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The rhetoric and reality of psychosocial theories of health:

a challenge to biomedicine?

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Abstract

Textbooks in health psychology and medical sociology describe these disciplines as a challenge to the biomedical model. In particular, they purport to contest biomedicine's concepts of illness causality, a dualistic individual and outcomes. This paper examines support for this 'rhetoric' and examines the discrepancy between the stated aims of these disciplines and the 'reality' of their explanatory frameworks. In addition, this discrepancy is analysed in terms of the implicit acceptance and privileging of a biomedical perspective within psychosocial theories. The paper then examines explanations for this discrepancy first in terms of the potential function of the 'rhetoric' and then in terms of the reflections of this rhetorical challenge in the construction and dissolution of the boundaries of the human body.

Key words: psychosocial theories, biomedicine, rhetoric, body boundaries

Introduction: the rhetorics of health psychology and medical sociology

A discipline's textbook reflects the contemporary state of that discipline. Textbooks can be neither revisionist nor revolutionary as they both describe and construct the breadth and limitations of the field. Therefore, an examination of textbooks can provide insights into the consensual nature and aims of the discipline. Accordingly, texts in health psychology and medical sociology can be used to reveal the implicit aims and assumptions of the respective disciplines.

Introductory chapters in health psychology textbooks state: 'The biomedical model is facing a serious challenge' (Sheridan and Radmacher, 1992, p.4), 'An alternative to the medical model is clearly needed' (Kaplan, Sallis and Patterson, 1993, p.8), and 'Does the biomedical model need improvement? Yes. Lets see why' (Sarafino, 1990, p. 10). Such proclamations suggest that the discipline of health psychology aims to challenge the biomedical model of health and illness. In parallel, statements from medical sociology textbooks indicate a similar adversarial alignment between the discipline and biomedicine. For example, Stacey (1988) describes a range of 'challenges [that] have been presented to biomedicine from within and without' (p. 174) and more specifically, Nettleton (1995) states 'The sociology of health and illness has sought to offer alternative ways of interpreting medicine through criticisms of the biomedical model' (p. 4) which is followed by a section called 'Challenges to biomedicine' (p. 5). Similarly, Armstrong, in the introduction to his textbook (1994) states that 'The arguments in the rest of the book, which attempt to identify some deficiencies of the biomedical model ... is an attempt to redress the balance' (p. 2). In short, the stated aims of both health psychology and medical sociology indicates that these disciplines present themselves in conflict with biomedicine. This paper examines which aspects of biomedicine

they purport to challenge and to what extent they succeed. The paper then analyses the discrepancy between this 'rhetoric' of the textbooks and the 'reality' of the disciplines both in terms of the potential functions of the 'rhetoric' and the reflections of this discrepancy in the changing configuration of the boundaries of the human body.¹

Psychosocial causes of health and illness

Biomedical theory and research examine etiology in terms of factors such as viruses, bacteria, lesions and carcinogens. Both health psychology and medical sociology question this perspective, with the former arguing that psychological factors contribute to the causes of illness, and the latter emphasising the role of social factors: 'Health status is clearly the consequence of factors other than biological related to social structures and vary according to gender, social class, 'race' and age' (Nettleton, 1995, p.6). For example, research in health psychology has examined the role of stressors in illness and theoretical perspectives such as the transactional model of stress have suggested that appraising a potential stressor as stressful may contribute to a deterioration in health (Lazarus and Folkman, 1987). It has been argued that the subsequent stress may result in changes in health related behaviours such as smoking, alcohol intake, diet and exercise (eg. Krantz et al, 1981). Similarly, medical sociologists have emphasised the role of life events in illness and research has suggested that life events that are appraised as stressful may contribute to psychological problems such as depression, chronic illnesses such as coronary heart disease and acute problems such as appendicitis (eg. Brown and Harris, 1978; Brown and Harris, 1989). The work of McKeown (1979) also illustrates a similar emphasis on psychosocial causality with health psychologists highlighting McKeown's argument that illnesses in the twentieth century are predominantly caused by behaviour and medical sociologists focusing on McKeown's emphasis on the role of social environment in the

elimination of past illnesses.

A parallel argument can be seen with the recent emphasis on the role of social support in protecting or facilitating illness. In particular, the frequently cited longitudinal study by Berkman and Syme (1979) outlining the role of social support in mortality plays a central role in the theoretical development of both health psychology and medical sociology, with the former tending to emphasise social support as a perception and the latter locating the support in the environment. Such theoretical developments are encapsulated in Engel's biopsychosocial model which proposes that health and illness are the result of a complex interplay of a multitude of psychosocial factors (1977) and are further operationalised within other additional disciplinary perspectives such as behavioural medicine and behavioural health. Within this framework, the discipline of health psychology emphasises the 'bio / psycho' components and medical sociology focuses on 'bio / social' factors. These theoretical frameworks and the corresponding emphasis on beliefs, behaviours and environmental factors aim to develop an alternative way of thinking about the biomedical models' approach to understanding the causes of illness.

An integrated individual

With its separation of diseases of the mind and diseases of the body and its corresponding speciality divisions, biomedicine describes an individual who is dualistic. Health psychology, however, argues for an integration of the mind and the body, sometimes referred to as an holistic or whole person approach and challenges Cartesian dualism: 'We learn in health psychology that the mind and the body are thoroughly intertwined' (Sarafino, 1990). Central to this perspective is the analysis of pain as a perception and an asserted progression from a

biomedical division between organic ('real') and psychogenic ('all in the mind') pain. The Gate Control Theory (Melzack and Wall, 1965; 1982) argued that pain should be conceptualised as a perception involving an interpretation and appraisal of physical stimuli. Within this perspective, proponents of the theory argue for an integration of mind and body and a departure from earlier models which described the individual as divided. A similar integration is suggested within contemporary models of stress. For example, the transactional theory (eg. Lazarus, 1975; Lazarus and Folkman, 1987) proposed that stress was the result of the interpretation, appraisal and adaptation to physical stressors - the mind and body are integrated to create the experience of stress. Models of illness onset, emphasising behaviours such as smoking, exercise and screening, similarly advance a disintegration of the mind / body boundary.

In parallel, research in medical sociology also emphasises the increasing permeability of boundaries. Medical sociology argues that the individual is located in a social world that determines their illness profiles. For example, studies have illustrated the role of social class in predicting coronary heart disease and diet (Marmot and Theorell, 1988) and changes in health and illness during economic recession (Brenner, 1977; Eyer, 1977). Factors such as gender and ethnicity have also been examined in terms of differences in illness threshold (Nathanson, 1977) and their relationship to the allocation of resources and material factors (eg. Arber, Gilbert and Dale, 1985; Donovan, 1984). Such research emphasises the location of the individual within a social context and attempts to bridge the social / body divide of biomedicine. In summary, research within both health psychology and medical sociology presents itself as a challenge to the biomedical models' conceptualisation of a divided self and asserts a model of an integrated individual.

Non-medical outcomes

The final challenge to biomedicine is that of medical outcomes. Whereas biomedicine defines outcomes in terms of medically derived factors such as longevity, disease free intervals and death, health psychology emphasises the role of behaviour (eg. Kaplan, 1990) and medical sociology describes a need to focus on the patient's own personal assessments of health status. For example, subjective health measures were developed in the 1970's as an attempt to depart from traditional 'objective' assessments of outcome. Early measures examined the effect of illness on functioning and were often called activities of daily living scales (ADL) and were limited to specific activities. However, self report questionnaires such as the Nottingham Health Profile (NHP, Hunt, McEwen and McKenna, 1986) and the SF-36 (Ware et al, 1986) were developed to evaluate an individuals' own assessment of their broader health status. For example, the NHP consists of items relating to pain, physical mobility, sleep, energy, social isolation and emotional reactions. The SF-36 asks similar questions and includes additional items on factors such as social functioning and general health. In addition, quality of life measures have also been developed which measure subjective health in terms of an integration of ADL and psychological well being (eg. Fallowfield, 1990). Such measures are used within both health psychology and medical sociology and emphasise outcome in terms of the individual's own self assessment and represent a departure from traditional medical outcomes such as longevity and disease free intervals. Similarly, recent research has increasingly examined the consequences of health related interventions in terms of patient satisfaction and compliance (eg. Ley, 1988) and behaviour change (eg. Kaplan, 1990). Health psychology, in particular has focused on the latter. For example, Kaplan, in his paper 'Behavior as the central outcome in health care' (1990) has argued that we should challenge the biomedically defined

outcomes such as morbidity and mortality and replace them with a focus on behaviour. He suggests that 'Recognising that health outcomes are behavioural directs intervention towards whatever method produces the most health benefit at the lowest cost' (p. 1211).

In summary, health psychology and medical sociology emphasise their adversarial alignment with the biomedical model in terms of the causes of illness, an integrated individual and the definition of outcomes. Theoretical developments within these disciplines support this challenge and promote an emphasis on psychosocial etiology, a disintegration of self-boundaries and subjective patient defined outcomes. However, are these developments really a challenge? Are these psychosocial approaches really different to biomedicine?

A failure to challenge?

Factors such as behaviours, beliefs and stressors are not presented as alternatives but as facilitating existing medical causes, the real precipitants. Smoking as a behaviour does not cause lung cancer, it simply provides a medium for exposing the individual to carcinogens. Correspondingly, stress as an experience results in fatty deposits and beliefs about safe sex may contribute to the probability of exposure to the HIV virus. A psychological approach to etiology is not a substitute for medical causes of health and illness. Therefore, although the rhetoric of health psychology indicates a challenge to biomedical causes of illness, examination of the explanatory frameworks suggests an implicit acceptance of this perspective. For example, on considering cross-cultural differences in lay beliefs about the causes of health and illness, Sarafino, in his textbook, (1990) clearly disparaged non-medical explanatory frameworks: 'Recall our discussion of the widespread beliefs in the middle ages about the causes of illness. Today educated people in technological societies generally reject

such ideas. But less sophisticated people do not'. He then continued to describe an account of one such person who states "I've heard of people with snakes in their body, how they got there I don't know....". Sarafino analysed this account by arguing 'Although this account was given by a disadvantaged person in the United States it is typical of the level of knowledge generally found in people in underdeveloped countries' (1990, p. 25). Likewise the discipline's analysis of treatment and intervention rejects non-medical explanations of the mechanisms involved. In the context of a cross-cultural analysis of pain management, Gatchel, Baum and Krantz (1989) focused on acupuncture and explained that it 'originated in ancient China some two thousand years ago' and that the Chinese explain its effect as a result of 'Chi'i (which) flowed through these meridians' (p. 256). This alternative explanation is juxtaposed to the 'correct' explanation: (it) '.... probably achieves its effects by causing the release of endogenous opiatelike substances' (p.257). As a discipline, health psychology aims to prioritise psychological causes and to acknowledge the role of individual beliefs. However, it implicitly accepts biomedicine's fundamental predicate - the model of etiology.

A parallel pattern can be seen within medical sociology, although with more subtlety than within health psychology. Class, gender and ethnicity do not cause illness but create a proximity between the individual and medical causal factors. Social factors are no substitutes for the real culprits. For example, when considering cross cultural models of health, Fitzpatrick (1982) argued that 'When a Zande becomes ill or has an accident he may ascribe his misfortune to witch craft These sound strange ways of explaining illness, but the fact is that for the Azande they work..... Thus the logic is explained and in any specific episode always 'makes sense' (p. 12). Such an analysis is careful to respect non-medical explanatory frameworks but implicitly rejects them as incorrect. Psychosocial theories of etiology are

implicit biomedical.

The challenge to biomedical dualisms shows a similar pattern. For example, the Gate Control Theory of pain only points towards an interaction of mind and body, not an integration of these components of the individual. Likewise, the transactional theory of stress examines how perceptions may impact on the body, but the mind and body are defined as separate entities which interact: they are not one. The mind / body boundary remains intact. In its call for a disintegration of this boundary, health psychology contextualises its analysis of a need for a holistic individual alongside philosophers such as Plato and Descartes who are seen as the enemy to be challenged and Aquinas and St Paul who are cited to reflect the golden age of holistic medicine (Hippocrates appears to have an ambiguous relationship with the mind / body problem as he is frequently cited as belonging to both camps). This retrospective construction of a time of both dualism and holism provides health psychology theorists both with an object to be challenged and a faith that this challenge is possible. In addition, this construction creates a separation between the discipline of health psychology and the problem of mind / body dualism. However, perhaps the mind / body divide is not a reflection of a biomedical perspective to be challenged by health psychology but a problem created by the very existence of these two disciplinary frameworks. Foucault (1973) argued that modern medicine was developed at the beginning of the 19th century and constructed a physical body which was analysed, examined and described. Prior to this time, accounts of the body would have been unrecognisable to the modern biomedical eye. Accordingly, modern medicine described its new object as supplanting previous and different models of the body. The end of the 19th century saw the emergence of the discipline of psychology. In parallel with the previous studies of the body, psychological discourses analysed, examined and described the

mind. However, the mind was not developed in order to supersede the body but was described to supplement it. Therefore, the discipline of psychology described its object, the mind, as separate and distinct from the object of medicine, the body. In effect, psychology itself developed the mind / body divide - the problem it is aiming to solve; the existence of psychology as a discipline constructs the very mind / body boundary that it is ostensibly aiming to disintegrate: the juxtaposition of psychology and biomedicine maintains the interaction and non-integration of the mind and the body.

A similar pattern can be seen for the social / body divide. Medical sociology argues that 'The main determinants of inequalities in health are, however, generally viewed as lying in the material circumstances, lifestyles and behaviours of social classes which produce differences in exposure and resistance to disease' (Morgan, Calnan and Manning, 1985; p. 217). The social and the body may interact but remain separated. In parallel to health psychology, sociology, which first emerged at the end of the nineteenth century, located its individual within the social world and medical sociology located its individual within the medical world. Accordingly, the discipline of medical sociology constructs and maintains the social / body boundary it purports to challenge. Therefore, both the disciplines of health psychology and medical sociology can be seen as implicitly biomedical as they construct their object of study as divided according to biomedical dualisms.

And finally, are the psychosocial outcomes of dysfunction, quality of life and subjective status different to medically defined morbidity? Are patient compliance and satisfaction a departure from a focus on the value on medical information and medical authority? And are behaviour changes such as smoking cessation and dietary improvement distinct from medical mediators

of longevity?

Privileging biomedical discourses

The inadequate departure from biomedicine's definitions of causality, the implicit construction of biomedical boundaries, and the acceptance of medical outcomes, not only, however, represents a failure to challenge biomedicine by constructing an implicit role for physical causes and a physical and separate body, but illustrates a privileging of biomedical discourses. In discussions of cross cultural models of health and illness, there is a privileging of a medical perspective - Western medicine is correct, other models are interesting but misinformed. In parallel, models of causality prioritise the role of physical input, psychological and social factors contribute but are simply facilitative and secondary to medical causes. Likewise, the mind and the social world interact and mediate the body, but the body provides the fundamental object to be mediated. An illustration of this privileging process can be found by an examination of the opening chapter headings to most health psychology textbooks, with titles such as 'Physiological bases of behaviour and health' (Gatchel et al, 1989), 'The body's physical systems' (Sarafino, 1990), 'The psychobiological mechanisms of health and disease' (Sheridan and Radmacher, 1992) illustrated throughout with diagrams of the respiratory, digestive, cardiovascular and nervous systems. Similarly, medical sociology texts show a comparable pattern. Stacey (1988) argued 'it is important to acknowledge the biological base [which] is common to all human beings' (p. 2,3) and that there are 'varied interpretations of the biological base' (p.3) suggesting that biological phenomena exist to be made sense of. Further, in a recent series of books examining the experience of illness ('experience' focusing on individual meaning, and 'illness' differentiating itself from the underlying disease), each book commenced with chapters termed 'Understanding Multiple Sclerosis' (Robinson, 1988),

'Diabetes Mellitus, its nature and prevalence' (Kelleher, 1988), and 'Medical Aspects' (Humphrey, 1989) which described the physical processes for each problem. The physical body is presented as the essential hardware to be moderated by the optional psychosocial software.

Health psychology and medical sociology confront biomedicine in terms of causality, but themselves are an implicit endorsement of medical causes. Further, they challenge a dualistic individual, but are intrinsic to the mechanisms creating the divides. Their challenge to medical outcomes indicates a similar pattern; although terms such as patient satisfaction, compliance and functioning may illustrate an attempted departure from medical outcomes, in the same way that 'psychology' and 'sociology' constitute a divided individual by defining their object as non medical, 'health' and 'medical' can only define their outcome as being biomedical. In addition, they not only fail to challenge the dominance of the biomedical model they privilege the physical body - the backbone of biomedicine.

For the challenge to be a success, psychosocial theories need to be different to biomedicine. But are they? Psychosocial theories appear to be implicitly biomedical in their analyses of etiology, the individual and outcomes. With general practice increasingly emphasising the psychological and social well being of its patients, (Balint, 1964; Freeling, 1983; Pill and Stott, 1982; Department of Health, 1989), is biomedicine, biomedical or implicitly psychosocial? The rhetoric of health psychology and medical sociology describes a challenge to the biomedical model. An analysis of the reality suggests that this challenge is unsuccessful. Why is there this discrepancy? If these psychosocial theories fail to challenge biomedicine, why the rhetoric to the contrary?

The reality is right: so why the rhetoric?

Latour (1987) described rhetoric as a 'fascinating albeit despised discipline' which has 'studied how people are made to believe and behave and [has] taught people how to persuade others' (p. 30). Further, he described the role of 'implicit' and 'explicit' interests of the scientists using the rhetoric; rhetoric may serve to benefit interested parties (Latour, 1987). Accordingly, the rhetoric of psychosocial textbooks may serve the interests of the authors and publishers, who by suggesting that their approach is original and different, grab their readers' attention; controversy may contribute to book sales and personal reputations (Woolgar, 1981). In contrast, the rhetoric may serve the interests of the respective disciplines. Central to medical sociology is the study of the 'dominant' medical profession, a questioning of 'how a profession succeeded in claiming the right to an exclusive monopoly of health care in the advanced industrial societies' and 'in 'pulling the wool over everybody's eyes' including their own' (Hart, 1985, p.18). Perhaps, the rhetoric of 'taking on' the influential medical model enables the psychosocial disciplines to accrue scientific credibility, to gain access to the medical world of employment and funding and to define a role for themselves in the development of health care policy. Alternatively, the rhetoric may serve the interests of biomedicine. Far from confronting their adversary, psychosocial theories of etiology, the individual and outcomes, may maintain and perpetuate it. In addition, this failure to challenge may support and promote it. Kuhn (1962) argued that shifts between paradigms occur when the weight of unexplained anomalies - outliers to the dominant theoretical perspective - becomes too great for the paradigm to bear. Health psychology and medical sociology provide biomedicine with a theoretical explanation of cause, individuality and outcome for its anomalies, so preventing a paradigm shift. Furthermore, by offering alternatives to 'causality', 'individuality', and

'outcomes', psychosocial approaches to health endorse these fundamental parameters of biomedicine. Accordingly, the psychosocial rhetoric of a challenge serves the needs of the biomedical model and the professionals working within it (Armstrong, 1987).

The stated aims of health psychology and medical sociology are not reflected in their explanatory frameworks; a discrepancy between rhetoric and reality exists; if this account of the reality is right, the disciplines fail and the rhetoric serves the needs of interested parties. Within this analysis, rhetoric has its conventional meaning of overblown claims which reflect a battle for power both within and between disciplines. However, such an analysis describes an unproblematic relationship between rhetoric and reality. Is rhetoric simply functional? Can rhetoric fail? Can such a discrepancy exist? Why privilege the reality? Perhaps the rhetoric is right?

The rhetoric is right.

Latour (1987) describes a 'black box' as a theory, or 'fact' which is accepted and that 'no matter how controversial their history, how complex their inner workings, how large the commercial or academic networks that hold them in place, only their input and output count' (p. 3). A black box is a given truth. He argues that black boxes are closed by gathering support in terms of 'the number of associations necessary to drive readers out and force them into accepting a claim as a fact' (p. 62). He further argues that these associations can be accrued by the use of rhetoric which increases in intensity along with the controversy and that a similar process is necessary if a black box is ever opened. In line with this, the rhetorical statements of psychosocial texts can be seen as a threat to the black box of biomedicine; they illustrate an assault on the box by the attackers and a closure by the defense. However, such an analysis

again regards rhetoric as simply functional. Latour argues that 'we must eventually come to call scientific the rhetoric' (1987, p.62). Accordingly, the rhetoric not only serves to close and open the black box, the rhetoric is the black box. The rhetoric is all there is. The rhetoric is the reality. So what is this reality?

The construction and dissolution of boundaries

If rhetoric is seen not as the linguistic representation of an underlying reality, but rather as the means by which that reality is fabricated, then health psychology, medical sociology and biomedicine may be seen as mutually dependent. Each fabricates the boundaries of itself in relation to others. However, these boundaries do not reflect a separation between discrete but cooperative entities. As the rhetoric of health psychology and medical sociology suggest an adversarial alignment between these disciplines and biomedicine, the constructed boundaries delineate areas of conflict. Therefore, biomedicine may not have been superseded, as proposed by the stated aims of the disciplines, but the rhetoric to challenge is reflected in the adversarial nature of the boundaries. However, although the rhetoric of health psychology and medical sociology is adversarial, the disciplines are cooperative to the extent that their existence depends on their difference from each other. Further, these disciplinary boundaries are also reflected in both the existence and nature of the boundaries of the body. Accordingly, in the same way that health psychology and medical sociology challenge the dominance of biomedicine, contemporary models of the individual indicate a parallel adversarial alignment of the mind, the social and the body; again, the rhetoric finds expression. But such adversarial boundaries are not static or unchanging, but dynamic and as the boundaries between the disciplines begin to blur and dissolve (biomedicine is implicitly psychosocial?: psychosocial theories are implicitly biomedical?) so do the boundaries of the body (the body is the mind? the

mind is the body? the body is the social world?). And as they dissolve, the disciplinary boundaries become visible for study (health / psychology, medical / sociology) and the boundaries of the body likewise emerge as areas of enquiry (the problem of dualisms).

The rhetoric to challenge the dominance of biomedicine is not reflected in the reality of these psychosocial disciplines. Accordingly, the rhetoric serves the needs of interested parties - the authors, the publishers, the respective disciplines? Perhaps, the rhetoric, however, is the reality. The rhetoric is all there is. The rhetoric of a challenge, therefore, is reflected in the existence and nature of the disciplinary boundaries. Further, it is reflected in the contemporary challenge to the dominance of the physical body. The rhetoric to challenge and overturn biomedicine belies the reality of psychosocial theory, but the rhetoric of a challenge is the reality.

Notes

1. Central to my analysis of the role of 'rhetoric' and 'reality' and the investigation of the discrepancy between the two is a recognition and exploration of the changing meanings of these words. Such meaning is located within a variety of theoretical contexts and is therefore problematic and not absolute. Accordingly these terms could be used in quotation marks. However, this punctuation is not used throughout the paper as it would be obtrusive.

References

Arber, S., Gilbert, G.N. and Dale, A. (1985) Paid employment and women's health: a benefit or a source of role strain? Sociology of Health and Illness. 7, 375-400.

Armstrong, D. (1987). Theoretical tensions in biopsychosocial medicine. Social Science and Medicine, 25, 1213-1218.

Armstrong, D. (1994) Outline of sociology as applied to medicine. Oxford: Butterworth Heinemann Ltd.

Balint, M. (1964) The doctor, his patient and the illness. London: Pitman.

Berkman, L.F., Syme, S.L. (1979) Social networks, host resistance and mortality: a nine year follow up study of Alameda County residents. American Journal of Epidemiology, 109, 186-204.

Brenner, M.H.(1977) Health costs and benefits of economic policy. International Journal of

Health Services, 7, 581-623.

Brown, G.W., Harris, T.O. (1989) (Eds) Life events and illness, New York: Guilford.

Brown, G.W., Harris, T.O.(1978) Social origins of depression. New York: Free Press.

Department of Health. (1989) Working for patients, London: HMSO.

Donovan, J. (1984) Ethnicity and health: a research review. Social Science and Medicine, 19, 663-670.

Engel, G.L. (1977) The need for a new medical model: A challenge for biomedicine. Science, 196, 129-135.

Eyer, J. (1977) Does unemployment cause the death rate peak in each business cycle? A multifactorial model of death rate change. International Journal of Health Services, 7, 625-662.

Fallowfield, L. (1990) The quality of life: The missing measurement in health care. London: Souvenir Press.

Fitzpatrick, R.M. (1982) Social concepts of disease and illness. In: Sociology as applied to medicine. Eds D.L. Patrick and G. Scambler. London: Bailliere Tindall.

Foucault, M. (1973) The birth of the clinic: An archeology of medical perception. London:

Tavistock.

Freeling, P. (1983) A workbook for trainees in General Practice. Bristol: Wright.

Gatchel, R.J., Baum, A., Krantz, D.S. (1989) An introduction to health psychology. New York: McGraw-Hill.

Hart, N. (1985). The sociology of health and medicine, Causeway Press: Lancashire.

Humphrey, M. (1989) Back pain. London: Routledge.

Hunt, S., McEwen, J., McKenna, S.P. (1986) Measuring health status. London: Croom Helm.

Kaplan, R.M. (1990) Behavior as the central outcome in health care. American Psychologist, 45, 1211-1220.

Kaplan, R.M., Sallis, J.F., Patterson, T.L. (1993) Health and human behaviour. New York: McGraw-Hill.

Kelleher, D. (1988) Diabetes. London: Routledge.

Krantz, D.S., Glass, D.C., Contrada, R., and Miller, N.E. (1981) Behavior and Health.
National science foundations second five year outlook on science and technology.

Washington, D.C., U.S. Government Printing Office.

Kuhn, T. (1962) The structure of scientific revolutions. Chicago: Chicago University Press.

Latour, B. (1988). Science in Action, Cambridge, Mass: Harvard University Press.

Lazarus, R.S. & Folkman, S. (1987). Transactional theory and research on emotions and coping. European Journal of Personality, 1, 141-170.

Lazarus, R.S. (1975) A cognitively oriented psychologist looks at biofeedback. American Psychologist, 30, 553-561.

Ley, P. (1988) Communicating with patients, London: Croom Helm.

Marmot, M.G., Theorell, T. (1988) Social class and cardiovascular disease: the contribution of work, International Journal of Health Services, 18, 659-74.

McKeown, T. (1979) The role of medicine, Oxford: Blackwell.

Melzack, R. & Wall, P.D. (1965) Pain mechanisms: a new theory. Science, 150, 971-979.

Melzack, R. & Wall, P.D. (1982) The challenge of pain. New York: Basic Books.

Morgan, M., Calnan, M., Manning, N. (1985) Sociological approaches to health and medicine, London: Routledge.

Nathanson, C.A. (1977) Sex, illness and medical care: a review of data, theory and method.

Social Science and Medicine, 11, 13-25.

Nettleton, S. (1995) The sociology of health and illness. Cambridge: Polity Press.

Pill, R., Stott, N.C.H. (1982) Concepts of illness causation and responsibility: some preliminary data from a sample of working class mothers. Social Science and Medicine, 16, 315-322.

Robinson, I. (1988) Multiple Sclerosis. London: Routledge.

Sarafino, E.P. (1990) Health psychology: Biopsychosocial interactions. New York: Wiley.

Sheridan, C.L., Radmacher, S.A. (1992) Health psychology: Challenging the biomedical model. New York: Wiley.

Stacey, M. (1988). The sociology of health and healing. A textbook. London: Unwin Hyman.

Ware, J.E., Brook, R.H., Rogers, W.H. et al. (1986) Comparison of health outcomes at a health maintenance organisation with those of fee for service care. Lancet, 1, 1017-1022.

Woolgar, S. (1981). Interests and explanations in the study of social science. Social Studies

of Science, 11, 365-97.

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