal self, or rather its transcendence, is also at the core of Christian teaching (Walach 2005).

However, one important element would still not be included in such a program of reducing personal subjective consciousness to an emergent property of a neuronal system. The non-local and transpersonal element of an enlightenment experience does not only discover the subjective self to be an empty notion, but also to be eminently enhanced by the experiential discovery of the true nature. This true nature, or Buddha nature, transcends personal selfhood, as testified in many phenomenological descriptions (Kapleau 1969).

Traditional spiritual teachings are, in their essence, always monist. They emphasize the unity of everything. This is also true for the Judaeo-Christian tradition in its original version, which received much of its actual dualist flavor from gnostic traditions (Pagels 1979, Walach and Schuster 1992). But this monism is usually a transcendental kind of monism, in which neither matter, as we know and understand it, nor consciousness as limited ego-consciousness as we normally have it, are the basis for the universal essence. Rather it is some transcendental kind of consciousness- or mind-like substance, which is neither matter nor mind, but something beyond (Atmanspacher 2003).

The lesson to be learnt, we suggest, is that both a materialist position and a dualist position have something to recommend themselves, yet none of them, taken alone, comprises the full picture. They are possibly related to each other in a complementary fashion (Walach and Römer 2000). A materialist stance might be a helpful heuristic to understand how our everyday experience of “me-ness” comes about, as exemplified by Metzinger’s (2003) model. A dualist stance might be necessary to understand how the transpersonal aspects of consciousness come into play. A phenomenal polarity or complementarity between material and mental events might be the irreducible tension of a basically monist world, which is monist in a transcendental sense of the word, neither reducing matter as we know it nor consciousness as we have it to one another.

Thus, a basic, immediate and non-local interaction between conscious and material events, as testified by mind-matter anomalies, should be expected as a logical consequence of a non-dualist, transcendental monist ontology with a dualist phenomenology. It would be the basic task of a science of direct mind-matter interactions to elucidate the boundary conditions of such interactions. A successful neurobiology research program should enable us to understand when and how personal consciousness arises. From the study and practice of spiritual disciplines we might be able to understand better when and how to transcend this personal “me-

ness” into transpersonal consciousness. A result of a basic theory could be to see how consciousness is formally and conceptually united with matter, as already envisioned by Pauli (Römer 2002). A fruitful, transdisciplinary study of consciousness is located in the intersection of all of these efforts.

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