ABSTRACT. This paper examines today's received scientific medical model with respect to its ability to satisfy two conditions: (1) its explanatory adequacy relative to the full range of findings in the medical literature, including those indicating a correlation between psychosocial variables and disease susceptibility; and (2) the fit between its physicalist patient and disease concepts and what today's basic sciences, so-called sciences of complexity, tell us about the way matter, notably complex systems (e.g. patients), behave and the nature of scientific explanation. I conclude that the received (biomedical) model falls short on both counts and to satisfy these conditions is to articulate a formal successor model. This successor must be guided by premises consistent with the findings and methods of today's basic sciences on which an applied science like medicine depends for its validity. Additionally, the successor model must be able to explain (and predict) the full range of clinical findings, both those that its predecessors explains and at least some of those that it does not. The aim of the paper is to identify such a model.

Key words: biomedicine, infomedicine, gene, meme, res extensa, res autopoietica, non-linearity, sciences of complexity, Enlightenment and post-Enlightenment science

1. INTRODUCTION

Rene Dubos had a vision for medicine. "In its highest form," he said, "medicine remains potentially the richest expression of science because it is concerned with all the various aspects of man's humaness." This can be taken a step further. Medicine, in a sense, gives definition to our humaness. Its research strategies, disease and health concepts, therapeutic options, virtually every nuance of its theory and practice secrete assumptions about the human self. Today's practice of medicine, reflecting the "modern" or Enlightenment scientific and meta-scientific thought world, provides us with one compelling version of who we think we are as we leave the twentieth century. Reviewing this practice against the emerging "postmodern," post-Enlightenment scientific and meta-scientific thought world points to an alternative sense of self we may take with us into the twenty-first century. This sense of self forms the subtext of the pages that follow.
2. THE PSYCHONEUROPHILOSOPHY QUESTION

"If doctors have failed to recognize the importance of philosophy to medicine," physician William Fulford writes, "philosophers have failed to recognize the importance of medicine for philosophy." He suggests that because the two areas map on to each other as general (philosophy) to particular (medicine) "material drawn from medicine offers many advantages for the philosopher." Rich in connections with reality, clinical experiments (as distinct from the thought experiments common to philosophy) "make it possible to control the relevant variable."

A case in point is the relationship between the philosophical mind-body problem and the coupled patient and disease concepts of medical science. The abstract philosophical question: Can the immaterial mind causally interact with the material body? is converted in medicine into a practical clinical question: Does the mind of the patient directly influence her body to alter disease susceptibility? The second question suggests experiments that allow us "to control the relevant variable," the patient's mental-emotional state:

Let me state a hypothesis and then put a question to you. The underlying thesis of psychoneuroimmunology is that psychological factors can play an important part in bringing on disease. Such being the case, can we ignore or bypass the role of psychological factors in preventing or combatting disease? If panic, rage, exasperation, depression, despair, etc. can produce specific downside physiological changes, not excluding constriction of blood vessels, catecholamine surge, impairment of T and B cell activity, among others, what useful conditions, if any, can be created by hope, love, faith, festivity, will to live, purpose, etc.? If the immune system can be impaired by negative emotions, can it be protected or bolstered by positive emotions?

Here the perennial mind-body problem, what Schopenhauer called "the node of the world," is cut down to researchable proportions. The emerging field of psychoneuroimmunology appears to offer the most promising research agenda to resolve mind-body medical questions. In fact, it raised prior questions that should focus more attention on the "importance of philosophy to medicine." For to the extent that psychoneuroimmunology studies establish a reproducible correlation between psychological states and immunological functions and elucidate pathways linking, via neuroendocrinological channels, the psyche (emotions of the mind) and the immune system, we might draw one of two quite different conclusions.

We might conclude that the subjective emotions of the mind can at last be understood in terms of their objective neurophysiological correlates; that neuropeptides and their receptors are the biochemical units of these emotions. Or alternatively, we might conclude that the psychoneuroimmunological findings confute or seriously undermine the premises of the