RESERVATIONS ABOUT NEW WAVE REDUCTION

J. Christopher MALONEY
University of Arizona

John Bickle’s (1998) lucid *Psychoneural Reduction: The New Wave* contributes instructively to both the philosophy of mind and the philosophy of science. This careful and clear excursion into the metaphysics of mind and the philosophy of psychology fruitfully extends a familiar and powerful, even if controversial, account of theoretical reduction (Hooker, 1981; P.M. Churchland, 1981 and 1985; P.S. Churchland, 1986; Endicott, 1998) for deployment in defense of Bickle’s *revisionary reductive* physicalism. Despite my deep sympathy with reductive physicalism I will argue that Bickle’s inspired defense of the doctrine, resting as it does on his particular analysis of theoretical reduction, is wanting. In particular, I will take exception to Bickle’s accusation of property dualism lodged against nonreductive materialism and then proceed to question his own analysis of theoretical reduction.

First, what is reductive physicalism? Start with dualism, the classical but now mostly forsaken dual doctrine that

(I) The mind and body are fundamentally different

and, consequently, that

(II) Psychology cannot be fully represented within the austere resources of naturalistic psychology.

All card-carrying physicalists deny (I) insisting that the mind, if real, must in all of its realizations be instantiated by structures that conform to the principles of nature (Kim, 1989; Horgan, 1994). However, physicalists dispute among themselves regarding (II). Reductive physicalists (Smart, 1963) deny (II) while their nonreductive collaborators (Davidson, 1970; Putnam, 1960; and Fodor, 1974) concede it without worry to the dualists. Yes – say nonreductive physicalists – the mind is certainly physical; but, no, they add, the principles, laws or generalizations of psychology are
special and not reducible to the fundamental precepts of nature.

Why would a physicalist allow that psychology is irreducible to biology or below? Well, reasons vary (Davidson, 1970), but perhaps most salient are those that attend to the apparent multiple realizability of the mind (Bickle, 1998, pp. 114ff). Maybe the mind and its states are akin to roles in a play. Hamlet's role must be played by some actor or other, even if almost any actor might do. So too, perhaps the mind is a kind of a role or process, with the curtain rising on sensation and falling on behavior and much action in the interval. Better, and more generally, perhaps the mind, still as a kind, is a sort of functional device cast in some particular sort of matter when almost any type that acts according to the script might do. To understand the character in the play look beyond the actor and to the role itself. To understand the mind look beyond the matter and to the process itself. Understanding Hamlet requires more than knowledge of Olivier.

Evidently, minds are multiply realizable. They can and do take on diverse physical forms. Actually, mammal minds, calling on carbon, rely on dendrites densely distributed, with different kinds of intelligent mammals relying on strikingly different distributions. Possibly, Martian minds make do with stacked, packed arrays of silicon transformers. Mammal and Martian, each a mind; each a physical device. Yet, though they are both minds, they do not coalesce into a common physical kind. Rather, minds and their states must be typed functionally. Psychology, as the general theory of the mind, must comprehend all possible minds, no matter their matter. Hence, if the ultimate laws of physical science trade in physical, not functional kinds, psychology's exposure of the mind's exquisite engineering could not collapse into physical science. Psychology is the study of function and form, not motion and matter. Psychological kinds, then, must be a matter of function rather than a function of matter. Consequently, the laws of psychology cannot find expression simply in terms of the laws of matter. Psychology cannot reduce to biology and certainly not to physics. Although each and every mind is physical, the science of the mind could not arise from only the science of matter.

Such and other arguments motivate, even if they do not conclusively demonstrate, the nonreductive physicalist conception of the functional mind. The leading idea is that the mind and its states are properly defined simply in terms of the (causal) relations binding an agent's sensory inputs to her behavior through the modulating influence of her cooperating corps of covertly fluctuating internal physical states. Dualism is false; but so is reductionism, unless Bickle is right (1998, pp.115ff).

Bickle contends that the functionalist or nonreductive physicalist con-