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THE CONCEPT AND CONCEPTUALISATION OF HEALTH

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Preface:

Although the word 'health' crops up time and again in the current literature of the health professions like a one-word catch-phrase, it usually connotes more than it usefully means. This thesis is an attempt to disentangle the knottiness of the concept and the conceptualisation of health.

1. INTRODUCTION

1.1 Reasons for the Renewed Interest in the Concept and Conceptualisation of Health

1.1.1 The need to define objectives for health services

There are a variety of reasons for the renewed interest in concept and conceptualisation of health and these cluster around the need to define some objectives for the health care system both in developed, and developing countries. Kisch and Torrens (1974, p. 41) write, "Outcomes of health care services must somehow relate to the health of an individual - yet there is not even agreement on a single operational definition of the word "health"! Kisch (1974, p. 269) remarks "Relatively little has been written about one unique feature of the health care industry .... that is the fact that the health care industry is one whose product has remained undefined .... what is the purpose of the health care industry? .... What is health?" The need to resolve this question is important in the following areas.

1.1.2 Health indexes

These allow the quality and quantity of health as an outcome of various factors to be expressed numerically as an index or ratio. They provide a means of assessing how well the potential for improving health is being realised. As such they are a useful management tool for the health service planner and administrator. Not only do different investigators have different conceptions of what is meant by health, but there are conflicting expectations regarding the objectives of indices. Goldsmith (1972, p. 219) concludes that the conception of health involves value judgements which are problematic in the measurement of health.

1.1.3 Consumer expectations

The social changes that have occurred in the United States and other western industrial countries have promoted the belief that health is a human right. This has raised the issues of availability, accessibility and effectiveness of health services. There is associated with this belief the implicit assumption that health services are associated with health and an ever improving quality of life. Certainly for the planner, health services represent the one major variable affecting health status (the level of health) that he can manipulate. Illich (1976) offers as a reason for this focus on health, a ground swell of faith that has made a religion of medical care. Foucault (1973, p. 198) notes medicine's "prestige in the concrete forms of existence : health replaces salvation said Guardia."

1.1.4 Public involvement

The social changes that have raised expectations about health have also increased the public involvement in the health services. In a number of countries the health industry uses more than 6 per cent of the gross national product and escalation of costs seems unending. The concern about evaluating the effectiveness, efficiency, appropriateness, quality and health/care ratio is largely due to involvement of three broad publics other than health professionals themselves (Hedinger 1977, p. 55). The involvement of not only third parties (usually commercial insurers), fourth parties (group purchasers of health insurance, e.g. employers, unions, consumer co-ops.) but also of government (government and official regulatory and co-ordinative bodies, advisory programmes and agencies) has pushed the issue of system goals to the fore.

1.1.5 Systems analysis

Accompanying an increasing realisation that management can no longer be a haphazard process because of the immense resource use involved has been the development of systems analysis. Individual

institutions of health care delivery need to define their goals with respect to health, but provider bias has become all too apparent. Since the health care services are only one component of the larger social system, attempts are being made not only to apply systems analysis to the conception of health as an outcome, but also to society as a whole, at the community, area, regional and national levels.

1.1.6 Social indicators

The systems approach has promoted attempts to develop 'social indicators' that include health status as one of the components. Systems analysis and health indicators are necessary conditions for their evolution. A social indicator is a quantitative measure that describes an aspect of society's social health, e.g. educational attainment, welfare, health, migrants etc. It is apparent that a holistic approach to society is necessary to achieve such an index or social account. The motive is to once again aid in policy decisions. The visionaries of the indicator movement foresee the day when social policy will be made somewhere between the input terminals and printers of computors (Bice, 1976, p. 510). Some, like Lerner (1973, p. 7) see one of the objectives of a health status index as "to discover the true meaning of society." He and Siegmann (1976, p. 522) both see a problem as long as there is no general social system theory. The problem with achieving this is daunting because the integration may be beyond present capabilities.

1.1.7 Concensus

Bice (1976, p. 512) quotes Sheldon and Freeman who argue that the selection of indicators is inherently a value laden process and that social indicators do not make social policy development any more objective. He himself notes value concensus is needed among not only definers of health, health status, social status, but among the policy makers to determine the priorities of society. At present Bice considers there is a lack of concensus in both areas. He traces the problem back

to the "lack of a real definition of health". Kisch and Torrens (1974, p. 41) note, "Each researcher has a pet definition; and whether his source is a dictionary, the World Health Organisation, or some text book, he will defend his choice against alternative definitions used by others".

1.2 "Health" as a Problematic Concept

1.2.1 "Health" - a word in common use

The word 'health' is a concept which has old roots in its use in the English language. It is derived from the Old English 'hal', or 'hâel-th'. 'Hale' meaning whole, and 'heal', to make whole, also derive from this and have a common teutonic origin with the Dutch 'heelen', and German 'heilen'. The Shorter Oxford English Dictionary (1973, p. 938). In Hebrew the concept of wholeness and peace is expressed in words which have a common root: The word 'shalem', meaning whole is also used to mean healthy, without disease, and without injury. Similarly, 'shalom', meaning peace, is also used in the sense of the condition of well-being (Kark, 1974, p. 12). The problems arise in adapting a word in common usage for the precise use required in scientific contexts.

1.2.2 Pre-scientific and scientific knowing

Naive experience is the experience we have of things and of their relationships with temporal reality in all its fullness. As such it is pre-scientific. In naive experience we reflect upon concrete reality which is given to us in an unbroken coherence as a totality. "Knowledge of plants, and animals, of health and sickness, of birth, youth, old age, of mind and body, of organs and their functions, of food, digestion, elimination, and many others is immemorial. Such pre-scientific concepts have formed the foundations of the biological sciences and still represent their major interests. Modern biology has vastly developed these ancient insights and thus confirmed their profundity." (Polanyi, 1969, p. 150)

In scientific knowing various aspects of reality are abstracted to separate reality into various aspects. The scientist realises that feeling is different from organic life, that life is different from motion; motion from space, etc. The knowing process in science properly begins with such analytic division of reality. This in no way implies a contradiction between naive and scientific knowing or suggests that greater weight be given the latter. (Spier, 1966, pp. 136-144)

Because of this distinction, the consideration of the concept of health is in two parts. The 'lay conception' based as it is on naive experience, and the 'medical conception' based as it is on scientific knowledge.

1.2.3 The scope of the word 'Health' in its usage

The word 'health' can be used expansively or narrowly. It can denote wellbeing or wholeness of living beings at the level of their parts; (e.g. cells, organs, systems) or it can denote the wellbeing of society as an aggregate of individuals, or of a community, region or nation as a unity. It can also be used with increasing 'breadth' as well as the hierarchical complexity already noted. Health can apply to social, economic, educational, political, and spiritual aspects of life. Fanshel (1972, p. 319) notes that in scientific usage 'health' as a concept will have a different meaning depending on whether a microscopic or macroscopic view is taken. "One source of confusion is the assumption that the same definition should be used by the haemotologist, physiotherapist, general practitioner, surgeon, epidemiologist, professor of social medicine and even social worker." As the need to consider reality as a hierarchy of levels unfolds in this review of the literature systems analysis is used as a conceptual framework to accommodate the diversity of health definitions, both the naive self concept and the scientific medical concept.

1.2.4 Definition and measurement

Susser (1974, p. 539) writes "In epidemiology the definition of health sets bounds to the subject. The way health is defined is a

necessary antecedent of the way health is measured". For the scientist, either taking the word 'health' and imputing to it a more precise content with clear limits, or taking its popular meaning and devising ways to measure health is fraught with difficulties. "One of the most formidable difficulties with developing a general health status has to do with defining health to the scientific community as well as the lay public .... Until these difficulties are resolved authors of health status indices must resort to the expedience of using 'operational definitions' of health, with the result that their products measure certain aspects of health or measure health from a particular perspective." (Chen and Bryant, 1975, p. 263) The inadequacy of such 'partial' conceptions is noted and explains the bias towards disease definitions in practice.

1.2.5 Definition and values

Unlike height, health is not directly measured (Lerner, 1973, p. 6), but involves a complex process of tacit knowing (e.g. in diagnosis by use of linguistic and probabalistic phenomena). Because of this and the use of judgements health includes a value component which can never be eliminated. Commenting on its medical usage, Susser (1974, p. 549) notes how definitions of health reflect the social, political and economic interests of the time and the cultural values of the definer. The value components also point to appropriate action.

1.2.6 Definition and action

Professionals in the health services are people who apply a body of knowledge. They are primarily people of action rather than contemplation. (see Acheson and Aird, 1976, pp. 23-48) Thus as noted above, implicit in the value components of any conception of health is how it may be attained. Wylie (1970, p. 100) writes "A final argument favouring a better definition of health is that, during their basic training, many health workers are oriented to cure disease rather than improve health. Thus they find it more satisfying to treat illness than promote health."

1.2.7 Definition as a social phenomenon

Implicit in the preceding sections is the assumption that health is conceived of and defined by people. The work of Polanyi (1969) provides a theoretical foundation for the problems involved in reviewing the concept and conceptualisation of health. The 'institutional' bias of professionals is noted especially with regard to the literature available for a review of the self-conception of health. Freidson (1974) notes the normative criteria the medical profession uses to pick out aspects of reality that it is interested in. Since the values of lay and professional definers may differ, this will lead to different perceptions, expectations and responses. As well 'health', since it is a social phenomenon, will change its meaning over time. The review of this historical evolution of the medical conception of health shows a recent re-convergence of the medical conception with the holistic pre-scientific lay one. The acceptability of a systems approach is itself part of the historico-social development of the concept of health. However, the primary focus is always on regarding health as a 'natural' rather than 'institutional' phenomenon. (Engel, 1960)

1.3 A Theoretical and Philosophic Foundation

1.3.1 Review of pertinent issues

It will be seen as this thesis develops that with respect to the history of the scientific conception of health, that 'health' as it is defined reflects the philosophic groundswell of the times. Grene (1966, p. 151) comments "It has been and is the dream of not only philosophers and physicists, but of biologists as well, that some day all biology will be reduced to physics and chemistry. Science it is held, is, ideally, applied mathematics, and as the more 'backward' sciences advance they move inexorably closer to this single model .... The model of a one level world where there are bits of matter moved by 'mechanical' laws, and nothing else. Wholes are explicable by analysis into their parts, and events by their precedent events which

are their 'causes'. Yet .... the practice of biology, as well as our ordinary, everyday handling of living things continues to resist conformity to this simplistic archetype."

The ideal of the exact sciences, derived from mechanics aims at a mathematical theory connecting tangible, focally observed objects with everything above board, open to public scrutiny, wholly objective and impersonal. If strictly pursued to its theoretical limits it would dissolve the very conception of life and make it impossible to identify living things let alone evaluate them as to their functioning within an environment. The Laplacean conception of universal knowledge as well as its modern equivalents would through a completely formalised or mathematical representation of the universe, do just this.

Since the middle of the eighteenth century science has set itself this ideal of casting all knowledge into a mathematical form. The descriptive sciences were to be regarded as immature branches of knowledge and the usage 'soft-science' as it refers to the social sciences is a popular illustration of this persistent ideal. Foucault (1973, p. 105) commenting on the development of the clinical method as it was developing around the turn of the 19th century notes, "The grammatical and probabalistic structures introduced into the pathological domain are overlapping forms that never-the-less <u>evade</u> one another .... The grammatical model, acclimatised in the analysis of signs remains implicit and enveloped without the formalisation in the depths of the conceptual movement : it is a question of a transference of the <u>forms of intelligibility</u>. The mathematical model is always explicit and invoked, it is present as the principle of coherence of a conceptual process that culminates outside itself: it is a question of the <u>contribution of themes of formalisation</u>."

As has been mentioned, one of the driving forces behind the renewed interests in 'health' is the desire to measure it. Goldsmith

(1972, p. 219) concurs with the problem that Foucault raises. He sees the basic problems in developing indicators of health status as (1) the conceptualisation of health and (2) value judgements. "At present no method or concept for making value judgements is sacrosanct. Therefore it must be concluded that research is necessary to find the most reasonable ways for both the public and professionals to make their value judgements." Lerner (1973, p. 7) notes the same problems of developing a Health index including the problem of weighting the components of health identified and chosen in a particular index. Goldsmith (1972), reviewing the criteria for indicators of health, notes they should be meaningful and understandable.

Polanyi (1969, p. 179) writes, "Imagine a set of mathematical formulas that would answer any question that we might ask about matters of experience. The object of such experience must be other than the mathematical formulas which are to explain it, and hence the formulas are meaningless unless they bear on non-mathematical experiences. In other words, we can use our formulas only after we have made sense of the world to the point of asking questions about it, and have established the bearing of the formulas on the experience that they are to explain. Mathematical reasoning about experience must include, besides the antecedent non-mathematical finding and shaping of experience, the equally non-mathematical relating of mathematics to such experience and the eventual, also non-mathematical, understanding of experience elucidated by mathematical theory."

Further, Polanyi (1969, p. 105) writing about the unaccountable element in science, comments "There is an ultimate agency which unfettered by an explicit rule, decides on the subsumption of a particular instance under any general rule or a general concept. And of this agency Kant says only that it 'is what constitutes our so-called mother wit' (Critique of Pure Reason A. 133). Indeed, at another point he declares that this faculty, indispensible in the exercise of any judgement, is quite inscrutible. He says that the way our intelligence

forms and applies the schema of a class to particulars 'is a skill so deeply hidden in the human soul that we shall hardly guess the secret trick that Nature here employs' (Critique of Pure Reason, A. 141)." Thus even Kant who identified knowledge with mathematically expressed knowledge and was bent on strictly determining the rules of pure reason admitted that into all acts of judgement there enters a personal decision that cannot be accounted for by explicit rules.

The process by which a conception of a norm such as the concept of health is formed and a particular aspect identified as an instance of it bears on an ancient problem of Philosophy. Plato was troubled by the fact that in applying our conception of a class of things we keep identifying objects that are different from each other in every particular. That the concept of health should have even a characteristic nature in theory represents great difficulties, and these are not eliminated by specifying characteristic features of health, since, in so doing, we must again repeatedly use one term for instances of a feature that are different in every particular. We must explain how a single word can apply to an aggregate of things that differ in every particular. We must ask how universals such as the word 'health' can have meaning, and what relationship it has to that which it denotes.

In this though, it is evident that only persons can succeed in knowing anything. Therefore there can be no knowledge unless there are persons. And concepts are built from our perception of reality which is usually perceived as objects placed over against self in the world. The particulars of all the senses except smell and taste have the peculiarity of being projected from the interior of our body into the space outside. A dental probe is gradually assimilated to our body as its use is learned and perfected so the impact of the probe is felt at the <u>tip</u> of the probe where it hits an object. In this and all our transactions with the world around us, we use our body as an instrument.

Moreover, in 1860 William Whewell described how the merging of hither-to isolated observations into the elements of a scientific theory changes their appearance. "To hit upon a conception is a difficult step; and when this step is once made, the facts assume a different aspect from what they had before; that done, they are seen in a new point of view; and the catching this point of view, is a special operation requiring special endowments and habits of thought." (Polanyi 1969, p. 140)

1.3.2 The theoretical contribution of Polanyi

The work of Polanyi (1969, 1973) forms the theoretical base to approach such problems as this in this review of the conception of health. Although this is not a philosophic treatise, two aspects of his theoretical contribution will be noted here: 'tacit knowing' and 'dual control'.

Tacit knowing

He starts with the fact that we know more than we can tell. Our explicit awareness, the focal core of consciousness, is always founded in and carried by the tacit acceptance of something not explicit which binds ourselves as persons to and within our world. Yet, the emphasis on personal participation of the knower, and on knowing as a form of living process does not entail in Polanyi's Theory, a retreat into irrational subjectivity. However, he does argue that pure objectivity, pure exteriority, is impotent to account for the existence of life, let alone conscious life. Laplacean science contains no concepts which could make intelligible the existence of an I.

The triad of tacit knowing consists in our attending from one or more subsidiaries to a focus on which the subsidiaries are brought to bear. If the example of the stereo image is used we are <u>focally</u> aware of the stereo image, by being subsidiarily aware of two separate pictures. The function of my subsidiary knowledge is to direct me to a coherent sight of my surroundings. This is the <u>functional</u> aspect of tacit knowing: it guides me from my proximal interiorised particulars

to the integration of a distal whole. The focal image into which the two subsidiary pictures are fused brings out their joint meaning. Tacit knowing directs us from the particulars to the whole which they signify. This is the semantic aspect of tacit knowing. The fusing of the images brings about a quality not present in the subsidiaries. This is the phenomenal aspect of tacit knowing.

Polanyi (1969, p. 212) notes that the fusion of the clues to the image on which they bear is an integration rather than a deduction. "Jean Piaget has drawn a striking distinction between a sensori-motor act and an explicit inference. Explicit inference is reversible: we can go back to its premises and go forward to its conclusions, rehearse the whole process as often as we like. This is not true of the sensori-motor act: for example, once we have seen through a puzzle we cannot return to an ignorance of its solution."

Dual control of boundary conditions in a natural hierarchy of levels

The problems raised by William Whewell in 1860 and by Lerner (1973, p. 7) are largely due to the phenomenon of 'gestalt' and the irreducibility of reality to physics and chemistry, without losing the discrimination between one thing and another. Grene (1966, p. 154) writes "The elements of experience are formed wholes. The solution of an act of problem solving is not an additive sum but a reorganising of the particulars into a new gestalt." A gestalt is "an organic unit which cannot be exhaustively analysed into its particulars or into any finite number of mathematical functions which exhaustively determine it. In a gestalt there are inseparable parts: in fact parts are parts only of a whole .... The whole would disintegrate into other wholes, not the parts of itself." Polanyi deals with this by postulating that comprehensive entities are subject to dual control where the boundary conditions left open by a lower principle, e.g. chemistry are prescribed by a higher principle, e.g. physiology. The higher principles which characterise a comprehensive entity cannot be defined in terms of the laws that apply to its parts in themselves. But since the laws of the

lower level will go on operating whether the higher principles continue to be in working order or not, the action of the lower laws may well disrupt the working of the higher principles and destroy the comprehensive entity controlled by them. A boundary condition which harnesses the principles of a lower level in the service of a new, higher level, establishes a semantic relation between the two levels such that the high forms the meaning of the lower. Living beings comprise a whole sequence of levels forming a hierarchy so that a strictly defined progression rising from the inanimate level to ever higher principles of life can be recognised. Polanyi (1969, p. 235) notes, "We can generally descend to the components of a lower level by analysing a higher level, but the opposite process involves an integration of the principles of the lower level; and this integration may be beyond our powers .... In practice .... consecutive acts of analysing and integrating are in fact used for deepening our understanding of complex entities comprising two or more levels." A more systematic, philosophic approach is developed by Dooyeweerd (1969, Vols. I - IV).

1.3.3 The understanding of terms

Finally, some brief notes on thinking, knowing, concepts, judgements and conceptions are in order. (Spier, 1966 p. 136-144).

Thinking could not occur without a brain or without our functioning at the organic level. Thinking is exclusively an analytic activity. If we think about something the analytic subject concentrates his attention upon an analytic object in order to observe its diversity.

Knowing is analytically qualified but it is not a purely analytic act. More functions are involved in the act of knowing than in thinking. Knowing begins with perception, with the collection of sensory impressions. The second phase of the knowing process consists in thinking about the material collected. The knowable diversities are observed, abstractly analysed and logically established. For example, the knower establishes that a thing is beautiful, motionless, and so on.

In the third phase of the knowing process the diversities which have been established are brought together in a concept. Concepts are distinguished from one another by words. The logical characteristics which are noted in thinking are fixed in a concept. The next step after the formation of concepts is the formation of judgements. The knowing process does not end with judgements for these give rise to argument and demonstration. If a person makes a judgement he shares it with others in social intercourse and thus transmits the results of his knowing.

Naive knowing is the knowing which occurs in everyday life within the structures of various social relationships. It undergirds scientific knowing and cannot be destroyed by it. This is not to say that either naive knowing or scientific knowing need be true or false. Naive knowing should not be considered as unsound scientific theory. It doesn't furnish scientific theories and is neither inferior nor less accurate, but different.

Relation to scientific knowing: It differs from scientific knowing in the following respects: The decisive feature is the relation of subject and object. By means of this relation the knower, conscious of the reality of a thing in its entirety (holistically) takes cognizance of its aspects and without systematic abstraction, grasps this reality in concepts which are closely related to our sensory psychological life. It can have a variety of ends (e.g. aesthetic, economic) whereas scientific knowledge is always concerned with an analytic end as a way of understanding reality. Scientific knowledge is attained by means of abstraction and synthesis, giving rise to cognitive symbolism so that concepts emancipate themselves from sensory representations and acquire the symbolic meaning of conceptual terms. Naive knowing, on the other hand is strongly bound to of the sensory impressions derived from concrete things. Naive knowing can therefore express a specific condition in different ways which are mutually related whereas science seeks to express a certain condition which is precisely defined and can only be interpreted in one way.

Thus both ways of knowing supplement each other. Scientific knowledge cannot be gained without naive knowledge. And the latter is enriched and systematised by the former. Scientific knowledge critically supplements naive knowledge and seeks to control and correct it whenever necessary.

Concept: Knowledge is established in concepts and judgements. A concept is the primary possession of knowledge about something knowable which is determined not only by a name but also by the knowable and knowing activity. Every concept is about something that is knowable. The diversities included in a concept should exist in the knowable and a correct concept is free of extraneous elements.

Concepts may be formed by one or several acts of knowing. They may be clear with all the diversities of something grasped as a unity or unclear with only part of the diverse aspects grasped. In concepts where several acts of knowing are required the likelihood of an unclear concept is greater.

Concepts may be naive or scientific.

Judgement: Judgements consist of three elements; a subject, a predicate and a relation. The subject of the judgement is that concept to which another concept is ascribed as being applicable or inapplicable. Every judgement is connected with the person making it and he determines whether it is scientific or non-scientific.

Conception: The word 'conception' will be used as a shorter way of expressing 'concept and conceptualisation'. Throughout this thesis the conceptualisation of health will include knowing and/or thinking, concept formation, and judgements depending on context. The word concept will have the use as indicated above.

2. THE LAY CONCEPTION OF HEALTH

2.1 The Unique Position of the Body for the Individual

When beginning to consider how people think about the concept of health, conceptualise their own health and form judgements about it, the work of Polanyi (1969) provides a good starting point. He writes as follows: "The special character of our body lies in the fact that it is the only collection of things we know almost exclusively by relying on our awareness of them for attending to something else. Hence the unique position of our body in the universe." (p. 159)

"Every time we make sense of the world, we rely on our tacit knowledge of impacts made by the world on our body and the complex responses of our body to these impacts." (p. 147)

"In our all new transactions with the world around us we use our body as our instrument. The expert recognition of specimens, the use of probes and tools, the major skills of our body and of the sensations felt by our body. Throughout these exercises we are subsidiarily aware of the elements that we integrate inside our body and where our body touches the things outside it. This is how we are usually aware of our body .... It is the subsidiary sensing of our body that makes us feel it is our body. This is the meaning our body normally has for us." (p. 183)

"No-one but curselves can dwell in our body directly and know fully its conscious operations .... Dwelling in our body enables us to attend <u>from</u> it to things outside, while an external observer will tend to look <u>at</u> things happening in the body, seeing it as an object or machine. He will miss the meaning events have for the person dwelling in the body, and fail to share the experience the person has of his body." (p. 148)

Polanyi (1969, p.134) also notes how our knowing of any entity is inherently fused with our "subsidiary awareness of our bodily and cultural being". Thus the naive approach to health will be a holistic one reflecting the personality, family background, cultural world-view level of education, status in society and so on.

2.2 Two Approaches to the Lay Conceptualisation of Health

The difficulty in attempting to report people's conceptualisation of health is that for the reports to be meaningful, we need to change our awareness of them from a subsidiary awareness in to a focal awareness by shifting our attention from them to their theoretical coherence. Usually this will involve the use of constructs . There are two approaches that characterise the literature on how people view their own health: anthropological and sociological studies.

In dealing with the cultures they are observing the anthropologists do not separate health practices from the representations which contribute to their orientation. They relate notions about health and sickness to other more general concepts and values - ideas about the universe, religious deities, human relations, good and evil, and the relation between man and his environment - such that health is conceived of as part of a general world-view.

Sociological studies tend to be more fragmented and partial, and the studies fall into two categories: those which are part of a sociology *of* medicine, and those which are part of a sociology *in* medicine. (Straus 1957)

2.3 Bias in the Perspectives of Many Sociological Studies

Levine, Katz, and Holst (1977, p.8) note that a vast literature on public knowledge, attitudes and behaviour *is* available, but that most of the studies are biased in their perspective by being geared to contribute a data base for professional health interventions. Thus,

they revolve firstly around popular recognition of need to accept professional advice regarding health promotion or disease prevention; and secondly around entry into the health care system for prophylaxis, diagnosis or treatment. Such a bias reflects the role of sociology in medicine, and, as such, makes it difficult to distinguish between the 'health' roles of professionals and lay people as a social and institutional phenomenon, and the underlying concepts of health, both naive and scientific.

Most of the sociological studies have totally neglected the layman's notions of health and sickness. Levine, Katz, and Holst (1977, p.36) ask, "Are the goals of professionals and lay persons with respect to the definition of health in fact identical or compatible? A possible source of conflict in this area arises from the reality that the criteria for what constitutes health and illness have been established almost exclusively by professionals. These criteria may or may not coincide with lay ideas and beliefs .... 'Healthy' for what?" Herzlich (1973, p. 11) also raises this important question about whether the lay conception of health is "any more than an emasculated and distorted version of the scientific models?" Just as validly she could have asked whether the medical conception of health is any more than an emasculated and fragmented version of the lay conception.

Levine, Katz, and Holst (1977, p.7) note that although breakdowns in the living process are often described by health workers as failures to cope effectively in, for instance, the biological, psycho-social, and economic spheres, people do not have explicit awareness of living as a set of technologies, discrete entities, levels of complexity. Rather this fractionated view is foreign to the anthropomorphic holistic nature of our naive world-view.

2.4 The Impact of Parsons' Concept of the Sick Role on Medical Sociology

A great deal of work in medical sociology has been in response to Parsons' Theory of the sick role (Parsons, 1951, p.436-437) which has been widely accepted. Segall (1976) in a review of the literature on the sick role notes that the positivistic practice of taking the seeking of medical help as the sign of the subject adopting the sick role creates the difficulty of researchers ignoring the task of specifying the nature of the role expectations held by the respondents themselves. He comments, "the respondent's expectations in regard to the kind of behaviour perceived as appropriate for the sick person (and those with whom he/she interacts) must first be understood if expressions of willingness to adopt the sick role are to be meaningfully interpreted." (Segall 1976, p.167) He notes further that the concept of the sick role based as it is on an abstract set of 'institutional expectations' has not been substantially validated by experimental studies. He quotes Gordon who claims that the one major effect of Parsons' conceptualisation of the sick role "has been to draw investigators' attention away from socio-cultural variations in illness behaviour". (In Segall 1976, p.165) Finally, and of greatest significance with regard to sociological studies is the question raised by Berkanovic (1972): "Are the features of the sick role as described by Parsons in fact the dimensions about which people think when confronted with illness?" This is a vital question for any studies that deal with how lay people conceive of health.

2.5 Discussion About the Selection of the Literature

The studies selected and reviewed span a period of twenty years. It seems that apart from some earlier anthropological work in primitive societies the literature specifically dealing with the lay conception of health in industrialised societies has only grown since the working relationship between medicine and sociology. The works of Dubos (1965, 1971) and Sigerist (1941, 1961) do give illustrations in passing from the writings of particular historical periods. But there are problems

in deducing the conceptions of health expressed in the writings, and it is only small groups who were even literate in earlier periods.

Engel (1960, p.472) notes that viewing health from a 'natural' rather than 'institutional' perspective allows many kinds of processes and experiences to be thought of in terms of health or related to it even though they are not immediately relevant or currently regarded as the concern and domain of the health professions. Ideally, such a 'natural' perspective would be reflected in this review.

However, given the points raised already about many sociological studies, and the lack of anthropological studies in Western industrialised societies the number of studies included for review is small. These may not have as much 'institutional' bias as those omitted, but they are all vulnerable to bias nevertheless due to the researcher's attempts to meaningfully represent the holistic lay notions of health. Perhaps because of this, the following review shows how among the studies, some more fragmented than others, there is a remarkable consistency in the way in which people of differing cultural, socio-economic, and demographic backgrounds regard health.

2.6 A Review of Selected Literature

In 1958 Di Cicco and Apple (1960) studying a group of 95 persons over 65 years of age of lower socio-economic status in Boston, Mass., U.S.A., noted, "In this group health seems to be important only as it affects an individual's capacity to carry on activities important to him." (p. 32) Physical well-being was judged as healthy by the subjects if they were able to carry out their usual activities at home or at work, get around, get out and do what needed to be done. Those who had fewer social ties reported more visits to doctors and clinics than those with more ties.

Apple (1960) found that health problems were considered to be illness where the conditions were of recent onset, and interfered with usual activities.

Baumann (1961) asked the question, "We are trying hard to find out more about what people regard as 'health', or being 'physically fit'. What do you think most people mean when they say they are in very good physical condition?" She classified the replies of clinic patients and third year medical students under three orientations.

(1) a feeling state orientation: a general feeling of well being

(2) symptom orientation: absence of general or specific symptoms of illness usually with reference to the subject's own symptoms

(3) performance orientation: what a person who is in good physical condition should be able to do in their everyday activities, discharging their usual roles.

In the majority of cases two or three of these orientations could be distinguished in the responses of a single individual with feeling state the least common of the three. Performance orientation occurred more frequently among the patients and symptom orientation among the students, but the large proportion of performance oriented responses given by the students prompted Baumann to comment, "This suggests this orientation is sufficiently widespread in our society to cover more than only persons of low socio-economic status." The concept of health was affected by the factors age, education, social class, religion, and current health condition.

Maddox (1962) noted that self perception of health was affected also by a history of depression in the respondent; by low morale, and a feeling of neglect by others resulting in less positive self-perception of health.

Schulman and Smith (1963) in an anthropological study among Spanish speaking villagers of New Mexico and Colarado noted that health was one of the important value orientations in the lifeways of the people and that it was a central component in the culture of the villagers. The view of health correlated with the world-view where,

in both, events were of a day to day nature, important but appraised in terms of the elements which shaped the present and not by the mechanics of how such a situation came to be, or might develop. They noted that in health as in all other phases of the villager's life there was no perfection, only adequacy which might include incidental malfunction of an organ or system of the body not serious enough to make the person unable to qualify himself as 'adequately functioning'. The concepts of 'good' or 'normal' health were intimately associated with this feature of being able to function in one's age-sex role. Normal health was something viewed as always subject to attack. The human body was thought to be in a state of balance or equilibrium when healthy so that a healthy person was well adjusted and adequately functioning within himself and without. Three major orientations were noted:

(1) A high level of physical activity

(2) A well fleshed body

(3) The absence of pain

Most of the daily tasks happened to require the expenditure of considerable energy and strength and people used the regularity of performing routine tasks as a clue to health and vitality. Both these attributed were highly esteemed in the men and women. A larger person was presumed to be able to undertake more physically demanding jobs. Skin tone and rosy complexion were signs of health. One informant made the distinction that the Anglo idea of health was the "absence of disease" whereas the villager's idea of health was the "absence of pain", so that a person with a chronic disease would consider himself healthy if for the moment he was not in pain. A woman folk healer noted that in health "the body is well, one does not feel any troublesome thing, one does not feel bad." The social dimensions of health were broader than merely being able to perform daily duties so that health would be suspected also if one did not have an accompanying alert, friendly, contented and cheerful frame of mind. This was true for all ages of persons from adult to old age. Children were healthy if they were plump, large, active, possessed a pleasant disposition with bright eyes, were alert, with unblemished and rash-free skin, rosy cheeks, had an appetite, were growing and sleeping well and evacuating without difficulty.

It can be seen that this study, while dealing with a culturally different group, has orientations to health similar to that set out by Baumann. A similar finding is reported by Herzlich's study of French middle class respondents.

Friedsam and Martin (1963) comparing self and physician ratings in a group of 50 persons of 50 or more years of age visiting an outpatient clinic, found that self ratings were positively related to physicians' ratings of health but were an underestimate of favourability. They concluded that self ratings were sensitive to factors outside the consideration of the physician in his examination. They commented, "What is at issue between self and physician health ratings is not a question of 'subjective' or 'perceived' health as against 'objective' or 'actual' health .... but rather different dimensions of 'health'. Certain types of data are available to the individual as he measures his health which are inaccissible to his physician, just as certain 'data' are available to the physician with his instruments which are not available to the patient."

Kasl and Cobb (1966) touched not only on the overlapping but different data pools of lay and medical individuals but on the salience that symptoms have: ".... laymen may be aware of symptoms that a physician would label a symptom of an illness, but he may not ascribe the same importance to them: He under-reports such illness not because he is unaware of it, but because he differs from the medical world's conception of what is serious." (p. 256)

Twaddle (1969) found in a sample of males in their middle 60's that they considered themselves well when:

(1) No identified medical condition had been diagnosed

(2) They had an experience with an illness defined as serious but had recovered

(3) They had been told by a physician that their health was good

(4) They did not expect to become ill,

and they considered themselves not well when:

(1) There was a change in feeling state especially pain and weakness

(2) There was a change in capacity for normal role performance

(3) There were symptoms or changes in biological state, regarded as important because of their presumed implications for longevity or future capacities

Hennes and Wharton (1970) (In Hennes, 1972) grouped the major conceptual categories identified in respondent's assessments of their health as follows:

I Objective performance based responses
   A. Activities
   B. Clinical condition
   C. Medical care system criteria

II Subjective, affective based responses
   A. Aches, pains, symptoms
   B. Attitudes and feelings

III Relative Status Responses

There are similarities with the other studies, including extra criterion of receiving feedback from the health system noted by Twaddle above. They also found that the standards of health tended to be doing what one's age allows and that specific conditions and particular functional limitations frequently were not regarded as affecting the health of the respondents. They noted that for many respondents when they felt healthy they were healthy, but if specific descriptions (such as 20/20 vision, having regular checkups) were maintained they were more likely to adopt these health care system criteria as standards for their own health.

Palmore and Luikhart (1972), in a study of self-rated life satisfaction for middle aged respondents found that self-rated health explained more than two-thirds of the variance, that health was the most frequent reason given for happiness, and that more than three-quarters of the respondent's self-ratings were in "fairly close agreement with the ratings of physicians."

Hennes (1972), with an interest in the development of measures of health, noted "All of our basic components (of health) such as sickness, happiness or activity are value laden and culture bound. Indeed they are often specific to the individual .... But such statements are true of all human life and cannot be used to justify non-action in developing measures of health". (p.1279)

Herzlich (1973) in a socio-psychological study of 80 subjects (68 living in an urban environment and 12 in a small village in Normandy, half of whom were professional and the remainder middle class, each group equal with respect to age and sex and each divided equally into those aged 24-40 and those aged above 40 years) provides a perspective which confirms the basic multidimensional holistic concept of health seen in the previous studies. For all the limitations of her study, it merits a prime place in the small literature on self-perception of health because of its holistic approach, its lack of institutional bias (as can be seen in its guiding principles) and because it has been validated by other studies. The main guiding principles were:

(1) The concepts of health and illness and their interrelations.

(2) People's ideas of the causes of illness and health.

(3) The relation between the concepts of health and illness, and values, e.g. is health regarded as "good"?

(4) How health and illness are conceived by people to affect social participation.

(5) What people see as the relation between health, illness and death.

As well, it deals with three aspects of the self conception of health not touched on in the other studies mentioned: toxicity as a mechanism seen as causing ill health; an 'intermediate state' of neither health nor illness; hygiene behaviour.

Starting with the causes of illness and health, the thinking of respondents was grouped into endogenous (the individual and his part in the genesis of the condition and exogenous (the way of life) categories. For urban respondents, the way of life was always associated with illness,

its influence being to cause declining health, by reducing the person's capacity for resistance, thus facilitating attack by any pathogenic agent. Further, the way of life was seen as generating pathogenic agents themselves, increasing the frequency of accidents, cancer, mental disorders and heart disease. The only positive features were due to medical progress and these were limited. There had been a reduction in infant mortality, an increase in life expectancy which some regarded as a dubious benefit, but about the possibility of prevention and cure of all diseases, respondents declared themselves sceptical, reporting a perpetual emergence of new ones to replace those eradicated or controlled.

Factors seen as having a bearing on the individual were predisposition, constitution, heredity, temperament, nature of the individual, resistance and coping mechanisms. With regard to disease these variables were seen as indicating a variable capacity for resistance to a noxious way of life rather than any pathogenic action on the part of the individual. With regard to health, constitution, temperament and heredity were seen as both indispensable and sufficient. "Health comes first and foremost from the individual" (p. 26) Death and disease were seen as the outcome of a struggle between the active and deleterious way of life exterior to the person and his internal resistance due to a resource of health.

'Way of Life', the spatio-temporal framework of the individual with features including rhythm and tempo, every-day behaviour (such as eating, sleeping, relaxing) the place of work and the societal roles fulfilled, was usually seen as unhealthy and constraining . Constraining because the individual felt passive and powerless to escape the harmful conditions such as air pollution and noise. Unhealthy because his part seemed to be resistance to attack by the products which the way of life created or transformed, and because of noxious behaviour to which it gave rise. This unhealthy way of life has also been described as abnormal, artificial, chemical. By contrast a healthy way of life was described as normal, natural. These themes recurred with reference

to food, air, products, work, life rhythm with the country way of life seen by urban dwellers as more relaxed, calm, natural, with the possibility of pure air, physical exercise and healthy, fresh food.

Herzlich noted the anthropomorphic way in which nature was thought to be adapted to man - where what was healthy implied a degree of harmony between oneself and certain fitting objects. "In short, it is man and his nature which are the measure of the healthy and the unhealthy .... the way of life is unhealthy for the individual because it isn't made for him, but also because he isn't made for it." (p. 36) The awareness of this conflict tended to give rise to a concrete reality external to the individual even though the way of life was perceived through a wide variety of sensory indices - sight, sound, touch, taste and smell all internal to the individual.

The idea of <u>toxicity</u> related the way of life which was seen as threatening to the effect on the individual who resisted it. This was an idea which, despite the health education and level of education of the respondents, occurred more frequently than reference to invasion by germs. Toxicity was seen as slow, repeated, insidious and cumulative, referring not only to the introduction of harmful substances, but also to their involuntary and forced retention. It seems that almost anything in life could appear toxic: food, tobacco, chemical products such as preservatives, air pollution, noise, excessive activity, advertising, the news. The toxic agent was perceived to produce an insidious internal attack on the individual, whereas an attack by germs was perceived as a crude, all-or-nothing external one.

Herzlich put the contrast between illness and health succinctly: "To put it in an extreme form, it might be said that health has no genesis, while illness has". (p. 48) Illness was seen as exogenous in origin, coming from the way of life. Health was seen as 'given' entirely within the individual. She grouped the various ways the sample conceived of health into three categories, summarised in Figure 1.

	Health-in-a-vacuum	Reserve of health	Equilibrium
	Being	Having	Doing
Content	Absence of positive content	Robustness and strength Resistance to attacks	Physical well-being Good humour Activity Good relations with others
Relation to person	Impersonal fact All or nothing	Personal characteristic Measurable, variable and permanent Secondary awareness	Personal norm All or nothing Immediate awareness
Relation to other forms	——	Basis of equilibrium	Based on reserve of health
Relation to illness	Destroyed by illness	Resistance to illness	Assimilation of disorders

FIGURE 1

Representation of the Lay Concept and Conceptualisation of 'Health'.

From Herzlich 1973 (p.63)

Of the three, the 'Health in a Vacuum' is simple the logical negation of illness where illness was the experiential reference point. The 'Reserve of Health' was secondarily deduced from a more concrete experience such as overcoming an illness. It was seen as a capital of resistance, freedom for function, and wellbeing. 'Equilibrium' was the actualisation of the 'Reserve of Health' being normative in that while rarely occurring it was regarded as a reference for health. However, 'Equilibrium' was not seen as a state of perfect health, as it could include illness. Perfect health had apparently no meaning for the subjects. The themes of 'Equilibrium' that were referred to were:

(1) Plenty of resources with the possibility for abuse of one's self
(2) Absence of fatigue
(3) Psychological well being and evenness of temper
(4) Freedom of movement and effectiveness of action
(5) Good relations with other people
(6) Feeling of physical well-being

Intermediate State

What Herzlich allocated to an 'Intermediate State' were difficulties and discomfort in relations with other people, the experience of a state of fatigue frequently associated with depression, and a cognitive awareness of increased susceptibility to illness, any or all of which might be quasi permanent with resolution into neither illness nor into 'true' health. ('Equilibrium')

Symptoms

With regard to symptoms, the subjects emphasised their indeterminate and partial nature, using in preference reduced activity as definitive of illness which was regarded as more important than pain or mood changes. This compares interestingly with Leriche (1936) who defined health as "life with ones organs silent", and illness as "what makes it difficult for men to carry on their normal, everyday life."

The way in which Herzlich summarised her findings is shown in Figure 2.

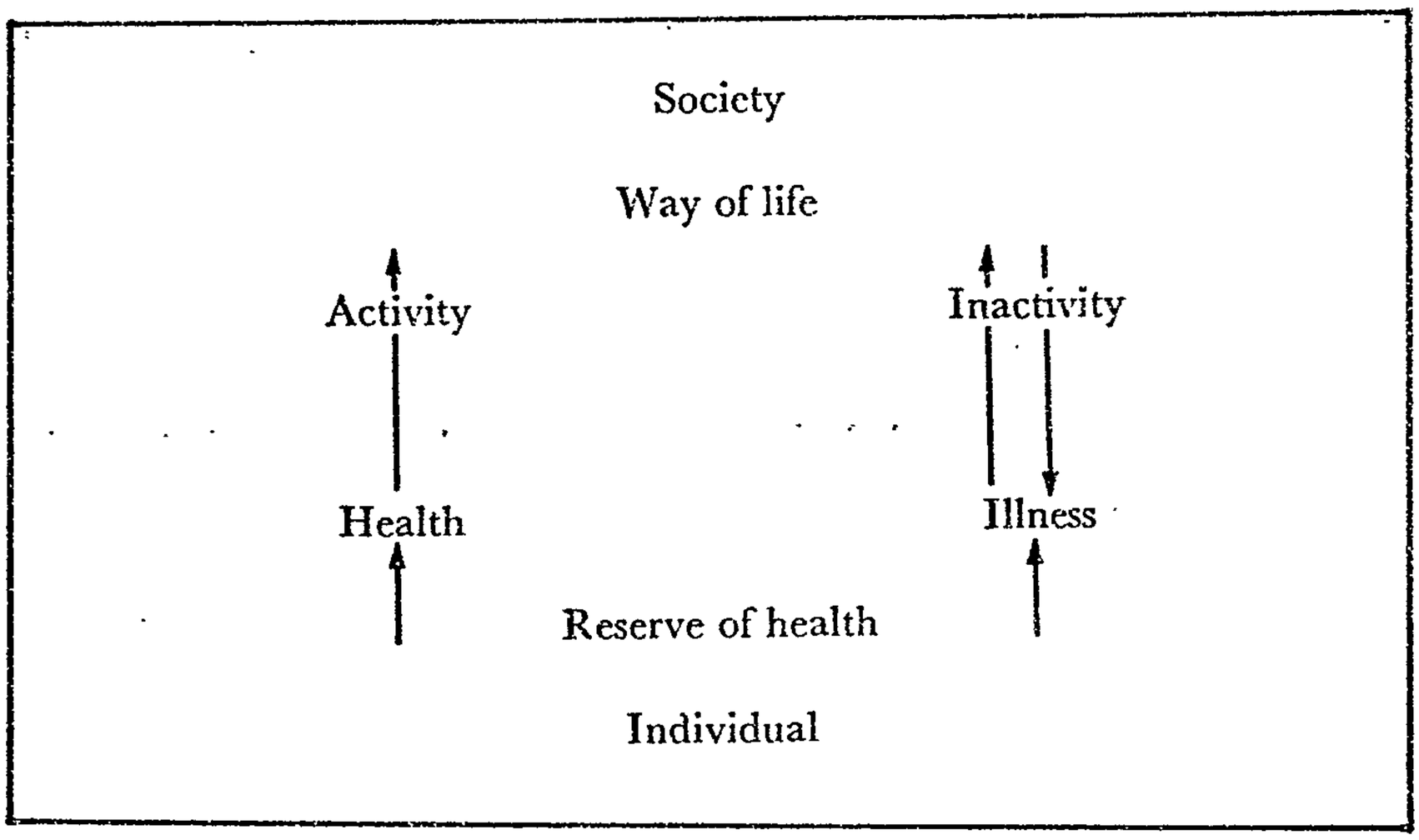


FIGURE 2

Representation of the Lay Concept of 'Health' and 'Illness' in Relation to the 'Individual' and 'Way of Life'.

From Herzlich 1973 (p.91)

It is the loss of activity, in the sense of not going to work, of giving up one's social role which integrates the ambiguous physical symptoms and gives them the meaning of 'illness'. This meaning is at the level of self in relation to the social group. The signs and symptoms which may be present already in the 'Intermediate State' are regarded up to this point as unreliable clues which must be given meaning.

Two other aspects arose from her open-ended interviews:

(1) Seriousness was used to differentiate between illnesses, and expressed most often the danger of dying, and sometimes the duration and irreversibility of the illness.

(2) Hygiene Behaviour. While behaviour for the preservation of health found its expression in the practise of hygiene, many of the people rather than make these efforts, aspired to a way of life in which health would not be threatened or require any special kind of behaviour. The adoption of hygiene practices was selective with the following order of priority:

    (1) eating
    (2) sleep
    (3) relaxation
    (4) bodily hygiene and attempts to prevent illness. (These were much less reported than the other three.)

Beyond certain variable and critical limits, health practices, which were perceived of as techniques, were regarded as opposed to natural, spontaneous behaviour, and were characterised as unnatural, artificial and constraining, being viewed as yet another expression of the deleterious 'way of life'.

It was activity or inactivity that gave meaning to experience and oriented the cognitive organisation of phenomena into concepts. "Health which is the simpler phenomenon is the expression and extension of the individual" (p. 94) .... "Health is related to the resistance of a more or less solid material body" (p. 134). "Illness is a source of problems and therefore the object of awareness and communication .... The excessive amount of talk about illness contrasts with the relative poverty of references to health". (p. 94)

Elinson (1974, p. 389) quoted Brunswick, who directs attention to personal or subjectively experienced wellness or illness as 'Ding an Sich". To establish this concept she refers to the phenomenon as "ontological health" to remind us that subjectively experienced health is not the same kind of health more commonly the concern of physicians. i.e. 'medical health'.

In 1978 Tessler and Mechanic contrasted the experiential orientation of patients and the operational orientation of physicians and remarked how this could produce a discordance that might result in professional frustration and patient dissatisfaction. They noted that physicians are trained to identify discrete problems that they can manage in specific ways and are frustrated by diffuse complaints that cannot be readily classified. When unable to locate a specific cause of complaint, they may characterise the problems as trivial or the patients as neurotic.

"Patients view their health in a somewhat more global fashion. Not having the physician's more detailed perspective of disease processes, they react more experientially to their overall sense of well-being and to the extent to which the symptoms they experience disrupt their ability to function, or interfere in some fashion with their life activities." (Tessler and Mechanic, 1978, p. 254)

The reasons for this disparity in perspective are to be found in the clinical method in medicine which developed over the centuries in Western civilization.

3. A HISTORY OF THE CONCEPT OF HEALTH IN MEDICINE

3.1 Prescientific Concept: Health as Harmony and Equilibrium

Often histories of medicine selectively begin with the Greeks because of their distinctive conception of disease as a natural rather than a supernatural phenomenon. This embodies the seminal beginnings of the physically-centred modern clinical method, e.g. Sigerist, (1941). Historical and anthropological studies have shown, however, that the Hippocratic school shared a conception of health in common with other cultural groups that is foreign to a large part of the history of the modern method in medicine. Health was the outcome of an interaction which was harmonious and balanced. Disease was the outcome of an interaction which was out of harmony and imbalanced.

> "The idea of Balance dominated Hippocratic medicine in the fifth and fourth centuries before the birth of Christ, and these ideas persist today in many forms, varying in their scientific authenticity. Ayurvedic medicine which endures in India is based on the Hippocratic idea that health results from the proper balance of hot and cold forces and disease is the consequence of the breakdown in this balance. Similar ideas exist today throughout Latin America among Spanish speaking Americans." (Mechanic 1968, p. 18)

Kuper writes that the Hindu concept of health is regarded as more that purely physical well-being. It is characterised by two dominant themes: harmony, which is to be at peace with self, the community, God and the Cosmos; and equilibrium, or 'sattva', a desired quality which is continually being challenged by other qualities. (Kark, 1974, p. 11)

The Navajo concept of health is bound to their religious world-view. It has as its focus the maintenance of balance between the individual and his total physical and social environment, as well as

the maintenance of balance between the supernatural and man. When these forces are in a state of balance, good health is the result. An upset in this equilibrium causes disease. (Kark 1974, p.11)

Such an equilibrium view is present in the concepts within the Yin Yan world-view of the Chinese. Health is the delicate balance between hot and cold forces. Disease results from an imbalance and thus treatment is with things which will build up the amount of whichever aspect is deficient.

There were differing views as to what were the prime determinants of equilibrium. It was argued that since man developed from seminal fluid, the body homors or juices were the most important factors. The number of these that were considered significant ranged from only two or three to many. A popular Greek view was that there were four humors, making up two pairs with opposed qualities. (Mechanic 1968, p.18) Each of these had characteristics which likened it to one of the four elements which, according to Aristotle, made up all matter. These characteristics are set out below:

Blood	Hot and Moist like air	Found in the heart
Black bile	Cold and Dry like earth	Found in the liver
Phlegm	Cold and Moist like water	Found in the brain
Yellow Bile	Hot and Dry like fire	Found in the spleen

Health (eukrasia) prevailed when the two pairs of humors were balanced, and disease (dyskrasia) resulted when the balance was disturbed. The body was assumed to have powers of restoration of humoral equilibrium, and the role of the physician was merely to assist an already healing nature rather than tamper with it. (Kark 1974, p.13) As well as the four elements, and the patient's constitution, the physician included the factors of the pneuma and the social and climatic influences as contributing to this equilibrium. (Freidson 1974, p.14)

3.2 The Development of the Clinical Method in Medicine

The history of Western medicine involves the gradual displacement of equilibrium conception of health, and its more recent re-establishment.

The Hippocratic humoral theory was ascribed to by Galen of Pergamon (AD 130-201) whose influence extended for more than 1000 years. He also ascribed to the Aristotelian teleology that every organ in the body had a special purpose and therefore served a special function. This influenced his physiologic and anatomic work, the latter of which was amazingly accurate, though apparently he himself had never dissected a cadaver. (Freidson 1974, p.14). In many ways his work heralds the beginning of the 'body orientation' which came to predominate in the middle ages with the dissection of cadavers. In the 16th century Vesalius, in his work in dissection, corrected many errors of Galen whose writings had tended to be authoritative right up to this period. (Freidson 1974, p.21) Paracelsus showed interest in the strange diseases which colonists encountered in the discovery of new lands. (Herzlich 1973, p.21) His chemical theory shook the old humoral theory of disease and he prescribed various treatments with lead, arsenic and sulphur. (Freidson 1974, p.15)

Thus, the way was open for the first major change in the medical perspective of health and disease: the body became likened to a machine. At first this likeness was in terms of structure only, but later it included the working of the body so that humans were likened to a self-propelled machine and objectified. Health was the perfect structure and functioning of this mechanism. (Kelman 1975, p.628, 637)

Foucault (1973), tracing the ongoing development of the medical perspective noted how the development of clinics in the 18th century greatly enhanced its progress towards a scientific method. The clinics

required a new definition of the patient in society and a language suitable to describe phenomena. The large numbers of persons passing through the clinics allowed the focus of observation to change from the individual to patterns of similarity between them. Foucault notes how the pathological anatomy at the time when physicians were defining their scientific method made death the stable and meaningful basis of disease. "Conceived in relation to nature disease was the non-assignable negative of which the causes, form, manifestations were offered indirectly and against an ever-receding background; seen in relation to death, disease becomes exhaustively legible, open without remainder to the sovereign dissection of language and of gaze." (p. 196) He goes on to note that when death became a concrete a priori of medical experience, one finds in this the roots of the emphasis on disease in the scientific method in medicine. Disease was considered discrete; health was seen as open-ended and without bounds.

When signs and symptoms became the objects of the clinical gaze, these were thought of as similar to alphabetical letters making up the word characteristic of each disease. (Foucault 1973, p.97) This grammatical model was later supplemented by statistics as the analytical tool for dealing with uncertainty. In the period of Laplace, either under his influence or within a similar movement of thought rigorous calculation could be based on a certain number of isolatable degrees of certainty. Foucault (1973, p.99) writes, "This conceptual transformation was decisive .... It gave to the clinical field a new structure in which the individual in question was not so much a sick person as the endlessly reproducable pathological fact to be found in all patients suffering in a similar way." Thus the collective structure of clinical experience was formed by selectively circumscribing the infinite domain of events by using both of these tools - the 'grammatical' and 'statistical' methods.

At the beginning of the nineteenth century the focus shifted from the essential 'type' of the disease back to a conception of

disease as relationship. The great discovery of 1816 was that the being of disease disappeared - disease was seen as an organic reaction to an irritating agent. Acting upon the influence of this conception of disease as pathological reaction and interaction came a powerful discovery.

3.3 The Powerful Influence of the Concept of 'Unit-Cause'.

In 1860 Pasteur discovered organisms to be the cause of anthrax. This discovery displaced the miasma theory of disease, but, more importantly, it so directed the attention of researchers towards seeking causative agents of disease that almost all other factors were ignored.

Dubos (1965, p.324) comments, "There is no more spectacular phenomenon in the history of medicine than the rapidity with which the germ theory of disease became accepted by the medical profession."

Engel (1960, p.461) remarks, "So attractive psychologically was the idea of the 'bad germ' that the emphasis of early workers on factors within the host was often ignored or minimized."

Herzlich (1973, Chapter 1) in a review of the anthropological literature notes two classic conceptions of disease: the exogenous conception where illness is caused by the real or symbolic intrusion of some object into the patient's body; the endogenous conception where there is a loss of body substance or life force. Exogenous conceptions, prevalent in America, Australia, and South East Asia, would seem to be used to explain painful diseases. Endogenous conceptions, which seem to come from Siberia appear to be used mostly to explain disorders which accompany loss of consciousness. She quotes Stoetzel, who observes that historically the main theories of Western medicine can also be classified this way. Exogenous

conceptions dominate: the Hippocratic explanation of epilepsy as caused by the winds; theories concerning the epidemics and contagion which emerged during the Middle Ages and 16th Century (the miasma theory); and, most notably, the work of Pasteur. The endogenous theories are centred upon the ideas of the resistance of the body to disease, predisposition and heredity. According to this view, very much in the minority, disease comes from within man himself.

In the later 18th and early 19th centuries, there had been an upsurge of medical geography where maps were drawn of the distribution of diseases in space and time. During this period philosophers and physicians had devoted their attention to the connection between disease and living conditions. (Herzlich 1973, p.3) Dubos (1965, Chapter 13, 1971, Chapter 4) notes that campaigns for better hygiene and living conditions were frequent. Popular at the time was a revival in what was essentially a Hippocratic doctrine - that there was a good chance of escaping disease if one lived reasonably. With the galvanic effect of Pasteur's germ theory and its rapid popularity, there was less emphasis on the geographic maps and theories of hygiene. The importance was seen to lie not in the living conditions and lifestyle, but on the unitary cause, the necessary condition for disease, the microbic agent itself.

3.4 The Recent Re-establishment of the Equilibrium Concept of Health

It was not until the 1920's that this all absorbing interest in searching for the causal micro-organism began to be dispersed. John Gordon writes, "In the minds of many a realisation gradually took form that disease was no longer being studied, but rather the parts of a disease .... that in pursuit of knowledge about the agents of disease, the main objective was being lost." Thus, there began to be a return to a more holistic concept of disease. In part, this was a flow on from the pre-germ heritage of the 19th century public health movement which had sought to attack disease at large at its perceived source in the community associated as it was with poverty and appalling living

conditions. (Kark 1974, p.26)

This movement back towards health and disease conceived of as the outcome of interaction was a reaffirmation of a recurrent aspect in the history of Medicine.

In 1815 the Edinburgh Clinic used a series of four questions as part of its clinical method: the first series concerned the patient's age, sex, temperament, and occupation; the second his symptoms; the third the origin and development of the disease as perceived by the patient; the fourth more distant causes and earlier predisposing events, e.g. accidents. (Foucault 1973, p.111)

In 1865 Claude Bernard wrote, "The conditions necessary to life are found neither in the organism nor in the outer environment but in both at once. Indeed, if we suppress or disturb the organism, life ceases even though the environment remains intact; if on the other hand we take away or vitiate the environment, life just as completely disappears even though the organism has not been destroyed .... In living beings, the internal environment which is the true product of the organism, preserves the necessary relations of exchange and equilibrium with the external cosmic environment." (Kark 1974, p.14)

Darwin's theory also promoted not only the idea of fitness and adaptation, but the quasi-religious movement after his name. (see Matthews'(1977) discussion from Popper) The effects of this theory are evident in the works of Dubos, and permeate most modern thinking in the sciences associated with living organisms.

In the 1920's Innes Pearse and Scott Williamson, who set up the Pioneer Health Centre in London to promote health in a holistic way, conceived of health as a condition of mutual response between an organism and an ever-changing environment. (Kark 1974, p.12)

Since the reknown WHO definition of health as a state of complete physical, mental and social well being and not merely the absence of disease, the concept of health has returned authoritatively and normatively to one of equilibrium and adaptation.

3.5 The Historico-Social Sensitivity of Health Concepts

It would be strange indeed if the concept of health at any particular period in history didn't reflect the world view of that society. As Sigerist has noted, "Every theory is philosophical in its nature. It works with the thoughts, with the concepts available at any particular epoch, thus moulding the culture of the time. Thus in the Hippocratic theories, there recur all the elements of the natural philosophy of pre-Socratic days." (Sigerist 1958, p.15)

When considering the concept of health, Kark writes, "All communities have their concepts of health integrated as part of the total culture. Associated with its values and beliefs about health, every community has its well-established ways of maintaining health, preventing disease, and treating the sick." (Kark 1974, p.11)

Siegmann (1976) notes that the concept of health like any other social phenomenon changes its meaning over time. She catalogues three predominant disease patterns in Western societies that have each determined the historic development of frames of reference for defining health.

(1) Acute Communicable Diseases - these promote a definition of health at the organic level. Health is defined as freedom from disease or impairment. Such a definition focuses medical attention on the underlying cause of the disease.

(2) Chronic Degenerative Diseases of Aging and Acute Non-Lethal Disease Patterns - these promote a functional definition of health at the individual person level. Health is conceived of as the

capacity for role performance. Medical attention focuses on reducing the severity of the outcome rather than on the underlying causal mechanism, promoting the use of expensive "half-way" technology.

(3) Modern Life Style Associated Health Problems - these promote a social definition of health which involves the community as an entity and not just an aggregate of individuals. This focuses medical attention on limitless horizons within the environment and promotes expansion into areas not at present the concern of the health professions.

Susser (1972) uses the history of public health expansion into areas of life as an illustration of the way in which the definitions of health with their implicit values promote a particular response. At first the concerns of public health were with the environment (the miasma theory period): water, sewerage, food, housing, and working conditions. Later with the advent of the germ theory of disease, concern focused on the biologic environment. Around the beginning of the 20th century, attention shifted to mothers and children and the reproductive process, then on to school and preschool children and latterly back to the human environment in toto.

T.A. Lambo remarks in an address to WHO as Deputy Director General, "The concepts of health and disease are based on human values, and life's experiences. In considering these concepts, therefore, we must ask ourselves searching and agonizing questions - questions concerning the transformation of the basic human values - dignity, equity, liberty, security, - into manageable objectives; questions concerning man's deeper needs, his motivations and his reactions to new problems of technology and culture, to new challenges and new concepts, to the magnitude and acceleration of change. A purely mechanistic approach may avoid these difficult issues, but it contains the seeds of alienation, meaninglessness and disruption .... The health status of the individual becomes meaningful only in terms of his human environment; i.e. his social and cultural milieu." (WHO, 1975, p.45)

In the same publication we read "The broadening of, or the redefinition of the 'human environment' outlined in the previous section would also seem to necessitate a redefinition of the 'responsibilities and functions of the health services'."
(WHO 1975, p.45)

It can be seen that at each period the practice of medicine promoted certain views of the person, the environment, and their mutual interaction to produce disease or health; and that certain concepts of health promoted various actions by health professions.

Thus the history of the concept of health in medicine can be traced as follows: at first the focus was on the prescribed domain of the individual as a mechanism; then with the development of clinics on disease as of a characteristic type; at the beginning of the 19th century this view was displaced by a concept of irritation and interaction with its boundless domains promoting public health; the germ theory focussed attention back on to the discrete domain of micro-organisms; and latterly the reaction back to a holistic view of health has taken on an ideologic tint and the bounds are once again limitless.

4. THE CONCEPTUAL DIVERSITY FOUND IN MEDICAL DEFINITIONS OF HEALTH

4.1 The Scientific Bias Towards Disease

From the preceding brief overview of the history of the medical conceptualisation of health some reasons for the medical bias towards disease can be seen. Health is defined by many as operative at the person and social levels of life. For a scientific definition, this leaves the lower levels untouched and better dealt with by the existing disease definitions. For example:

"Health is therefore not simply the absence of disease: it is something positive, a joyful attitude toward life, a cheerful acceptance of the responsibilities that life puts on the individual." (Sigerist 1941, p.100)

"Health is that state of moral, mental and physical wellbeing which enables a person to face any crisis in life with the utmost grace and facility." (Plato, quoted by Furnass, 1976, p.3)

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity." (WHO 1976, p.1)

"Health is optimal personal fitness for full, fruitful, creative living." (Hayman, 1961 p.1)

"Health is more than just a biomedical phenomenon. It involves a social being functioning in a social environment with social roles he must fulfil. I think we have to consider the social human being as also a moral being, and this has obvious ties to his conception of himself and his society's conception of him as an emotionally healthy person." (Lerner, 1973, p.12)

Disease, on the other hand, is not only of direct 'institutional' interest to the professional, it is also conceptually accommodated at a variety of levels - the physical, chemical, organic, physiological functional, psychological, social and environmental. Further, disease has a cause, health has none (in the unit-cause sense), and health can be altered by disease.

For example: "We all live in a specific rhythm determined by culture, nature, and habit .... we all fonform to this rhythm with waking and sleeping, with work and rest .... An undisturbed rhythm means health .... Disease then strikes abruptly into this structure." (Sigerist 1960, p.10 and 11)

"Health consists of (1) the capacity of the organism to maintain a balance appropriate to its age and social needs in which it is reasonably free of gross dissatisfaction, discomfort, disease, or disability; and (2) to behave in ways which promote the survival of the species as well as the self-fulfilment or enjoyment of the individual." (Blum, H.L. in Goldsmith, 1972, p.213)

What comes across here is what Siegmann (1976, p.531) notes, "It may be that poor health is remarkable, noticeable, measurable, whereas good health, past the point of minimal dysfunction, is an unremarkable given."

Another related and important factor in the medical bias towards disease is offered by Matthews (1977, p.26 and 27) who reflects on scientific method in epidemiology and in research in community health. He quotes Karl Popper who offers falsifiability (or potential falsifiability) as the criterion of demarcation between science and non-science. The importance of falsification rests in the asymmetry of the two criteria. As has been noted in the development of the clinical method, it is much more economic to have one instance falsify an hypothesis (e.g. that a person is 'healthy') than have 10,000 observations fail to confirm it. The single instance would falsify

this hypothesis, whereas the 10,000 would not substantiate it. Thus, scientifically, 'health' is merely an hypothesis requiring logical falsification. Matthews (1977 p.26) writes, "Scientific theories are provisional and not dogmatic; they provide explanations and predictions which are potentially falsifiable (by observation or experiment). Many other meaningful theories (linguistic, historical, political, sociological, psychoanalytic) are not scientific as they do not give rise to predictions which are potentially falsifiable. Scientific explanations are preferable for two reasons. Firstly, because they are testable .... and secondly, because they are relatively value free."

4.2 The Value Component in Health Definitions

Because most definitions of health bear on the personal and social aspects of life, one would expect another attribute, already mentioned, as an intrinsic feature of such definitions. They are value laden, reflecting both the values of definer(s) and society at large. Thus philosophical, ideological, economic, and political factors will be reflected in the author's concept of health as he defines it.

Susser (1972) makes this point when he argues that definitions of health contain inevitable value components and that these depend on who is defining health. Moreover, "the values that underlie different health definitions do indeed provide a code or rationalisation for the conduct of health professionals and hence for the differing content and quality of health services they provide." He considers health as it is defined at different levels of organisation. These range in increasing complexity from the organic level, through the functional level to the social level. The greatest proportion of discrepancies between health definitions occurs at the social level due to the variability of values and ethics. Susser also looks at the definition of health as it relates to the

areas in which health professionals have claimed or rejected competence and concern. He shows how changes in the definition of health have varied with the expansiveness of professional interest in the recent history of areas such as obstetrics, psychiatry and public health.

Twaddle (1974) reviews the limited literature on the concept of health status focusing on studies linking social stratification, ethnicity, and situational factors with differences in how individuals were designated as sick. At the social level, although health and illness are normative and have biological parameters, health changes do not follow automatically from the biological ones, but vary with medical training, social class, and ethnicity. He concludes, "The process of health status designation can, therefore, be seen as consisting of interaction between an individual and his status definers in which normative standards of adequacy are applied to an individual in the context of a specific situation to assess his capacity for present or future role and task performance. (his emphasis)

Critical issues .... must include the criteria employed for assessing health and illness, the situations in which these criteria are applied, the characteristics of people who do the defining, and the consequences of alternative definitions relative to behavioural expectations." (p.38)

An article by Kelman (1975) from the historico-materialist approach of a Marxist ideological perspective relates the determination of health care policy to the imperatives implicit in concepts of health pitched at the social level. He argues that the definition of health and the health behaviour which is a consequence of such defining is primarily socially rather than biologically determined, being dependent upon the particular characteristics and dynamics of the society under investigation. "In sum, experiential and functional health represent two qualitatively differing notions or norms of organismic integrity which are either promoted or stunted in different forms of society." (p.630) Thus he comments, "experential health is an empirical subject in the study of alienation." (p.634)

With regard to functionally oriented definitions such as Parsons', ("Health is the state of optimum capacity of an individual for the effective performance of the roles and tasks for which he has been socialised." Parsons 1972, p.110), he counters with a quote by Dr. Eitzel, "Health is institutionally defined as the capacity to help produce the very surplus owners of the means of production appropriate." (p.636)

Siegmann (1976, p.531) also remarks on the implicit imperatives as to how the health goals set up by definitions may be reached. She notes the prospective expansion of medicine into the content activity of other domains in its attempt to reach these goals. As has been noted already, she traces the historical association between the disease scenario of the time and the conception of health prevalent in the literature.

4.3 The Problem of Integration at the Social Level

In 1973 Lerner posited the fundamental problem that may underlie the diversity of views on health at the social level, and may also show up the elusiveness of trying to conceive of health as 'well-being' or 'quality of life'.

He notes (p.7) that a "problem occurs when the aggregate of population whose health is being measured constitutes a "community". That is, a group bound by ties embodied in social institutions and sharing a common territory in which they live all or most of their lives and through which most of their fundamental needs are met. However health is defined, the health of a community, I believe, should be considered as more than just the aggregate of health statuses of the individuals comprising it. To use the terminology of philosophy it should be considered an emergent phenomenon, a whole whose properties cannot be predicted by reference merely to the properties of its parts. The logic of this is that some significant proportion of the wellbeing

of any individual is intimately associated with the health of his community qua community - the community considered as an entity - because men are social animals and achieve their distinctive humanity, wellbeing, and health only as members of their community. If this statement is accepted, as I believe it must be, many difficulties are raised...." Polanyi (1969, p.235) (in his theory of dual control of boundary conditions as they touch on the principle of stratified relations) provides an explanation for what Lerner described: "We can gradually descend to the components of a lower level by analysing a higher level, but the opposite process involves integration of the principles of the lower level and this integration may be beyond our powers."

4.4 The Diversity of Medical Definitions of Health

Health as the absence of disease: Here, health is the uninteresting opposite of disease. As has been noted, this definition is clearly established in the clinical method. Lewis (1953) summarises the traditional medical criteria in identifying disease as:

(1) The patient's experience of subjective feelings of sickness.

(2) The finding that he has some disordered functioning of some part.

(3) Symptoms which conform to a recognisable clinical pattern.

In other words a person is found to be diseased rather than healthy when these criteria fit a model of disease assumed by the physician. This definition is a reflection of the scientific method which medicine aspires to. Thus "a healthy person is someone who has been inadequately studied" (Twaddle 1974, p.31). With regard to measuring health, Chen and Bryant (1975) note that most measurement indexes are oriented towards disease and that, even if one considered health and disease as parallel continuums, the disease one would predominate and moreover "create semantic confusion in that it subsumes practically all other dimensions. For example, if an individual is diseased

(however defined) he has to be relatively vulnerable, relatively not achieving, relatively dissatisfied and relatively disabled." (p.262) Health as such disappears with scientific method. Such a definition has several shortcomings for all its analytic integrity.

(1) By fixing attention on familiar signs of malfunctioning, this definition tends to exclude the well functioning of the individual from analytic study.

(2) It excludes disease which cannot be classified into disease types. This can lead to professional frustration and patient invalidation. Symptoms and signs are rarely unambiguous either to the professional or the lay person. (see Acheson and Aird 1976, p.37-48)

Health as reserve: Blum (1976, p.28) defines this as "Resistance to a disease or the capacity to endure unusual somatic, psychic, or social pressures (a combination descriptor of somatic, psychic and social interactants.)" Wilson (1970, p.4) labels this "Health as compensated illness". It assumes that in a sense we are all ill and that health represents a positive achievement in counteracting the incursions of disease. This definition can accommodate those states of chronic illness and disability where the patient feels well and allows health to be a process rather than an outcome. But it is too vague to give useful clues as to severity and degree, there being a confusion of 'health' and 'illness' between several levels of complexity (see Blum, above). It raises the question as to how much compensation renders a person healthy. However it does feel towards the reality that a diabetic or an invalid may yet be considered healthy. As Rashkis (1971, p.803) notes, it is "possible to reduce the quantity of disease without increasing the feeling of health, and to increase health without reducing disease." This definition of health as reserve is very close to that of 'Health as normal', i.e. adequate, but here the emphasis is on health in the positive sense of 'actualisation' not in the negative sense of 'reduction' in a capital reserve.

Health as 'wellbeing' or 'quality of life': The definitions of Sigerist (1941) and WHO are examples of this conception. Being openended and value fraught it is a difficult concept to operationalise. Lerner (1973 p.8) comments, "Quality of life, an elusive concept, is evidently unmeasurable, perhaps even undefinable." Further, he writes "Quality of life and freedom from disability are not synonymous except in the grossest of terms." (p.10) Siegmann (1976 p.525) quotes Andrews and Withey, who review the results from several national surveys attempting to measure self-perceived life-quality. She comments, "There is now some empirical, evidence that suggests a separateness and distinction between 'health' and 'quality of life' .... the investigators had thought that if a person were in poor health this might dominate his overall life quality, regardless of how he felt about his housing, leisure pursuits or family. Since the data do not support this hypothesis, it becomes evident that there is a need to empirically justify supra health (i.e. supra-biomedical health) dimensions in a conceptualisation and measurement of health." Bice (1976 p.517) notes that when the concept of health embraces "various elements of what some label the quality of life .... it sweeps under the umbrella of health such disparate dimensions as happiness, social effectiveness, moral worth, and physical vitality." He concludes, (p.518) "If health status is one factor contributing to the wellbeing of society, then multivariate models will permit its impact on the outcomes of interest. If its influences predominate, attention will turn to the phenomena that influence health status .... However, if analysis shows that the effects of health direct or indirect are trivial, health status could be deleted from further consideration."

Another major feature of this conception is that it is sensitive to what levels of wellbeing society should or should not tolerate at any particular period of time. "One observer has in fact argued that the field of public health advances through the progressive re-definition of the unacceptable; a tolerable level of health in 1900 may well be intolerable in 1970." (Wilson, 1970 p.6)

Health as 'normal': Several approaches to the conception of health are founded upon the concept of 'normality'. The difficulty is that normality has several guises:

(1) Ideal
  (a) state of equilibrium
  (b) process of adaptation
(2) Statistical norm
  (a) mean or mode
  (b) range
(3) Dichotomy (Susser 1974, p.540)
(4) Adequacy (Wilson 1970, p.5)

(1) Ideal (a) The norm may be a model state of health. Canguilhem (in Herzlich 1973, p.6) writes the following about perfect health. "Strictly speaking, a norm does not exist, it plays the role of depreciating the existing to enable it to be put right. To say that perfect health does not exist is simply to say that the concept of health does not refer to something that exists, but to a norm whose function and value is that it be compared with the actual so that the latter may be changed." The WHO definition which has been constantly used over the last three decades confirms that its idealistic conception of health has strong appeal. It is however, holistic like the self-conceptions, it is value laden and is difficult to convert into measurable components. It puts the emphasis though on health as such, and on means of fostering 'positive' health - thus it is a concept essential to the efforts of primary prevention. (See Jahoda 1958, p.35) However, as Wilson (1970, p.10 and 11) cautions, "As we enlarge our conception of health to embrace group relationships as well as the functional processes of the individual we run into the danger of giving a limitless mandate to the health professional. If logically, 'all' of life, the total human universe, should come under his purview, this universe, nevertheless, is far from being his exclusive property."

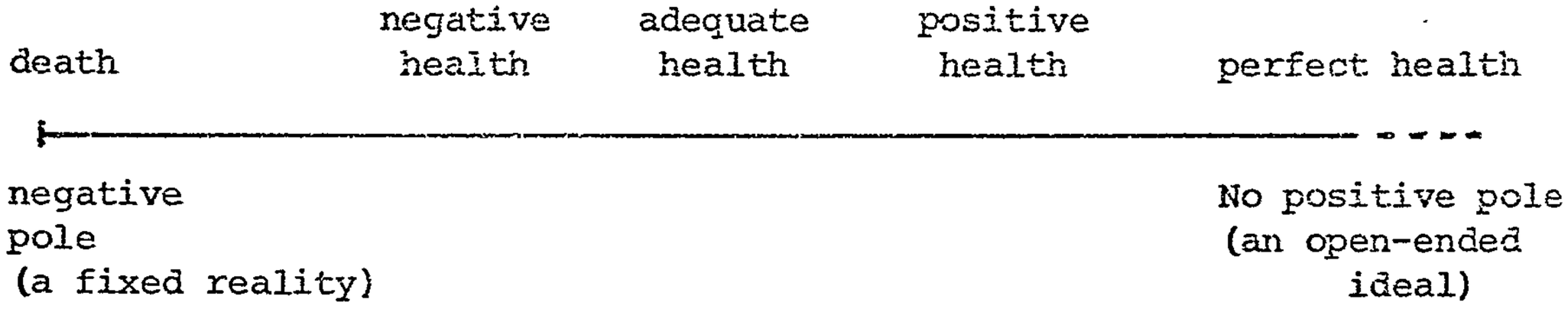
(b) The norm may also be a time dependent dynamic which is still unattainable. Wylie (1970) prefers a variant of Herbert Spenser's conception of health. He adds the word 'continuing' to alter the definition to "Health is the perfect, continuing adjustment of an organism to its environment." This elastic and open ended definition of health overcomes two major defects that he sees in the WHO definition: (1) the WHO definition implies that health and disease are different and mutually exclusive entities, rather than parts of the same dimension;

(2) his definition has the recognition of a time factor that accounts for prognosis which the WHO definition lacks.

His definition also focuses on the interaction of the individual with the environment rather than on the outcome of this as in the WHO definition.

(2) Statistical norm (a) Abnormality is defined by deviations from the mean or mode established from the distribution of a condition in the population being sampled. It is used especially with regard to growth and development, and signs such as body temperature, obesity, blood pressure. Statistical definitions are not reliable a priori since increasing numbers of studies which question the time sampling of variables and measure them continuously rather than at intervals as was traditionally the case, have shown wide variations from values previously believed normal. Zola (1966, p.616) concluded from a review of the literature, "instead of being a relatively infrequent or abnormal phenomenon, the empirical reality may be that illness, defined as the presence of clinically serious symptoms, is the statistical norm." Thus a statistical definition may be descriptive, but obviously has limited normative value.

(b) Normality may be established by convention as the range included within a certain number of standard deviations from the mean presupposing a normal distribution. Such a definition has links with the 'Normal as Adequacy' definition. It allows for health/disease to be seen on a continuum as follows:



(3) Dichotomy: Usually with regard to the place of pathology within the clinical method, health is considered as present or absent. Abnormality is all that is disordered in structure, impaired in function or in the process of change to either state, i.e. disease. No matter how health is considered, (ideal, adequacy, statistical range) there is a threshold where disease becomes the dominant concept. For the physician this is usually when criteria can be labelled as typical of a disease; for the lay person this is usually when his daily activities are reduced beyond a certain point.

Adequacy: The predominant feature in this definition of Normal health is neither that health is the most frequently occurring state nor that it is ideal, but that health is the condition of moderately effective functioning that shows no seriously disabling features. The emphasis is on the person as a 'going concern', who is to be evaluated as healthy unless there are such severe derangements that the body system, or the total behavioural repertoire or both are clearly inadequate to maintain the individual in his routine patterns of activity, e.g.

Dubos (1965, p.351) "The nearest approach to health is a physical and mental state fairly free of discomfort and pain which permits the person concerned to function as effectively and as long as possible in the environment where chance or choice has placed him."

Romano (1950, p.411) "Health in a positive sense consists in the capacity of the organism to maintain a balance in which it may be reasonably free of undue pain, discomfort, disability, or limitation of action, including social capacity."

Engel (1960, p.459) makes the comment about the Romano definition that although it is vague, "It is a useful starting point since it does not restrict us to any one parameter .... It permits us to conceptualise disturbances or failures at all levels of organisation - biochemical, cellular, organ, psychological, interpersonal, or social - and to consider their interrelationships. Further, it does not restrict us to any single etiologic concept but permits the application of a multifactor concept." The approach of 'Health as Adequacy' admits that the viewing of health is a relative affair so that individuals may be evaluated differentially, and alternative 'healths' recognised instead of one specific health standard which attempts to describe all levels. The difficulties are the determining roles played at the social level, whether by the lay or professional participants in the judgement as to whether health is 'adequate'. However, it does accommodate the chronic illness situation where a person may not feel 'sick' while having abnormalities at, for instance, the organic level.

4.5 The Lack of Medical Concensus About the Definition of Health

Presented with diversity of definitions in this review, one concurs with Kisch, who writes, "The important point in all this is the realisation that a disparity does exist today between those who are trying to define the product of the health care industry - health, and the majority of the professionals within the industry itself. The definers are increasingly thinking in broad terms extending beyond cellular pathology to mental and even social wellbeing, in line with recognition that health and the absence of disease are not synonymous." (Kisch 1974, p.270) There is the need to develop not only a concensus about how health is conceptualised, but a conceptual framework that

accommodates definitions of health at several levels, and provides guidelines for measurement criteria.

5. TOWARDS AN ADEQUATE CONCEPTUAL FRAMEWORK FOR HEALTH

5.1 The Convergence of the Medical and Self Concepts of Health

From the review of the diversity of medical conceptions of health one can draw parallels with the self conception of health (see Herzlich 1973 in particular).

Lay Concept of Health	Medical Concept of Health
(1) Health as an unconscious fact "Life with one's organs silent"	(1) Health as the absence of disease
(2) Health as the reserve to fight illness	(2) Health as Reserve or "Compensated Illness"
(3) Health as an Ideal	(3) Health as an Ideal
(4) Health as a conscious feeling of well-being and vitality	(4) Health as Well-being or 'Positive Health'
(5) Health as the ability to assimilate disorders, i.e. 'Equilibrium'	(5) Health as Adequate or conversely, Health as Reserve
(6) Health as an ambiguous feeling-state but with adequate functioning, i.e. 'Intermediate State'	(6) Health as Adequate

It will be seen below that with the reestablishment of the equilibrium concept of health in medicine there is now much more attention paid to factors other than the 'unit cause' (Engel 1960). The environment has been the focus of many studies. It will be noticed that it is largely seen as threatening of health in much the same way as the 'way of life' was considered detrimental in Herzlich's study. As well there is the tendency to also regard health as an attribute of the individual.

Leavell and Clark (1965) wrote "Health is a state of relative equilibrium of body form and function which results from its successive dynamic adjustment to forces tending to disturb it. It is not passive interplay between body substance and forces impinging upon it, but an active response of body forces working toward readjustment. Everyone has health of some kind: those in excellent condition with no complaints, those who are fairly well, those feeling under par, and those who are definitely ill. Thus health may be thought of on a graded scale, just as is disease or disability. It may be affected by living or non-living disease agents, by the inherent and acquired characteristics of man and by the many factors of the environment in which man lives." (p.14)

"The concept of singleness of cause gained momentum with the coming of the bacteriologic era to the extent that causes relating to the host and the environment were often forgotten in the enthusiasm over the isolation of specific living agents .... It is unreasonable and unrealistic to subscribe to such a concept .... . The additional causes lie in the environment, in the habits, customs, inherent constitution, and nutrition of those infected ....". (p.15)

"Neither health nor disease is static or stationary - Behind every condition of health or disease is the phenomenon of almost constant alteration. These conditions are continuing processes: a battle on the part of man to maintain a positive balance against biologic, physical, mental and social forces tending to disturb his health equilibrium. The potentialities for the success of man's struggle for health maintenance are manifested in his internal and external defense mechanisms against disease-producing stimulae, the great margins of safety and tissue reserves, and in the physiologic processes of repair of which he is capable. In regard to <u>communicable</u> disease, health depends on the outcome of a biologic phenomenon, the competition of living things, man and his parasites, for food, shelter and suitable conditions for propagation. In regard to <u>non-communicable</u> disease, man's health is a reflection of his success in combating non-living agents of disease. The latter agents may arise in man himself

as a result of heredity or of changes in physiologic function, or, just as infectious agents do, they may come from the environment outside man as a result of his inability to cope with disturbing external disease stimulae." (p.15)

"Every condition of health and disease in man has its origin in other processes before man himself is involved." (p.16) Leavell and Clark define prepathogenesis as the process of disease in the environment and pathogenesis as the process in man. They write that the ecologic concept of disease (deviation from health, see p.15) is "based on the three premises of the biologic laws (1) that disease results from an imbalance between the disease agents and man (the human host); (2) that the nature and extent of the imbalance depend upon the nature and characteristics of the host and agents, and (3) that the characteristics of agent and host (man) and their interaction are related to and depend largely upon the nature of the physical, social, economic, and biologic environment. The environment serves to bring certain agents and the host together and influence their characteristics and interrelationships." (p.50)

From the above quotes it can be seen that the conception of health as the positive outcome of the interaction of man and his environment focuses on equilibrium and relationship. The interaction is described as a 'battle' and the environment, potentially hostile, is seen as the necessary precursor which brings host and agent together, threatening the integrity of a person's health which may be reduced or altered into a disease state. There is the sense in the use of disease that indicates some threshold in the health continuum such that it may be described of in terms of the dichotomy 'health/disease'. Resistance is seen as primarily within man as a result of heredity and defense mechanisms. Priority is given to environmental factors at a number of levels of complexity - the physical, biological, social and economic.

Blum (1976, p.62,63) groups variables that affect health into four aggregates: (1) general physical environment

(2) behaviour, habits, life style

(3) genetic factors

(4) utilization of health services

and considers that "clearly the largest aggregate of forces resides in the human environment."

A WHO (1975, p.17 and 18) symposium considered the human environment because of "a host of new challenges arising from 'man made' rather than native made pathogenic agents." The purpose of the exercise was "to emphasise that the social environment is so inextricably linked with the biophysical one that it is economical, realistic, and necessary to view the human environment in toto..." The human environment was considered under the following headings:

The human environment

Socioeconomic stresses

Life stresses

Population pressure

Social change

Geographic and social mobility

Urbanization

Family patterns

The alienation of the elderly

Social institutions

Socio-cultural differences

Lerner (1977) used the classical exogenous/endogenous categorization of factors which determine health levels apart from the influence of the health care system. Again immediate parallels present themselves with the pre-scientific conception of health, e.g. Herzlich (1973).

Endogenous Factors:

(1) genetic

(2) biological - structural/anatomical
- physiological
- age, sex, weight, height, blood type, etc.

(3) temperament and personality - ability to withstand stress
- value placed on short term satisfactions.

(4) cognitive - level of health education

(5) behaviour-life style - major social roles
- level of living
- food and nutritional preferences and habits
- hygiene habits
- propensity to seek health and follow health regimes

Exogenous Factors:

- environment - physical - climate
- food
- elements
- ecological-balance among life forms
- social - interactions with groups
- family
- work colleagues
- friends and leisure time associates
- community - political organisation
- security and order
- moral values
- social control
- stratification
- public health

5.2 Systems Analysis as a Unifying Framework for the Conceptualisation of Health

While the parallels between the lay concepts of health and the medical concepts are noteworthy, they are not unexpected, given the historico-social development of both concepts and the obvious interaction that occurs in manifold ways. What is needed though, is a theoretical framework to bear upon both conceptions so that both the full diversity of the knowable reality of the subject and the clarity of analysis can unfold within a unified conception. It is all too obvious from the review of medical definitions of health that they do not reflect the diversity of the concept of health at all the levels. Most don't even focus on the interactions of man with his environment, though latterly more do. In terms of usefulness, disease definitions have proved more applicable at the lower levels of reality. Health definitions have related primarily to the higher levels of the hierarchy of reality.

The approach which goes a long way to providing a framework for these requirements is systems analysis. Sheldon, Baker and McLaughlin (1970) review the theoretical and historical roots of systems analysis in Chapter 1 of their book. The recent trend to study systems as an entity has grown in influence largely since World War II. Ludwig von Bertalanffy, the theoretical biologist who pioneered in promoting an organismic view in biology, first developed his "general systems theory" in the thirties. At that time theory was in bad repute in biology but by the late 1940's and early 1950's the intellectual climate had changed and model building had come back into fashion. Bertalanffy found his ideas well received. In part the increasing interest is an expression of a renewed quest for a 'general' theory in science, and in part it is an attempt to bridge the disciplinary gaps in an age of increasing specialisation.

In 1956 Boulding identified two objectives of general symptoms theory:

(1) to point out similarities in the theoretical constructions of different disciplines,

(2) at a higher level of ambition, to develop a spectrum of theories, a system of systems which could perform the function of a 'gestalt' in theoretical construction. Its value would be in directing researchers and theorists to gaps in theoretical models.

With regard to 'health' and its conception, it is in the first objective that systems analysis is a powerful theoretical tool. Blum (1976) in Chapter 4 draws on five useful but not exclusive categories of evidence to support a general systems logic.

(1) Historic trends in disease prevalence.

(2) Correlations of 'wellbeing' with specific demographic and environmental variables

Poverty and Affluence

Education

Occupational exposures

General physical environment - housing

- air pollution

- traffic

- noise

- stress - population and area/density

- sociological stresses

- life changes and stress

Behaviour, habits, life style

(3) Genetic contributions

(4) Utilization of scientific medicine

General availability and utilisation of care

Enhanced utilisation of care

Quality of care

Specific Relevance to selected populations at risk

(5) Hazards of medical care - iatrogenicity

Blum quotes Lazlo's description of the four attributes of natural systems:

(1) Natural systems are wholes with irreducible properties

Each system is more than the sum of its parts. Whether the natural system is an atom or the liver or a family of persons, the system is a distinctive whole made up of the inter-relating and interdependent parts that give it its unique characteristics. The systems range from the person level downward through the organic to the subject areas of the suborganic physical sciences; and upwards through the subject areas of the social sciences to the supra-organic systems. At the level of the 'Biosphere' all the sciences are called into play. (see Figure 3)

(2) Natural systems maintain themselves in a changing environment

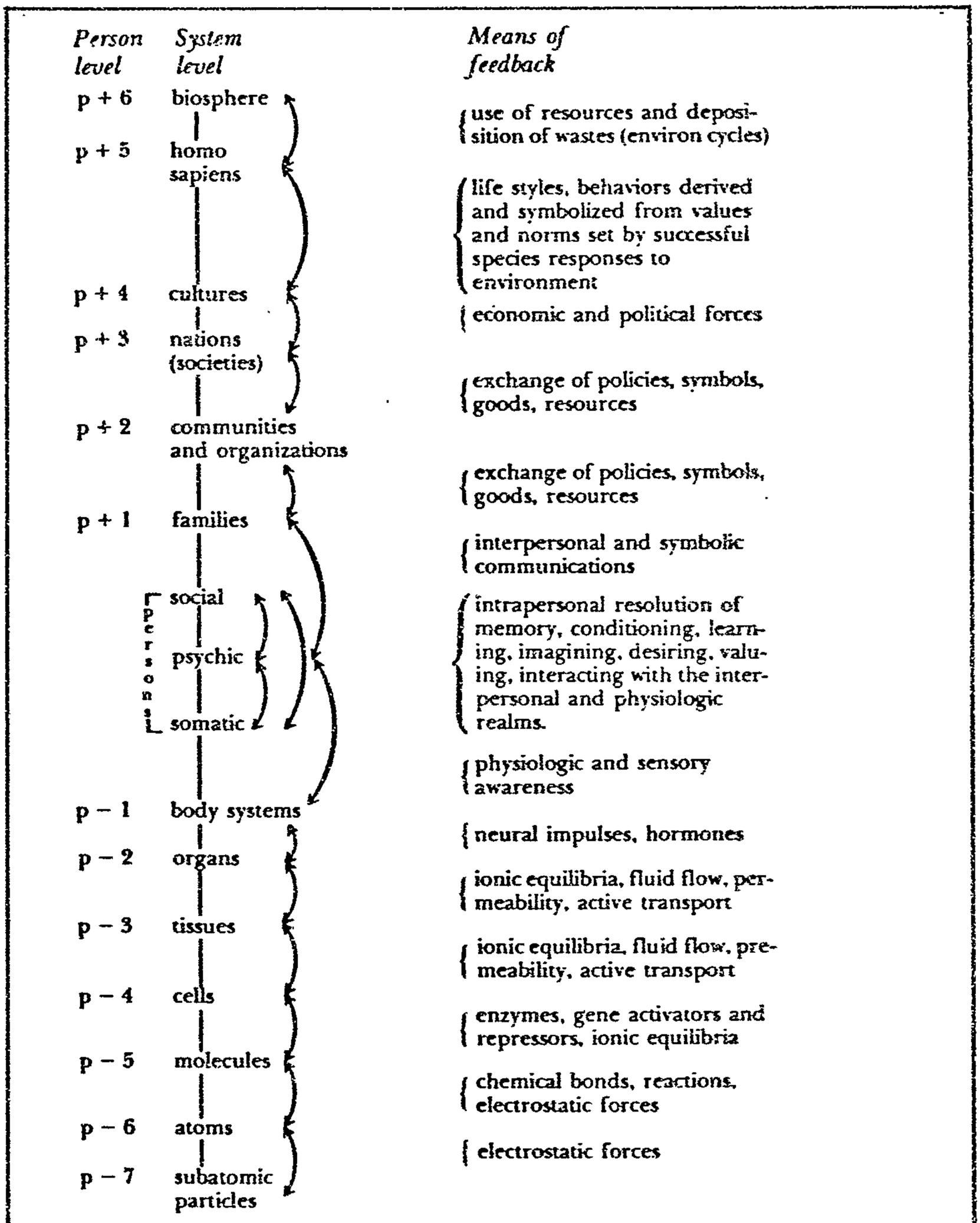
Natural systems are self-repairing and self-maintaining by means of energy taken in from one or another level of the systems above or below it in the hierarchy. The ongoing acquisition of energy and the 'creation' of material or energy and the disposal of wastes typifies the natural system as an open system in a steady state. The person is such a system. By means of feedback loops the system copes with disruptive forces and tends to return to a state of equilibrium.

(3) Natural systems create themselves in response to the challenge of the environment

They evolve new structures and functions over time. However natural systems cannot cope with rapid environmental change. This relates to the 'stress' factors in the environment which correlate directly with the level of ill health experienced by people. See WHO (1975).

(4) Natural systems are co-ordinating interfaces in nature's hierarchies

For Blum (1976) man is considered as a species Homo Sapiens. Man is seen as a hierarchy of natural systems, and health is seen as a function of the harmoniousness of the interrelationships between



Adapted from Howard Brody "The Systems View of Man: Implications for Medicine, Science and Ethics," *Perspectives in Biology and Medicine*, Autumn 1973, 71-91.

FIGURE 3

The Homo Sapiens Hierarchy of Natural Systems
and the Nature of Feedback Systems

From Blum 1976 (p.5)

systems levels. In Figure 3 "Good health typifies the human condition when there is harmonious interaction of all the 'homo sapiens' hierarchy of natural systems. Poor health is seen as the outcome of forces which perturb or disrupt the harmonious interaction of the homosapiens hierarchy of natural systems." (Blum 1976, p.7)

Blum (1976, p.20) makes the following generalisations about the relationships between systems levels:

"Perturbations in one systems level may spread to others. The application of a disruptive force at any level will tax the homeostatic mechanisms of that system to buffer or overcome that force because a given system(s) interfaces and is an inter-actant with the system above it (S + 1) and the ones directly below it (S - 1). Much of its homeostatic capacities are directly obtained from them, particularly from the subsystems.

Some forces overcome the homeostatic mechanisms of the system initially (S) and this disordered system in turn becomes a disruptive force in the system directly above it (S + 1) and the ones directly below it (S - 1). The more it is disturbed or damaged, the less it is able to co-ordinate and relate its own subsystems, and the more they will fall into chaotic and destructive interplay. A subsystem (S - 1) thus injured passes on its disrupting status to its own subsystems (S - 2) as well as back to its suprasystem (S) which was the site of the initial force and failure and which is now further deranged."

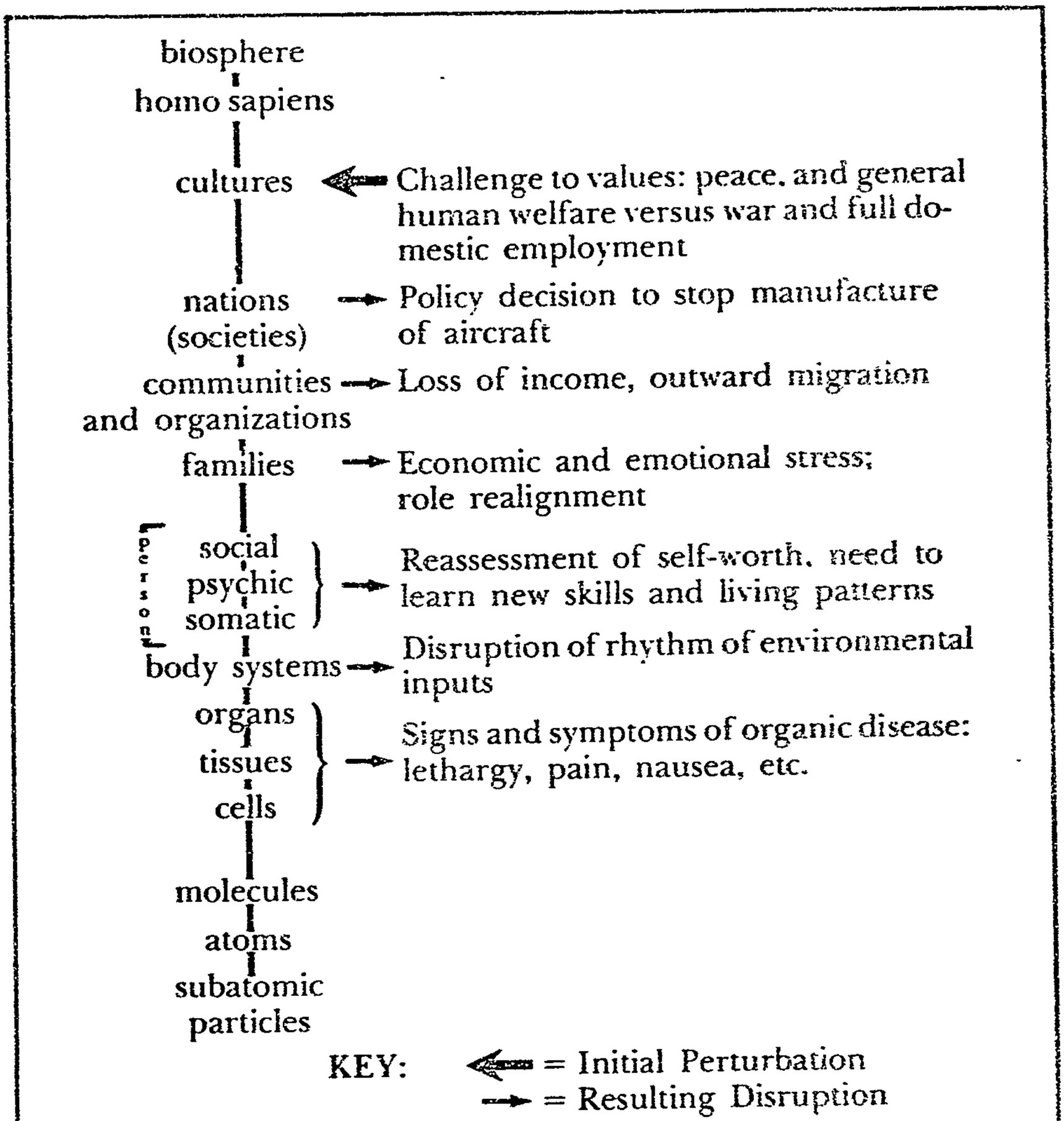
The same process can occur in an upwards direction. Thus the ripples of disequilibrium or perturbation may spread upward and downward from the level of system affected by the initial untoward force.

In Figure 3 Blum has visualised the hierarchy of systems so that the person level of the system is at the centre. The person may be

labelled p and the hierarchy of systems above him p + 1, through to p + 6 and those below from p - 1 through to p - 7. The ripples of disequilibrium can be visualised acting up and down the hierarchy of systems. And the health of the person can be conceived of as the consequence of and a factor in producing the movement of disequilibrium. In this scheme disequilibrium is another way of denoting ill-health or disease. The way in which perturbations may enter at any level and spread upwards and downwards is illustrated in Figures 4 and 5 (taken from Blum, 1976).

Thus health, when considered in this way, is determined by the quality of the interaction among various system levels in the hierarchy. Such a framework allows the person as unity to be considered as he interfaces with his supra- and sub-systems. Blum writes, "From the general systems point of view it is useful to describe the health of the person as the composite of three interacting and hierarchically related person level areas, the somatic (i.e. product of the organic and sub-organic system levels), the psychic (i.e. integrating function) and the social (i.e. suprasystem interactant level). Of course, the somatic, psychic and social integrating levels cannot be separated. The person is a physiologically integrated structured whole, composed of his subsystems which tell him of external, internal, and normal or abnormal pressures and states of affairs bearing upon him. At the same time he is a sociologically integrated or directed sub-system of the supra-organic levels of the homo sapiens hierarchy." (p.29)

Much of the scientific literature, though, deals with the somatic, psychic and social elements of a person separately because of its analytical end. However, the danger has been for workers "to ignore the real problems created by artificial boundaries which impose limited and often highly inappropriate choices of interventions to be applied to malfunctioning at the so-called social, psychic and somatic spheres." (p.31) It can be appreciated how systems approach allows a unified view of the totality of levels of systems and their



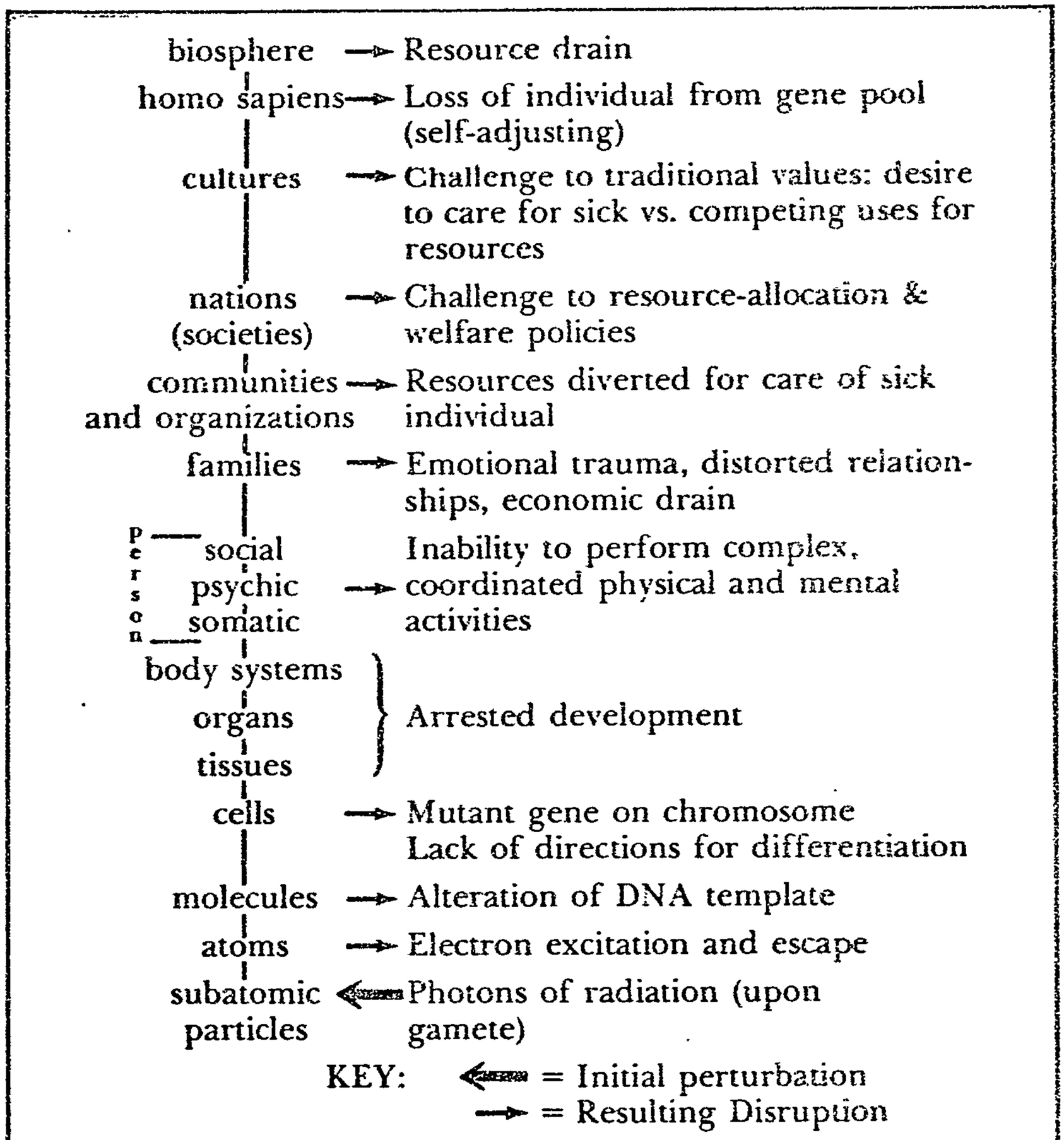
Disease example. Stress-related psychosomatic illness in an employed aerospace engineer: example of spread of disruption downward through the hierarchy.

Adapted from Howard Brody "The Systems View of Man: Implications for Medicine, Science and Ethics," *Perspectives in Biology and Medicine*, Autumn 1973, 71-91.

FIGURE 4

Downward Spread of Peturbations
from the Culture Level

From Blum 1976 (p.21)



Disease example. Severe physical and mental retardation caused by a radiation-induced mutation in the gamete: example of spread of disruption upward through the hierarchy.

Adapted from Howard Brody "The Systems View of Man: Implications for Medicine, Science and Ethics," *Perspectives in Biology and Medicine*, Autumn 1973, 71-91.

FIGURE 5

Upward Spread of Peturbations from the Subatomic Level

From Blum 1976 (p.22)

interaction. It accommodates both the prescientific self-concepts of health with their holistic grasp of reality at the person level, the scientific definitions of 'health' set predominantly at person level and above, and the 'disease' definitions set predominantly at the person level and below.

Bonnivie (1973) seems to have a systems framework in mind when he considers the concept of health in relation to the WHO definition.

Purola (1972) using such a framework, notes the problem of health and ill-health range from micro-processes of the human organism (systems levels p and downwards) to the macro processes of national, even international, health policy (systems levels p and upwards). By regarding the individual p as a psycho-biological system (embracing all the sub-systems) and considering the interactions with the individuals extend natural and social systems he postulates a simplified model which summarises how disturbance corresponds to the individual's illness, another which summarises how disturbance corresponds to the individual's illness, another which summarises the medical process and finally a systems approach to public health systems. He concludes by noting, "Proceeding from the fact that each individual is a unique element in both a natural and a social system, two subsystems were defined at the individual level - a man's internal psycho-biological system and his external system of social connections. Disease in the medical sense was defined as a disorder in the first one. In a broader orientation, illness is a disequilibrium between these two subsystems. Man's perception of this disequilibrium defines the concept of perceived illness ..... Man's awareness and perception is the regulating element that receives and integrates information from inside and outside and makes individuals react to disequilibrium between the state of the internal psycho-biologic system and the state of external system of social connections. These adaptive and adjustive reactions may by directed towards management and treatment of the external system of social connections. The former reactions refer to the traditional concept of medical treatment and the use of medical services. The latter reactions define

the concepts of illness and morbidity as changes in social participation..." (p.579)

5.3 A Multidimensional System Model for Conceptualising Health

Schlenger (1976) in response to Blum, Mechanic, Wylie, Jahoda, Parsons and others, postulates a new conceptual framework for health and ill-health. He argues that there are two fundamental and relatively independent components (see Sheldon, Baker and McLaughlin, 1970, for use of terminology) to the concept of health, and that these are related to underlying general processes of systems. The first of these is negative feedback processes which reduce deviation to maintain a steady state. The second of these is positive feedback processes which amplify deviance to produce change and growth. He argues that these two major components should be reflected in any conceptualisation of health. (Figure 6)

He notes that rather than health and ill-health being on a single continuum (Wilson 1970, Wylie 1970, Fanshel 1972, Kark 1974, Twaddle 1974, Bice 1976) there is the need for a two dimensional representation of health, as in figure 6. Schlenger notes (1) that the traditional one dimensional continuum confuses these two fundamentally different processes (see Rashkis 1971); (2) that at any point in time the dominance of the two components varies, with growth more powerful early in life and negative feedback predominating in the later stages; (3) that both the equilibrium and actualisation components are themselves multidimensional concepts. The examples he quotes to show the relevance of such a framework are set at the person level of systems (p) and above. For conceptualising motivation and job satisfaction such two dimensional conceptualisations have been found useful.

Susser (1972) used two dimensions to conceptualise definitions of health. The 'Breadth' dimension related to the areas which the health professions claimed jurisdiction over. By the 'Depth' dimension he meant "components at successive and increasingly complex levels of organisation, each of which can be conceived as subsystems, one

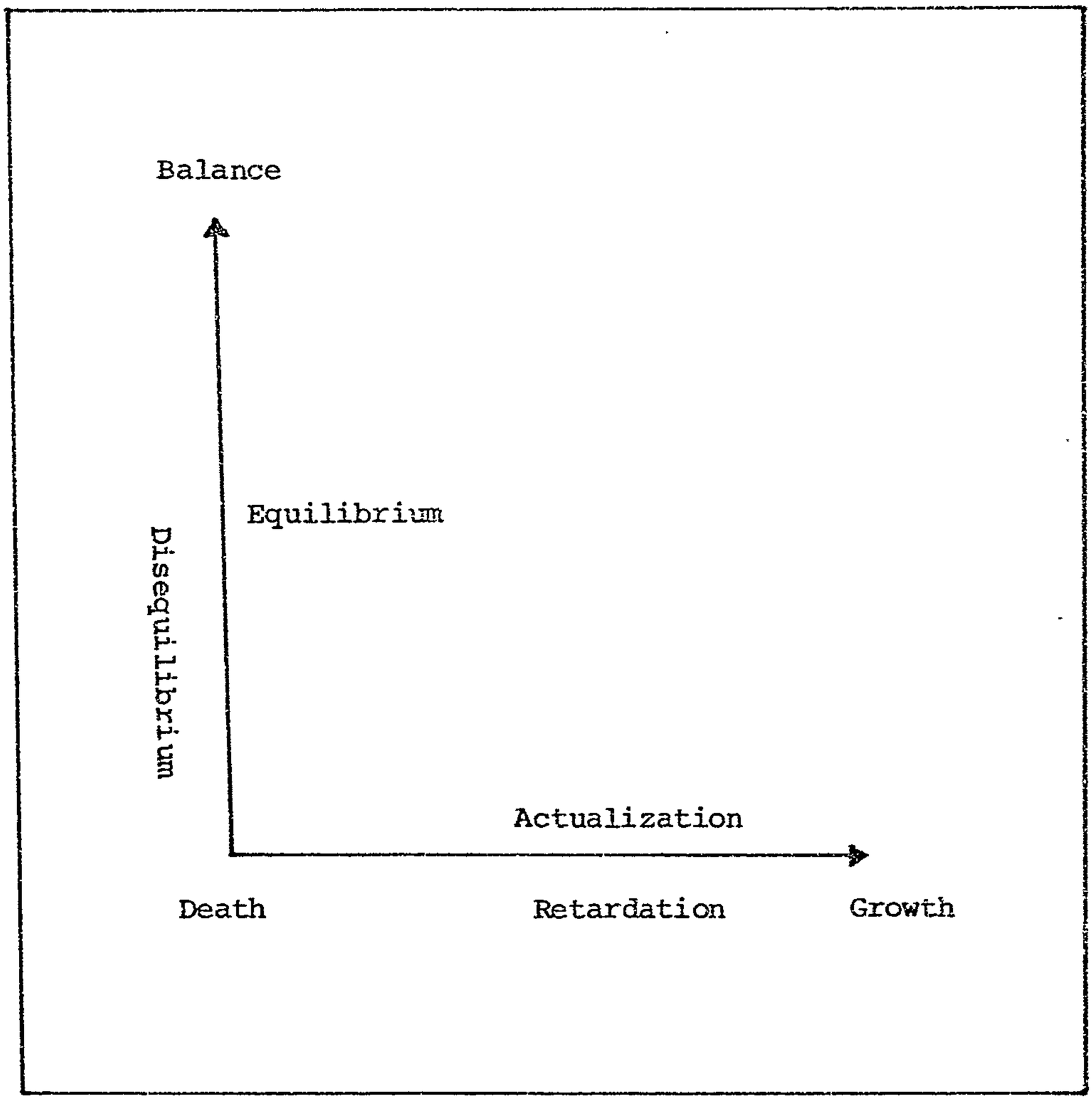


FIGURE 6

Graphic Representation of a Two-Dimensional Systems Framework for Conceptualising Health

From Schlenger 1976 (p.211)

encompassing another: thus the states of health can be defined in relation to an organic level, to a functional level, and to a social level." (p.541) He makes the following distinctions for each level of system disequilibrium:

(1) organic level : organic and physiologic disorder confined to individual
disease (if in process)

(2) functional level: psychologic awareness of dysfunction by the individual
illness (if in process)

(3) social level : social role assumed by individual in relation with others
sickness (if in process)
handicap (if static and persisting)

(c.f. Blum 1976, p.28)

Susser has as an explicit dimension the same systems level hierarchy that is assumed in the two-dimensional framework of Schlenger. Schlenger has noted already the multidimensional aspects of each of his two dimensions. The addition of such a dimension which explicitly denctes the hierarchy of systems levels would not add anything new. It would, however, prevent confusion and allow various definitions of health to be conceptualised, each at its appropriate level or levels. The function of such a 'hierarchical' or 'systems level' dimension would be to locate the other two dimensions conjointly or separately, at a particular level. Thus, it would avoid confused conceptualisation about what level the designation 'health' refers to and what fundamental component - equilibrium, actualisation, or both - relates to health as it is judged. (Figure 7)

Obviously all three dimensions would be time dependent. Such a three-dimensional framework might provide the conceptual parameters to adequately accommodate the diversity of knowable reality concerning health.

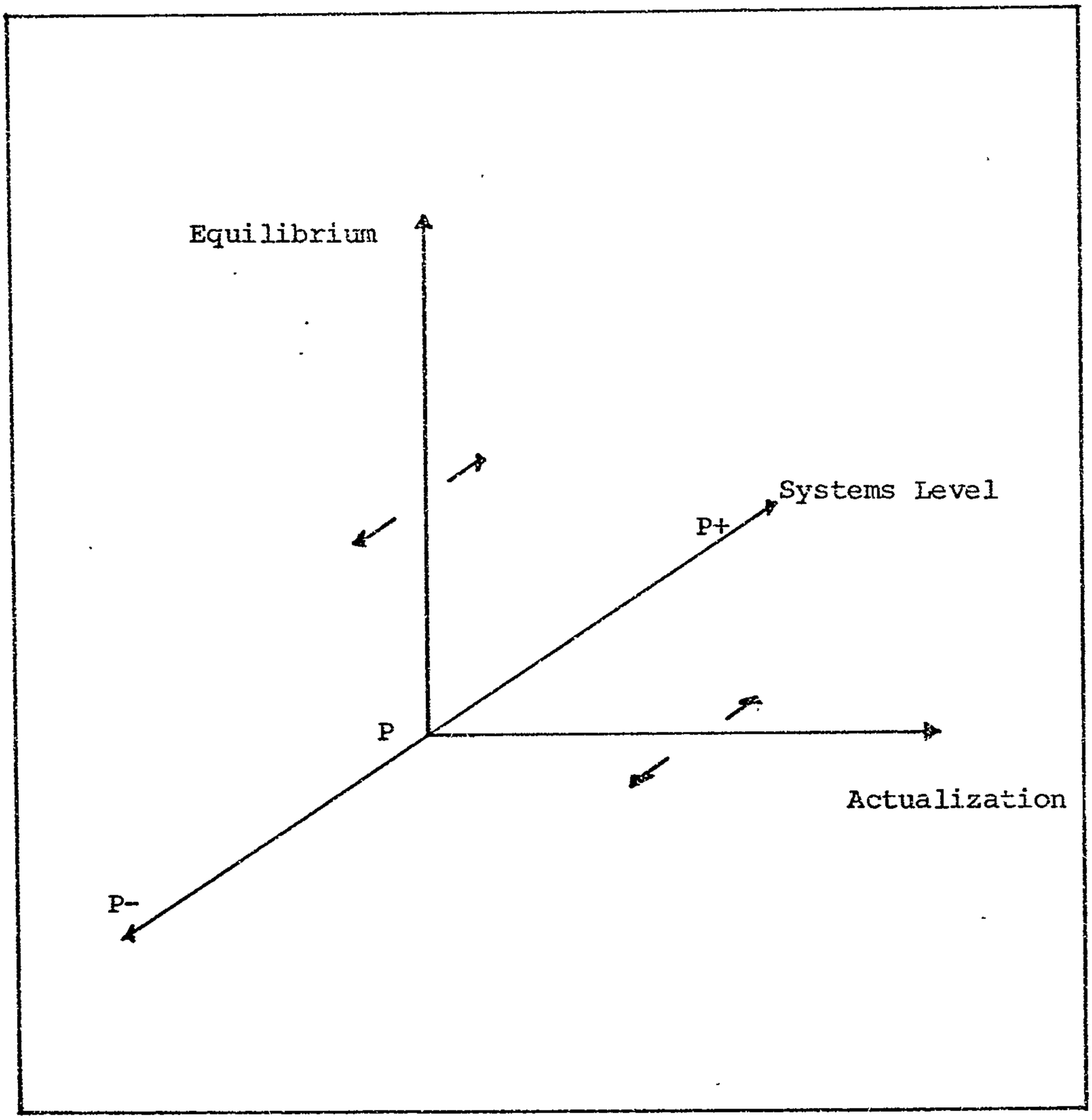


FIGURE 7

Graphic Representation of the Location of the Two-Dimensional Framework for Conceptualising Health in the Hierarchy of Natural Systems

6. SUMMARY

The renewed interest in 'health' as such was noted, as were the reasons for it being a problematic concept. A review of pertinent issues in the area of philosophy and science concluded with the theoretical contribution of Polanyi in two areas: tacit knowing, and dual control of boundary conditions in natural hierarchies. The introduction concluded with a discussion of terms.

The body of the thesis was divided into two parts: the lay conception of health; and the medical conception of health.

With regard to the lay conception of health, discussion commenced by noting the unique meaning of the body for the individual. The diversity and fragmented nature of the research, the professional bias in the perspective of many sociological studies, and the distracting influence of Parsons' sick role theory were discussed, prior to a selective review of the literature. The studies showed a remarkable consistency in the way in which people viewed health, even across differing cultural, socio-economic and demographic backgrounds. The concept of health was multidimensional and judged on information which might be unavailable to the physician. Health was mostly seen as an asset of the individual which could be protected by hygiene activities or depleted by sickness. Most often the environment or way of life was seen as the threat to health. Perception of health was related to positive feelings of vitality or to a recent rapid change in body state. Reduced activity gave meaning to signs and symptoms which were otherwise ambiguous. The lay conception of health was flexible, accommodating chronic illness or disability as well as an ideal which many judged themselves by.

With regard to the medical conception of health, the discussion began with a review of the history of concepts of health in Western medicine. This started with the prescientific concept of health as equilibrium.

Initially, attention focused on the individual, with the body being regarded as a machine in structure and then in function. Death formed an a priori to most dissection and gave meaning to disease. With the development of clinics, the focus changed to the pattern of signs and symptoms characteristic of a particular disease. At the beginning of the 19th century the conception of disease as an entity, gave way to the conception of disease as the interaction between host and environment. The popular social movements based on Hippocratic ideals in the 18th century had helped spawn the public health movement of the 19th century. This opened up the broad area of environmental factors and their effect with the accompanying medical activity in the field of public health. The germ theory focused attention back on the discrete domain of microorganisms but after the 1920's there was a reaction back to a holistic view of health as equilibrium, similar to the pre-scientific view. The sensitivity of health definitions to the disease environment and to social values was noted.

A review of the conceptual diversity of medical definitions began with the logical economy of falsifying health in the scientific method, thus giving a disease bias. Disease definitions were noted to be more operational in practice as most health definitions in medicine were posited at the personal and social levels, being affected by inherent value components. There seemed to be notable parallels between the lay and medical conceptions of health, as well as a lack of concensus among physicians on a definition of health.

Finally, in relation to this diversity of health definitions within and between the lay and medical domains, systems analysis provided a unifying framework, facilitating analysis of concepts of health: firstly, by establishing the levels and their interactions in a hierarchy of natural systems; and secondly, by means of negative and positive feedback loops, providing a means of distinguishing between the homeostatic and actualisation mechanisms in organisms. A two-dimensional model of the concept of health was reviewed in this regard and this was located within the hierarchy of systems levels to complete a conceptual framework for 'health'.

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