

# Computationality, Mind and Value: the case of Sāmkhya–Yoga

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ROY W. PERRETT

**ABSTRACT** *Associated with the successful development of computer technology has been an increasing acceptance of computational theories of the mind. But such theories also seem to close the gap between ourselves and machines, threatening traditional notions of our special value as non-physical conscious minds. Prima facie, Sāmkhya–Yoga – the oldest school of classical Indian philosophy, with its dualism between *purusa* ('self', 'consciousness') and *prakṛti* ('nature', 'matter') – seems a case in point. However, Sāmkhya–Yoga dualism is not straightforwardly a mind–body dualism and in order to understand exactly where it stands on the mind–body problem we need a more nuanced characterisation of that problem than is usual. Once this is done, it seems that Sāmkhya–Yoga may well be able to accommodate the most plausible parts of the computational theory of mind.*

Computers are clearly one of the most significant technological developments of recent times and associated with their successful development has been an increasing acceptance of computational theories of the mind. But such theories also seem to close the gap between ourselves and machines, threatening traditional notions of our special value as non-physical conscious minds. Prima facie, Sāmkhya–Yoga, the oldest school of classical Indian philosophy, with its dualism between *purusa* ('self', 'consciousness') and *prakṛti* ('nature', 'matter'), seems a case in point. I argue, however, that the reality is rather more complicated than it might at first appear.

I begin by very briefly outlining the computational theory of mind and explaining why it is thought to threaten mind–body dualism. I then introduce Sāmkhya–Yoga dualism and note that, strictly speaking, it is not a mind–body dualism. I suggest that in order to understand exactly where Sāmkhya–Yoga stands on the mind–body problem we need to be more careful than is usual in how we go about characterising that problem. Once this is done, however, it seems that Sāmkhya–Yoga may well be able to accommodate the most plausible parts of the computational theory of mind.

## I

The computational theory of mind is usually taken to be a significant contribution to the materialist position on the mind–body problem. The mind–body problem, of course, is the problem of how to specify the relation between the mental and the physical.<sup>1</sup> Materialism holds that the mental is entirely explicable in terms of the physical, though materialists disagree among themselves as to precisely how this is to be done. Dualists, on the other hand, hold that the mental is ontologically distinct from

the physical. Substance dualists hold that the mind is a non-physical substance distinct from the brain; property dualists merely hold that the brain has non-physical properties. (A third option is idealism, according to which the physical is entirely explicable in terms of the mental. This position has few contemporary advocates and for my present purposes I shall ignore it.)

Substance dualism also has few contemporary advocates. The major difficulty with the theory is that while there seems to be a special causal link between mental states and behaviour, our best science tells us that the physical world is causally closed, i.e. that the physical is always caused by the physical. But since behaviour is clearly physical, the consistent substance dualist is thus forced to accept the implausible thesis that our mental states do not cause our behaviour.

It is interesting to note, however, that the paradigmatic substance dualist Descartes was in part a dualist for *a posteriori* reasons: he believed that it was scientifically unreasonable to suppose that our more complex mental states could have a material aetiology. With respect to the science of his day, he was correct. There then existed no plausible scientific theory of how purely physical states could play the flexible and sophisticated roles that various of our mental states associated with intelligence, rationality and free action apparently do. But Descartes' *a posteriori* argument for dualism also continues to present a problem for modern materialism. Exactly which of our physical states are plausibly complex enough to occupy the roles in question?

Various candidates have been offered, but none have yet been found universally convincing. Behaviourism identified mental states with physical behaviour, thereby implausibly denying the causal link between mental states and behaviour. Reductive materialism proposed a type–type identification of brain states and mental states, thereby embracing an implausible human chauvinism about what sorts of things might enjoy mental states. Eliminative materialism promised that our common-sense vocabulary of mental states would eventually be replaced by the vocabulary of a developed neuroscience, but there seems no immediate likelihood of this promise being redeemed.

For these (and other) reasons, functionalism has proved to be a popular contemporary option in the philosophy of mind. Functionalism takes seriously the causal role of mental states. Indeed it identifies a mental state with the set of causal relations it bears to its environmental inputs, other types of mental states and its behavioural outputs. Functionalism also avoids the human chauvinism of reductive materialism by insisting on the multiple realisability of the causal roles that define mental states. Provided the functional economy of the internal states of a being is functionally isomorphic with our own internal states, functionalism is committed to admitting that being has the same mental states as us.

Thus far functionalism is logically compatible with dualism since, in principle, functional states could be realised in anything from a Swiss cheese to an immaterial soul. But most modern functionalists also embrace another, logically independent thesis: token–token materialism. That is, they believe that as a matter of contingent fact every instance of a given type of mental state is numerically identical with some specific physical state in some physical system or other. But this just brings us back to Descartes' original *a posteriori* argument for dualism, for exactly which of our physical states are plausibly complex enough to occupy the causal roles in question?

It is precisely here that an appeal to the computational model has often been thought to be particularly attractive. The basic hypothesis of the computational theory of mind is that the brain just *is* a computer and the mind is related to the brain as computer program to hardware.<sup>2</sup> The scientific plausibility of such a hypothesis is tied to the

startling successes of computer technology, which have familiarised us with the ways in which computational organisations of relatively simple elements can generate enormously complex systems. The computational theory of mind supposes that mental states are essentially representational in nature and that these mental states are related to one another in a computational way.

Computational organisations are appealing candidates for this job because they enable us to link *syntax* (physical feature based systems of organisation and structure) to *semantics* (the realm of meaning, thought and reason) in the context of an automatic device. The computational theory thus links the mental to its physical realisation in the brain in much the same intimate way that a particular kind of information processing is linked to its realisation in a physical computer. In both cases there is nothing over and above the physical stuff. However, it is also true that the very same information-processing profile could be realised in a different bed-rock structure, i.e. we need not require sameness of physical state whenever there is sameness of mental state.

The idea that the mind might be a machine is not new. Descartes' contemporary Hobbes, for instance, long ago speculated that reasoning is nothing but 'reckoning' (i.e. calculation). But it is the successful growth of computer technology in this century that has underpinned both the details of the modern computational theory of mind and the confidence of its adherents in its scientific credibility. Of course, it is cheerfully admitted by all friends of the theory that much more work still needs to be done on the details, including determining whether the computational architecture of the human mind is 'classical' symbolic, or connectionist, or some combination of both. The basic research programme, however, is widely accepted as, at least in its outlines, the most credible theory of the mind presently available.

Naturally, not everyone is convinced. Some find the implicit picture of ourselves as (very complicated) machines deeply degrading of human dignity, threatening traditional notions of our special value as autonomous, non-physical conscious minds that transcend merely physical determination.<sup>3</sup> But this appeal to value transcendence is not so easy to defend. If the most plausible scientific theory of the mind is the computational theory and this theory is indeed incompatible with some of our traditional ideas about value transcendence, it may just be that we will have to abandon those traditional ideas as unjustified.

A more promising objection to the computational theory of mind is that it is inevitably only a partial theory of the mind. This is because it is really a computational theory of *cognition*.<sup>4</sup> The theory claims that mental states which are representational are related to one another in a computational way, i.e. in something like the way (or ways) in which the representational states of a computer are related to one another. It is implausible, however, to suppose that all mental states are essentially solely representational.

Some mental states – like beliefs, hopes, desires, etc. – are purely representational or *intentional* (i.e. they are object-directed or exhibit 'aboutness'). Others – like sensations, or emotions – are not wholly representational; they include an essential *non-intentional* element. Take, for example, a sensation like pain. Pains have a representational or intentional element: a pain in your left hand is some sense 'about' your left hand. But pains also seem to have a special phenomenal quality – the feeling of *painfulness* – that is not exhausted by their representational character. If this is right, then the computational theory of cognition cannot hope to be a theory of the whole mind, since the whole mind includes mental states which are not purely intentional. Such states possess phenomenal properties or *qualia*. Moreover, some friends of qualia have gone even

further and suggested that such phenomenal properties are *non-physical*, thus reviving a kind of property dualism.

Predictably, advocates of the computational theory have responded to this problem of how to account for the phenomenal properties of mental states (the so called ‘qualia problem’) by denying the importance, or even the existence, of such qualia. In contrast, some recent philosophers of mind have felt that the qualia problem is generalisable. According to this line of thought, the real problem for the computational theory of mind is the problem of consciousness.<sup>5</sup> After all, surely a conscious being is one whose sensory interactions with the world are customarily characterised by qualia of some sort. Insofar as the contents of the mind, and so too of consciousness, include non-intentional phenomenal mental states devoid of representational content, the computational theory of mind fails to explain how the physical workings of the brain generate or underlie consciousness. This is because the computational story is only a story about representations, and not all states of consciousness are representational.

The debate on this issue is presently very much still a live one. Certainly computational theorists have not yet given up their hopes for the theory. Some have just tried to deny phenomenal consciousness; others have tried to claim that all conscious states are really representational.<sup>6</sup> I forebear from passing any judgement here on the success of these efforts. What does seem uncontroversial, however, is that the putative existence of phenomenal consciousness is generally considered a challenge to which advocates of the computational theory of mind must convincingly respond.

## II

How does all this relate to the Indian tradition? The first thing to note is that pretty well all of the orthodox schools of Indian philosophy hold consciousness to be a non-physical property – in some cases, a constitutive property – of an immaterial self (*ātman*).<sup>7</sup> Hence pretty well all of the traditional Hindu philosophical schools are, in some sense, either substance dualists or property dualists with respect to the mind-body problem. (Advaita monism is a slightly tricky case to classify here, but at least it is clear that it too is anti-materialistic about consciousness.)

Prima facie, the clearest example of an Indian dualism is the most ancient Indian philosophical school: Sāmkhya–Yoga. (Strictly speaking, Sāmkhya and Yoga are distinct philosophical systems. However, a venerable Indian tradition – dating from early in the Common Era, if not before – views them as sister systems, a complementary pair, with Sāmkhya articulating the metaphysics and Yoga the practice. Accordingly I shall follow this tradition and regard them as roughly a single syncretic school.)

It is uncontroversial that Sāmkhya–Yoga is a kind of metaphysical dualism: it posits just two fundamental categories of reality, *purusa* (‘self’, ‘consciousness’) and *prakṛti* (‘nature’, ‘matter’). Suffering is caused by our confusion of *purusa* with *prakṛti* and emancipation follows from correct understanding of the real nature of *purusa* and its difference from *prakṛti*. In the Sāmkhya texts (especially in Īśvarakṛṣṇa’s *Sāmkhyakārikā*) rational arguments are presented for some of the school’s major theses.<sup>8</sup> Thus the existence of *purusa* is argued for (*Kārikā* XVII) on the grounds that consciousness exists and distinctions in the world are *for* this consciousness which is itself apart from the world. Moreover there must be a plurality of *purusas* because otherwise whatever happens to one consciousness will happen at the same time to every consciousness, which is contrary to the perceived diversity of births, deaths and faculties (XVIII).

*Prakṛti*, on the other hand, is a unitary material substance which evolves into the world we perceive through our senses. The proximity of *puruṣa* acts as a catalyst in releasing the causal transformation of primordial nature (*mūlaprakṛti*) into the whole of the perceptible world (XX). The order in which *prakṛti* evolves is laid down in the following scheme. First, the pure contentless consciousness of the *puruṣa* becomes focused on the *prakṛti* and out of this delimitation evolves *mahat* or *buddhi* (intellect). The *buddhi* then evolves the ego consciousness (*ahamkāra*) which leads to the misidentification of the true self with the ego. From *ahamkāra* evolves the *manas* (mind); from *manas* the five sensory organs and the five motor organs; then the five *tanmātrās* or subtle elements (sound, touch, form, taste and smell) and the five *bhūtas* or gross elements (ether, air, fire, water and earth). Sāmkhya thus recognises in all twenty-four principles (*tattvas*) evolving out of *mūlaprakṛti* in this order. The twenty-fifth (and independent) *tattva* is *puruṣa*.

The school of Yoga (classically expounded in Patañjali's *Yogasūtra*) broadly accepts this Sāmkhya ontology.<sup>9</sup> Moreover, as well as being in fundamental agreement on most ontological matters, Sāmkhya and Yoga also agree on the nature of the *summum bonum*. This is a radical isolation (*kaivalya*) of the true self from ordinary human experience. Liberation, the highest good, occurs when the *puruṣa* recognises its real nature as absolutely distinct from *prakṛti*. In other words, transcendent value is associated with the realisation of our essential nature as pure consciousnesses ontologically separate from our physical bodies.

It is important to note, however, that while Sāmkhya–Yoga insists on a dualism of *puruṣa* and *prakṛti*, this is not a Western style mind–body dualism. The active, personal self-consciousness in Sāmkhya is associated with the material principles of *buddhi*, *ahamkāra* and *manas*, i.e. the first evolutes of *prakṛti* (collectively termed the *antahkarana*). This raises an interesting question: exactly where do Sāmkhya–Yoga dualists stand on the mind–body problem? All the modern commentators are careful to stress that the Sāmkhya–Yoga is not really a Western style mind–body dualism. Few, though, have ventured a more thorough analysis of how to classify the Sāmkhya–Yoga position on the mind–body problem.

The outstanding exception is Gerald Larson, who has discussed this issue in a number of publications, defending different answers to the question at different times.<sup>10</sup> At one stage Larson suggested that Sāmkhya–Yoga is a type of dualist reductive materialism since, though it espouses a self–body dualism, it also favours a materialistic reduction of intentional mental states to physical states. More recently, however, Larson has suggested that Sāmkhya–Yoga is perhaps better represented as a type of dualist eliminativism, in that its dualism about non-intentional consciousness means that ultimately there are no intentional conscious states attributable to the self. I think that both description of the Sāmkhya–Yoga position have some justification, and I want to suggest a way of reconciling them by paying closer attention to how to characterise the mind–body problem.

### III

Let us go back, then, to our original question, 'Exactly where do Sāmkhya–Yoga dualists stand on the mind–body problem?' In order to answer this we first need a characterisation of the problem. There are various possibilities in the literature. One popular one is what I shall call the *mental states characterisation*. According to this view the mind–body problem is posed by the following question: 'Are there mental states

distinct from physical states?’ At least three possible answers can be found defended in the modern Western philosophical literature. These are:

*Dualism*: There are mental states and they are not physical states.

*Reductionism*: There are mental states but they are physical states.

*Eliminativism*: There are no mental states, only physical states.

(The difference between reductionism and eliminativism is perhaps best captured in semantic terms. Reductionists do not object to continued talk of mental states, though they think all such states are reducible to physical states. Eliminativists instead hope to eliminate all talk of mental states and replace it with a suitably physicalist vocabulary.<sup>11</sup>)

The mental states characterisation, however, is not the only way the mind–body problem can be posed. A different way is what I shall call the *person characterisation*.<sup>12</sup> According to this view the mind–body problem is posed by the following question: ‘Do persons have mental states distinct from physical states?’ Again, at least three possible answers are defended in recent Western philosophy:

*Dualism*: Persons have mental states and these are not physical states.

*Reductionism*: Persons have mental states, but these are physical states.

*Eliminativism*: Persons do not have mental states, only physical states.

It is important to notice that these two characterisations are not logically equivalent. One could consistently be a dualist or a reductionist on the mental states characterisation without correspondingly being a dualist or a reductionist on the person characterisation: for instance, all one (implausibly) needs to do is to affirm the existence of mental states but deny that persons have them. (Eliminativists on the mental states characterisation, of course, are logically committed to being eliminativists on the person characterisation: if there are no mental states, persons cannot have them.) As a matter of historical fact, of course, Western philosophers have naturally tended to align their positions so that they come out the same on both characterisations. Thus a paradigm dualist like Descartes is a dualist on both characterisations; a paradigm reductionist like (early) Jack Smart is a reductionist on both counts; and the Churchlands have (at least at some times) seemed to be eliminativists on both counts. But these historical correlations should not be allowed to blur the logical distinctness of the two characterisations, for this will become a matter of some significance when we look at Sāṃkhya–Yoga.

So where does Sāṃkhya–Yoga stand on the mind–body problem? The answer is that it depends on how we characterise that problem. Consider first the mental states characterisation: ‘Are there mental states distinct from physical states?’ Sāṃkhya–Yoga clearly admits the existence of mental states, but the Sāṃkhya–Yoga answer to this question is further complicated by the fact that they are willing to admit both intentional mental states (*citta-vṛtti* or *antahkarana-vṛtti*) and non-intentional mental states (*purusa* or ‘pure consciousness’). Given this admission of both intentional and non-intentional mental states, the original question about mental states needs to be disambiguated.

The Sāṃkhya–Yoga position on the existence of mental states, then, is that they affirm both of the following two theses:

(T<sub>1</sub>): There are non-intentional mental states and they are not physical states.

(T<sub>2</sub>): There are intentional mental states and they are physical states.

In other words, in terms of the mental states characterisation of the mind–body

problem Sāmkhya–Yoga is *dualist* with respect to non-intentional mental states, but *reductionist* with respect to intentional mental states. (This is because pure consciousness states are states of the non-physical *purusa*, but intentional mental states are states of the most subtle evolutes of *prakṛti* and hence physical.)

When we pose the mind–body problem in terms of the person characterisation, however, Sāmkhya–Yoga comes out differently. Of course, it depends on what ‘person’ means here and, as eliminativists about persons like to remind us, the common sense notion of a person is none too well defined. We can perhaps get some purchase on the notion, though, with the following strategy: I am a person and you are too, and so is anything that significantly resembles us. The theory of personhood is thus the explication of just what these significant resemblances are. In Indian thought the notion of a person is similarly vague, but one entirely natural, non-technical Sanskrit translation of ‘person’ is ‘*purusa*’. Sāmkhya–Yoga beings from this ordinary sense of ‘*purusa*’ and then offers a theory of what personhood consists in.

How, then, does Sāmkhya–Yoga answer the question: ‘Do persons have mental states distinct from physical states?’ Once again, they insist on distinguishing two types of mental states and then they affirm the following two theses:

- (T<sub>3</sub>): Persons (*purusas*) have non-intentional mental states and these are not physical states.  
 (T<sub>4</sub>): Persons (*purusas*) do not have intentional mental states and these are physical states.

In other words, in terms of the person characterisation of the mind–body problem Sāmkhya–Yoga is *dualist* with respect to non-intentional mental states, but *eliminativist* with respect to intentional mental states.

Much of the interest in asking where Sāmkhya–Yoga stands on the mind–body problem is because it seems difficult to fit it easily into the familiar Western categories (it is clearly dualist with respect to the *purusa*–*prakṛti* division, but this is not a Cartesian mind–body dualism; and so on). Larson felt drawn to suggest both that Sāmkhya–Yoga is a dualist reductionism and a dualist eliminativism. The advantage of my analysis is that it not only clarifies precisely where Sāmkhya–Yoga stands on the mind–body problem, but also accommodates both of Larson’s original intuitions, explaining how both could be right. In terms of the mental states characterisation of the mind–body problem, Sāmkhya–Yoga is dualist and reductionist; in terms of the person characterisation of the mind–body problem, Sāmkhya–Yoga is dualist and eliminativist. The possibility of being reductionist about the mind–body problem on one familiar characterisation and eliminativist on another equally familiar characterisation is not one that, to my knowledge, we find instanced in the history of Western philosophy.

Of course, part of the explanation for this is that we do not find that the notion of non-intentional pure consciousness states has enjoyed much general currency in Western philosophy. However, the way in which recent discussions of the computational theory of mind have highlighted the notion of non-intentional phenomenal consciousness appears to create a timely space for something like the Sāmkhya–Yoga view to be reconsidered.

#### IV

The Sāmkhya–Yoga dualism, then, is perhaps less of a mind–body dualism than a consciousness–mind dualism.<sup>15</sup> In Sāmkhya–Yoga the representational mental states

typically associated with the mind in Western philosophy are all states of the more refined evolutes of matter (*prakṛti*). Hence, in principle, there need be no objection to the computational theory's claim that such representational mental states are nothing but computational arrangements of physical states. What Sāmkhya–Yoga will resist, however, is the suggestion that such representational states are sufficient for consciousness. Consciousness is instead essentially associated with the non-representational pure awareness of the *purusa*. The intentional mental states associated with the material *antahkarana* are unconscious (*acetana*) and not to be confused with the pure consciousness of the *purusa* (*Sāmkhyakārikā* XX).

Sāmkhya–Yoga dualism can thus readily accommodate the most plausible part of the computational theory of mind: namely, the claim that those mental states which are essentially representational in nature are related to one another in a computational way. It also has no particular worries with the materialist thesis that all such representational mental states are physical since, as we have seen, Sāmkhya–Yoga is thoroughly reductionist about the nature of intentional mental states (though eliminativist about their ascription to persons). What Sāmkhya–Yoga will resist, however, is the immodest claim that the computational theory of mind is an adequate theory of the whole mind. But here their mind consciousness dualism seems on quite firm ground. Insofar as the contents of the mind, and so too of consciousness, include non-intentional phenomenal mental states devoid of essential representational content, the computational theory of mind arguably does fail to explain how the physical workings of the brain generate or underlie consciousness. This is because the computational story is only a story about representations, and not all states of consciousness are essentially representational – as Sāmkhya–Yoga well recognises.

It might be objected here, however, that the arguments presented so far for the compatibility of Sāmkhya–Yoga with the most plausible parts of the computational theory of mind only support, at most, a kind of property dualism. Even if there are some mental states which are both non-intentional and non-physical, it does not follow from this that the mind is an immaterial substance. What further, then, can be said in favour of Sāmkhya–Yoga's far stronger traditional substance dualism?

The first point to make is that while Sāmkhya–Yoga is often taken to be committed to some variety of substance dualism, this interpretation is radically underdetermined by the root texts of the system. This is because Sāmkhya–Yoga never developed anything like the kind of explicit categorical ontology that we find in an Indian philosophical school like Nyāya–Vaiśeṣika. What is clear from the *Sāmkhyakārikā* is that there are supposed to be just two fundamental kinds of things, *purusa* and *prakṛti* (III); that *purusa* is simply a witness or spectator, isolated and apart from all knowledge, emotion or self-awareness (XIX); and that *purusa* is consciousness (LV). But we do not find in the text any explicit claim that *purusa* is a substance (*dravya*). (And the *Yogasūtra* is even less explicit about the precise categorical structure of the world.)

Instead of any Sanskrit term for 'substance' classical Sāmkhya uses only the general ontological term '*tattva*' (LXIV), translatable as 'principle' or 'existent' (literally 'the being so'). The system recognises twenty-four such *tattvas* as evolutes of *prakṛti*, with *purusa* as the independent twenty-fifth. Thus while classical Sāmkhya–Yoga is obviously committed to a *purusa*–*prakṛti* dualism, and *purusa* is to be essentially identified with non-intentional consciousness, it is not at all clear that the system is committed to a substance dualism. The *purusa* is simply a contentless witness (*sākṣin*), its only function being that of a passive presence. It surely remains to be shown that nothing but a substance could fill this role. Hence in the absence of any explicit textual warrant, we

should not be over hasty in attributing to Sāmkhya–Yoga such an ontological commitment.

Secondly, even if Sāmkhya–Yoga is committed to a substance dualism, it is a variety of substance dualism that is immune to what is nowadays usually thought to be the major difficulty with such a dualism. That difficulty is that while there seems to be a special causal link between mental states and behaviour, our best science tells us that the physical world is causally closed, i.e. that the physical is always caused by the physical. The consistent substance dualist is thus apparently forced to accept the implausible thesis that our (non-physical) mental states do not cause our (physical) behaviour.

However, by distinguishing between intentional mental states which are physical and non-intentional mental states which are non-physical Sāmkhya–Yoga can defuse this difficulty. Our intentional mental states do indeed cause our physical behaviour, but since such mental states are physical states this is quite compatible with the causal closure of the physical world. On the other hand, the non-intentional mental states essentially associated with the *purusa* are both non-physical and causally inefficacious with respect to the physical world. This is part of what is implied by the insistence in Sāmkhya–Yoga that *purusa* is entirely isolated from *prakṛti*, a mere passive and contentless conscious presence. (Indeed on the Sāmkhya–Yoga *satkāryavāda* theory of causation it is impossible that two such ontologically disparate kinds as *purusa* and *prakṛti* could ever be in causal interaction, since an effect is always just a transformation of what is immanent in a pre-existent cause.) Moreover the Sāmkhya–Yoga position here as to the causal inefficacy of non-intentional mental states is thoroughly consonant with recent Western defences of the ephiphenomenal nature of phenomenal consciousness.<sup>14</sup>

## V

I conclude, then, that it is not at all obvious that traditional Sāmkhya–Yoga dualism is seriously threatened by the increasing acceptance of the computational theory of mind associated with the worldwide growth of computer technology in recent times. On the contrary, when we understand more precisely how that dualism relates to the traditional mind–body problem, we can see that Sāmkhya–Yoga is arguably quite able to accommodate the most plausible parts of the computational theory while still preserving its distinctive *purusa–prakṛti* dualism.

Roy W. Perrett, School of History, Philosophy and Politics, Massey University, Private bag 11222, Palmerston North, New Zealand

## NOTES

- [1] The classical and contemporary Western debates on the mind–body problem are well reviewed in CAMPBELL, KEITH (1984) *Body and Mind*, 2nd edn (Notre Dame, University of Notre Dame Press) and CHURCHLAND, PAUL M. (1992) *Matter and Consciousness*, rev. edn (Cambridge, MA, MIT Press).
- [2] Two particularly good introductions to the computational theory of mind are BLOCK, NED (1990), *The computer model of the mind*, in: D. OSHERSON & E. SMITH (Eds) *Thinking: an invitation to cognitive science*, Vol. 3 (Cambridge, MA, MIT Press) and CRANE, TIM (1995) *The Mechanical Mind: a philosophical introduction to minds, machines and mental representation* (London, Penguin). See also HAUGELAND, JOHN (1985) *Artificial Intelligence: the very idea* (Cambridge, MA, MIT Press); COPELAND, JACK (1993) *Artificial Intelligence: a philosophical introduction* (Oxford, Black-

- well); CLARK, ANDY & TORIBO, JOSEFA (1999) (Eds) *Machine Intelligence: perspectives on the computational mind* (New York, Garland).
- [3] Interestingly, Chad Hansen suggests that since classical Chinese philosophy of mind did not rest on a mind–body dichotomy, Chinese philosophers would have been much less hostile to a computer model of the mind, and largely unbothered by the threat of a loss of value transcendence: see HANSEN, CHAD (1992) *A Daoist Theory of Chinese Thought* (New York, Oxford University Press), pp. 18–25.
- [4] Cf. HAUGELAND, JOHN (1981) The nature and plausibility of cognitivism, in: J. HAUGELAND (Ed.) *Mind Design* (Cambridge, MA, MIT Press); CRANE, op. cit., note 2.
- [5] Consciousness is presently a hot topic in the philosophy of mind. For a sampling of some of the recent debates see: METZINGER, THOMAS (1995) (Ed.) *Conscious Experience* (Thorverton, Imprint Academic); BLOCK, NED, FLANAGAN, OWEN & GÜZELDERE, GÜVEN (1997) (Eds), *The Nature of Consciousness: philosophical debates* (Cambridge, MA, MIT Press); SEAGER, WILLIAM (1999) *Theories of Consciousness* (London, Routledge).
- [6] For the denial of phenomenal consciousness see DENNETT, DANIEL (1991) *Consciousness Explained* (London, Penguin); for representational theories of phenomenal consciousness see DRETSKE, FRED (1995) *Naturalizing the Mind* (Cambridge, MA, MIT Press) and TYE, MICHAEL (1995) *Ten Problems of Consciousness: a representational theory of the phenomenal mind* (Cambridge, MA, MIT Press).
- [7] For reviews of the classical Indian philosophers' views on consciousness see SAKSENA, S.K. (1971) *Nature of Consciousness in Hindu Philosophy*, 2nd edn (Delhi, Motilal Banarsidass) and SINHA, JADUNATH (1986) *Indian Psychology*, 2nd edn (Delhi, Motilal Banarsidass).
- [8] On classical Sāṃkhya see LARSON, GERALD JAMES (1979) *Classical Sāṃkhya*, 2nd rev. edn (Delhi, Motilal Banarsidass), which includes the Sanskrit text and a translation of the *Sāṃkhyakārikā*. On the Sāṃkhya tradition more broadly see: HULIN, MICHEL (1978) *Sāṃkhya Literature* (Wiesbaden, Otto Harrassowitz); LARSON, GERALD JAMES & BHATTACHARYA, RAM SHANKAR (1987) (Eds) *Sāṃkhya: a dualist tradition in Indian philosophy* (Princeton, NJ, Princeton University Press).
- [9] FEURSTEIN, GEORG (1989) *The Yoga-Sūtra of Patañjali: a new translation and commentary* (Rochester, VT, Inner Traditions International) includes the Sanskrit text of the *Yogasūtra* together with a translation and commentary. ĀRANYA, SWĀMĪ HARIHARANANDA (1983) *Yoga Philosophy of Patañjali* (Albany, State University of New York Press) contains the Sanskrit texts and translations of both the *Yogasūtra* and the *Yogabhāṣya*. See also: ELIADE, MIRCEA (1958) *Yoga: immortality and freedom* (London, Routledge & Kegan Paul); FEURSTEIN, GEORG (1980) *The Philosophy of Classical Yoga* (Manchester, Manchester University Press); ARYA, PANDIT USHABUDH (1986) *Yoga-Sūtras of Patañjali with the Exposition of Vyāsa: a translation and commentary* (Honesdale, PA, Himalayan International Institute of Yoga Science and Philosophy of the USA); WOODS, JAMES HAUGHTON (1988) *The Yoga-System of Patañjali* (Delhi, Motilal Banarsidass).
- [10] For the 'dualist reductive materialist' description of Sāṃkhya–Yoga see LARSON, GERALD JAMES (1983) An eccentric ghost in the machine: formal and quantitative aspects of the Sāṃkhya–Yoga dualism, *Philosophy East and West*, 33, pp. 455–478; LARSON & BHATTACHARYA, op. cit, note 8. For the 'dualist eliminativist' description see LARSON, GERALD JAMES (forthcoming), Classical Yoga philosophy and some issues in the philosophy of mind, in: *Concepts of Knowledge: East and West* (Calcutta, Ramakrishna Mission Institute of Culture).
- [11] I draw here on the interesting discussion of the relevance of the reductionism – eliminativism distinction to Indian Buddhist theories about persons that is presented in SIDERITS, MARK (1997) Buddhist reductionism, *Philosophy East and West*, 47, pp. 455–478.
- [12] Cf. the characterisation of the common sense view of the mind as the 'P-theory' (for 'the Person-theory of humans') in CHURCHLAND, PAUL, M. (1979) *Scientific Realism and the Plasticity of Mind* (Cambridge, Cambridge University Press), pp. 91–93.
- [13] As is well brought out in SCHWEIZER, PAUL (1993) Mind/consciousness dualism in Sāṃkhya–Yoga philosophy, *Philosophy and Phenomenological Research*, 53, pp. 845–859.
- [14] See CAMPBELL, op. cit, note 1; JACKSON, FRANK (1982) Epiphenomenal qualia, *Philosophical Quarterly*, 32, pp. 127–136; CHALMERS, DAVID J. (1996) *The Conscious Mind* (New York, Oxford University Press).

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