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John Sutton, 'No More Folk Tales', review of Paul and Patricia Churchland, *On the Contrary: critical essays, 1987-1997* (MIT Press, 1997), *Times Literary Supplement* no.5029, 20 August, p.26.

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## NO MORE FOLK TALES

Paul M. Churchland and Patricia S. Churchland, *On the Contrary: critical essays, 1987-1997*. 349pp. MIT Press. 0-262-03254-6.

Cognitive science, with its exuberant neuromythologies, is a regular target for wise humanists who insist that our rich, sharp, sad, and chancy mental life will easily resist the misplaced physics-envy of over-zealous reductionists. Yet there is little true cause for their concern: in the current confusion of multidisciplinary inquiry into computation and the brain, there are few even half-developed visions of a future completed psychology which challenge straightforward metaphysical and moral faith in personal identity and rational agency. It can seem as if those who fear the encroach of science on mind, warning that it will swamp cultural-historical awareness and care, are bewitched only by the memory of a ghoulish behaviourism.

But the bitter criticism and scorn heaped on Paul and Patricia Churchland's work for some twenty years now honourably marks their rare ambition in fusing speculative 'neurophilosophy' with sustained attacks on the integrity of our 'folk' notions of self, consciousness, rationality, and mind. Paul Churchland's first book *Scientific Realism and the Plasticity of Mind* (1979) offered synthetic treatments of perception, conceptual change, language, and self-knowledge. A marvellously intense, sustained defence of unorthodox views in conventional analytic form, it was unified by Churchland's conviction that there could be no rigid distinction between common sense and scientific knowledge: he refused to treat knowledge about apples, tables, sand, or selves as a stable and autonomous epistemological basis on which more speculative, fluid scientific superstructures are constructed. In the 1980s, this stress on the theoretical and revisable nature of our self-conception was augmented by the Churchlands' attention to new connectionist models in cognitive science, which promised seductive accounts of thought as fundamentally non-linguistic, of memory as thoroughly reconstructive rather than reproductive, and of a reductionism which didn't rule out context and complexity.

The challenge for the Churchlands in recent years, then, has been twofold. On the one hand, extensions of their remorselessly theoretical vision of human cognitive capacities require them to venture into tricky corners of social theory and ethics where, I will suggest, they are as yet less successful. On the other hand, as this volume of collected essays attests, they have been tireless in warding off attacks by swathes of critics who simply cannot imagine that neurocomputational science could ever have the proposed revisionary impact on our understanding of the mind.

One string of strong, often humorous responses takes on critics who see something in the essence of subjective experience or mathematical intuition which must forever escape cognitive scientific explanation. In perhaps the most effective confrontation, Patricia Churchland and Rick Grush address, with some exasperation, the tendency in the odd field of consciousness studies to speculate about quantum mechanics as the key to the mind. Their diagnosis is that mysterious microphysical processes seem less scary and reductionist, less of a threat to 'the source of subjectivity and the "me-ness of me"', than do neurobiological and neurocomputational processes in 'brains that you can hold in one hand and that rapidly rot without oxygen supply': and they thoroughly dismantle, on independent mathematical, philosophical, psychological, physiological, and physical grounds, Roger Penrose's view that quantum-gravitational phenomena in neuronal microtubules might give rise to conscious awareness.

In answering more direct criticism, the Churchlands also elaborate positive theses on three main fronts. They defend their notorious revisionary or 'eliminative' materialism, advocating the

replacement of the folk conception of 'each human as a self-conscious rational economy of propositional attitudes' by some better neurophilosophical view. With undimmed and breathless enthusiasm, they extol the virtues of recurrent neural networks in modelling the temporal dynamics of unfolding cognitive processes. And Paul Churchland pursues his brave quest to recast the philosophy of science 'in neurocomputational form', reworking Paul Feyerabend's arguments for proliferation of both theories and methods.

Swapping new and bizarre theories of brain function for subtle practices of psychological interpretation, developed over long social-historical experience, seems to many impossible as well as immoral. The Churchlands' answer is that complex social activities are also theoretical, with intimate parts of our practical lives, in dealing with other selves and with our technologies, permeated by implicit theoretical assumptions. This may seem a straight negation of Ryle's dogma that 'intelligent practice is not the step-child of theory'. But in fact Churchlandish connectionism is a kind of cognitivist Ryleanism, reducing declarative 'knowledge-that' to procedural 'knowledge-how', so that even theories are not sets of sentences but sets of embodied capacities, and learning a theory is 'less the memorizing of doctrine [than] the slow acquisition and development of a whole host of diverse skills'. This is plausible enough, and Paul Churchland rejects the scientific authoritarianism which critics ascribe to him through an 'anti-utopian' philosophy of science, by which the neurocognitivism he enthusiastically embraces is not a Final Theory but just another fallible, pragmatic, but promising way of carving and recarving world and mind into new categories.

But the idea that people might now choose to revise their folk psychological habits of interpretation in seeking 'a deeper level of cognitive interaction, moral insight, and mutual care' is in some tension with the claim that those interpretive practices have not changed or 'progressed significantly in at least 2500 years'. Readers might expect emphasis on the plasticity of mind to be supported by cultural-historical deconstruction of linked psychological and moral concepts like agency, autonomy, rationality, free will, and personal identity. But the Churchlands don't pursue the tack of cognitive anthropologists who ask whether folk psychology is a unity or whether, instead, it might take quite different forms in distant times and places. Nor do they trawl new histories of mentalities to seek evidence of changing cognitive styles in perception, memory, emotion, or imagination, or of the contingent modern transformation or invention and internalization of notions like autonomy or consciousness.

Connectionism ties the representational structure of the developing mind so tightly to the idiosyncrasies of its (natural and cultural) environment that it requires a mature cognitive science to include attention to the historical nature of the technologies and institutions with which minds are coupled. The Churchlands claim to 'embrace' the point that consciousness is constituted not just by intrinsic facts about an isolated individual, but also by 'the rich matrix of relations it bears to the other humans, practices, and institutions of its embedding culture'. We might then anticipate, to add to their radically revisionary psychology, a search for independently-motivated alternative visions of human moral and social nature. But, while they acknowledge their neglect of 'social patterns', as yet their efforts in this direction are disappointingly (and unusually) conventional. Neither Paul Churchland's attacks on moral rules in applying neuroscience to problems in applied ethics, nor Patricia Churchland's reconstructions in this volume of notions of agent autonomy and responsibility in terms of the 'well-tempered' brains of 'in-control' moral agents, will overly alarm the worried humanist after all. Different skills and goals may be needed to combine the dynamical context-sensitivity of neural nets with a historicized and socialized version of revisionary materialism. But in any articulation of such a hybrid vision, which would see 'the self' as dissolved or dispersed into the subpersonal and the social at once, Churchlandish neurophilosophy will provide indispensable tools and inspiration.

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