

PART II — MEDICAL ISSUES

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17. Mental health and mental disorder

INTRODUCTION

It is certainly possible for professionals who have only a bare appreciation of medical terms and ideas to make a useful contribution to tribunal proceedings. For this reason, a legal representative who has only limited time available to acquaint himself with the subject should concentrate on those issues already highlighted in the medical reports which are most obviously critical to the particular case. Chapter 11 deals with the general requirements of such reports while chapter 18 is in effect a glossary of common medical terms. Chapters 21 to 24 examine issues which often arise during proceedings involving patients with relatively common diagnoses such as schizophrenia and depression.

LEGAL SIGNIFICANCE OF MEDICAL CONCEPTS

While the particular situation may dictate a practical approach, an understanding of the concepts upon which the medical evidence is based improves the quality of decision-making and helps to ensure that citizens are not deprived of their liberty except on the surest of grounds. Because tribunal proceedings are a mixture of law and medicine, a purely legal approach to the work is unproductive, even for lawyers: it is not sufficient to understand only the legal part of what is a medico-legal subject. Although nowhere referred to in mental health legislation, various unspoken legal presumptions and conventions underpin the hearing procedures and their relevance and applicability are implicitly understood by all of the lawyers involved — for example, the requirements of natural justice, the duty to give proper and adequate reasons for decisions, the fact that secondary legislation gives way to primary legislation where they conflict, and so forth. The medical evidence similarly conceals a number of fundamental, and therefore unspoken, concepts and presumptions about which the law is silent but which, being accepted by most doctors, have a bearing on the conduct and outcome of the case — for example, the presumption that certain mental disorders are diseases, diagnostic conventions about the classification of disorders, and assumptions about prognosis. These conventions are significant both medically, in determining the treatment given compulsorily, and legally, because of their consequences for the individual's liberty. Consequently, it is important to understand both the legal and medical presumptions involved in any deprivation of liberty. This ability enables tribunal members and advocates to identify medical evidence and opinion which is of questionable validity or reliability, and so minimises the risk of a citizen remaining detained who would have been discharged if the evidence had been rigorously scrutinised. However, while it is impossible to follow the evidence or to identify the salient issues without a knowledge of medical concepts and terms,

the rote-learning of definitions is unhelpful. It is more useful to develop, appreciate, and understand the concepts embraced by the terms; otherwise, what the individual proponent is not always clear even to himself. To summarise, the taking of the evidence should never deteriorate into purely theoretical debates about legal or medical concepts. At the same time, the ideal situation — in terms of distilling the relevant issues, procedural fairness, and the quality of decision-making — is one where those present share a common, if usually silent, understanding about what part of the medical evidence is fact and what opinion, what is expert opinion and what supposition, which differences of opinion are worth exploring and which are incapable of resolution.

The role of the legal and lay members of a tribunal

While a positive finding of mental disorder should be founded upon some medical opinion which accords with an established diagnostic system, the non-medically qualified tribunal members are not otherwise bound to follow the medical advice.¹ Whether a citizen is mentally disordered is not an exclusively medical question, nor is the interpretation of medical evidence solely a matter for the tribunal's medical member. That this is so is reflected by the presence of two non-medical members on the tribunal: a lawyer to ensure that, whatever the clinical view, mental illness is not defined so broadly as to be incompatible with legal principles relating to individual liberty; a lay member to represent the common-sense view about what constitutes abnormality of mind — Lord Justice Lawton's ordinary, sensible, person.² These other members cannot derogate from their individual duties to independently assess the quality of the evidence. There will be times when the medical opinion expressed at a tribunal is divided and it falls to the non-medical members to exercise a quasi-clinical judgement about which view is to be preferred. In other cases, where medical opinion is united, the non-medical members will still have to weigh that evidence against other relevant considerations, including a civil patient's general right to liberty. The weight given to the diagnosis, and the value of predictions about response to treatment, compliance, and outcome, inevitably depend on many factors, including the validity and reliability of any diagnostic system used.

The role of the patient's authorised representative

The desirability of having an understanding of the medical issues is recognised by The Law Society, which requires prospective members of its Mental Health Panel to attend a course which includes a medical component. Because of the tribunal's obligation to hear certain applications within one week of their receipt, the patient's representative often has insufficient time to instruct a psychiatrist to provide an opinion of the evidence. In such cases, the medical report prepared by the patient's consultant will usually not be available until shortly before the hearing. The representative will have about half an hour to take further instructions, assess the evidence, prepare questions, and revise submissions. In other kinds of tribunal proceedings, the representative may face similar difficulties through being instructed or appointed late in the day. Whatever the nature of the proceedings, a representative will often need to consult medical textbooks or journals, examine the patient's case notes, and discuss medical issues with clients and other mental health professionals.

¹ See e.g. *R. v. Royse* (1981) 3 Cr.App.R.(S.) 58.

² See *W v. L.* [1974] Q.B. 711, C.A.

For all these reasons, the authorised representative requires a basic knowledge of psychiatric terms and classifications in order to present his client's case effectively.

THE PROBLEM OF DEFINITIONS

Professionals who are not legally qualified sometimes conceive of legislation, and legal concepts such as nuisance and the common law, as precise and unambiguous and not susceptible to conflicting interpretations. Many lawyers similarly think of medicine as a science and tend to believe that words like disease and schizophrenia have established meanings which are universally accepted by medical practitioners. This tendency to regard legal and medical terms as having value-free fixed meanings rather than as expressing concepts is, however, misplaced and merely reflects a failure to appreciate the problems which all professions experience in reaching agreement about ideas. Although lawyers have the advantage that certain words and phrases are statutorily defined, this is a limited blessing in practice because the meaning of the words which make up any statutory definition can equally be disputed. Locke observed that it is hardest to know the meaning of words when the ideas they stand for are very complex, or have no certain connection in nature, or when a word's meaning refers to a standard and that standard is not easily known.³ While acknowledging that some words have no meaning at all, Locke recognised that to require that all men should use words in the same sense and have clear ideas on them would be to expect they should talk of nothing but what they had clear ideas on, which was absurd. Words must be used in order to formulate theories⁴ and their precise meaning may only emerge gradually as the ideas in them are submitted to enquiry.⁵ While concepts such as disease and illness have "distinct though partly overlapping connotations which can be fairly precisely identified, there is nevertheless an arbitrary element in the labelling."⁶ There are also many words which cannot be defined at all. For example, the names of simple ideas such as colours and tastes cannot be defined: "This is clear, for if a thing has no parts you cannot enumerate its parts. Neglect of this simple truth has led to much confusion, persons trying to define everything, and thus giving rise to much wrangling and absurdity."⁷

Definitions and values

"Disease" is a fair example of a word which leaves the impression of being a scientific term capable of precise definition but, as Kendell⁸ has noted, is in fact a value-laden concept used in different senses by medical practitioners —

³ J. Locke, *An Essay concerning Human Understanding* (Clarendon Press, 1975), Bk. III, p.477.

⁴ When a word stands for a very complex idea it is not easy for men to form and retain that idea so exactly that it will not vary now and then. Hence such words have seldom in two men the same significance, and even the meaning changes from day to day. Furthermore, if men have not standards whereby to adjust the signification of these words, then the signification becomes doubtful and, the rule of propriety of language itself being nowhere established, it is often a matter of dispute whether this meaning or that is more correct, according to usage. *Ibid.*, pp.478-479.

⁵ K. Popper, "Conversation with Karl Popper" in B. Magee, *Modern British Philosophers* (Paladin, 1973).

⁶ M. Roth, "Psychiatric Diagnosis in Clinical and Scientific Settings" in *Psychiatric Diagnosis: Exploration of Biological Predators* (ed. H.S. Akiskal & W.L. Webb, S.P. Medical & Scientific Books, 1978), p.12.

⁷ C. Culver and B. Gert, *Philosophy in Medicine* (Oxford University Press, 1982), p.65.

⁸ R.C. Bocklin, *How to Reason* (Browne & Nolan Ltd., 3rd ed., 1906), p.160.

⁹ The Chief Medical Officer at the Scottish Office Home and Health Department at the time.

"If ... physicians are asked to explain why they regard some phenomena ... as diseases, and why they withhold this designation from others, it soon becomes apparent that they use different criteria on different occasions ... Such inconsistencies and contradictions raise the suspicion the 'disease' is not a scientific term ... I am forced to concede that if one studies the way the term is used in practice, by doctors, it is difficult to avoid the conclusion that disease is not a biomedical concept at all, and that doctors do not want to have their freedom of choice restricted by a definition. Whether or not they admit or recognize the fact, 'disease' is used by doctors themselves as a normative, or socio-political, concept. It implies simply that the condition in question is undesirable, and that on balance it is better dealt with by physicians and medical technology than by alternative institutions like the law (which would regard it as crime), or the church (which would regard it as sin) or sociology (which would regard it as deviant behaviour)."⁹

Whether particular kinds of behaviour, or the expression of particular ideas, are defined as a medical or as a legal problem, or both, may therefore be a matter of policy, a question of a society's values. Because this is so, the meaning of medical-legal terms — those medical terms which when applied to individuals have legal consequences — is rarely a matter only of professional judgement or professional interest. Consequently, the people through their Parliament require that tribunals include a lay member, that applications are made by persons other than doctors, and that decisions about whether conduct amounts to mental illness are not determined by medical criteria alone. Although it is fashionable to question the validity of any system which is value-based, the individuals who make up a particular society have different values and these must somehow be reconciled or weighted. In this context, it is simply important to recognise that there are also words the meaning of which people with different sets of values will never be able to agree.¹⁰

The approach taken in the text

Although the purpose of language is to facilitate communication, many medical terms have over the years become a barrier, rather than an aid, to understanding and progress. Once useful words often no longer carry their original or natural meaning, or have acquired a range of meanings, and the speaker must therefore be asked to clarify what *he* means by the term. The use of euphemisms has led to words being debased and distinctions blurred and authors do not themselves always adhere to the definitions which they give. This laxity is unfortunate because it tends to result in a lack of clarity whereas, as Culver and Gert note, "the logic of terminology should be exploited to reinforce the conceptual framework."¹¹ In dealing with medical terms and concepts, priority has generally been given in the text to the views of leading British psychiatrists and to definitions contained in internationally recognised medical publications such as the *International Classification of Diseases*, the *Lexicon of Psychiatric and Mental Health Terms*, and the *Diagnostic and Statistical Manual of Mental Disorders*. Occasionally, reference is also made to established American writers, such as Appleton and Kleinman at Harvard, but not to

⁹ R.E. Kendell, "Schizophrenia: A Medical View of a Medical Concept" in *What is Schizophrenia?* (ed. W.F. Flack, et. al., Springer-Verlag, 1990), pp.61-63. A point also made by Murphy: "too many heroin addicts on the street and a medical problem is redefined as a legal one, of keeping society safe." S. Murphy, *Experiencing and Explaining Disease* (The Open University Press, 1985), p.3.

¹⁰ See W.B. Gallie, *Philosophy and the Historical Understanding* (Chatto & Windus, 1964), p.189.

¹¹ *International Classification of Impairments, Disabilities, and Handicaps. A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), pp.32-33.

non-mainstream writers such as Laing and Szasz. This is because a legal textbook is not a proper place for opinions which if put forward before a tribunal would be unlikely to affect the outcome of the hearing. Subject to this restriction, the subject is not one that benefits from rigid lines of demarcation. Although it is customary to study, and therefore think of, the law in terms of theory and practice, the distinction is as artificial as separating out the medical and legal components of the subject, and simply reflects the existence historically of separate career structures for academic lawyers and legal practitioners.¹² Some conceptual framework or fundamental points of reference are a valuable aid to practice.

BIOLOGY AND MEDICINE

By custom, the physical sciences are chemistry and physics while biology is a natural science, the sciences being characterised by their rigorous, systematic, objective, and value-free observation and explanation of factual events. Medicine as a discipline comprises all facets of human biology and, because it is founded on biological knowledge, it is commonly described as medical science. Medical science approaches mental disorders as diseases which can be studied objectively in terms of abnormal cell structures and chemical imbalances. Conventionally, medical scientists are not concerned with "inner meanings" because they cannot be objectively measured. From this, it is sometimes inferred that medical knowledge, and more particularly psychiatric expert evidence, has an objective validity and reliability which sets it apart from most other kinds of evidence.

Medicine and other biological disciplines

Biology involves the scientific study of living organisms, their form, structure, functions, behaviour, origin, and distribution. Morphology, anatomy, physiology, cytology, histology and genetics are all sub-divisions of biology. The terms will be frequently encountered in the medical literature on mental disorder and they are therefore defined below. It should, however, be emphasised that the boundaries between these notionally distinct fields are artificial.

BIOLOGICAL DISCIPLINES

- **Morphology** The study of the form of animals and plants.
- **Anatomy** The study of the structure of animals and plants.
- **Physiology** The study of the function of animals and plants and their parts. Physiology is concerned with life processes, how organs work and function.
- **Cytology** A cell is the smallest unit of living matter which is capable of independent functioning. Cytology is the study of the structure (anatomy) of cells while cytopathology is the study of changes in cells caused by disease.

¹² Problems which can only be surmounted by developing mental health law along medical school lines, with legal practitioners dividing their time between client work and medico-legal academic study. However, the organisation of the legal profession and the legal aid scheme makes this difficult at present.

- **Pathology**
The use of the prefix patho- (from the Greek "pathos," suffering) denotes that a discipline is concerned with disease. Pathology is the study of disease and its causes, mechanisms and effects on the body.
- **Endocrinology**
Endocrinology is the branch of medicine which is concerned with the study, diagnosis and treatment of disorders affecting the endocrine (hormonal) system.
- **Mixed disciplines**
Neurophysiology is the study of the physiological basis of the nervous system — that is the relationship between mental events and physical events in the nervous system. Likewise, neuropsychiatry is concerned with the neurological basis of mental disorder and the relationship between the nervous system and mental functioning. Neuroanatomy is principally concerned with the structure of the nervous system.

DISCIPLINES RELATED TO PSYCHIATRY AND MEDICINE

- **Psychology**
Most psychologists have no medical qualification and psychology is not a branch of medicine. Psychology may be defined as the study of the mind and mental processes — behaviour, perception, thought, feeling, emotion, self-awareness and intellectual functioning — and clinical psychology is the application in a clinical setting of the principles derived from such study. Neuropsychology is concerned with the neurological basis of psychological functioning.
- **Philosophy**
Philosophy is literally the study and pursuit of wisdom and principles for the conduct of life. It includes ethics (and therefore medical ethics). Historically, philosophy and biology were the twin pillars of medicine, the practice of medicine requiring a knowledge of philosophy, but the approach is currently out of fashion.

Medical science

By convention, the defining feature of the scientific disciplines is that they share an approach to investigating the natural and physical world known as scientific investigation and scientific reasoning. Sciences deal only in reliable, quantifiable, data capable of being observed in a similar way by everyone. Scientific investigations are systematic, which means that an agreed and rigorous system for performing observations and measurements is followed. The scientific approach stresses the importance of unbiased observation and data collected without any preconceived notions: the observer does not speculate about possible principles before the evidence is collected in order to avoid influencing the data. Similarly, the scientist avoids making value judgements, opinions about whether what is being observed is desirable, because subjectivity of this kind also distorts observation. Only when sufficient facts are collected can principles or laws be sought to explain them. Induction — also referred to as inductive logic, inductive reasoning, or as the empirical approach — is the process of deriving general statements (theories) about the laws of nature from this detailed observation and accurate measurement of phenomena in the physical world. Hypotheses about associations and causal relationships between events are formulated and tested; failure to confirm expectations results in their rejection while success establishes the soundness of the underlying concepts. The value of a hypothesis lies in its predictive power, the

- **Histology**
Cells are grouped together to form tissues, each of which has a specialised function. Most organs are composed of two or more tissue types which perform one or more common functions. Histology is the study of the structure of tissues while histopathology is the study of changes in tissues caused by disease.

- **Biochemistry**
Chemistry is the study of the properties and interactions of the chemical atoms and molecules from which the world is made. Biochemistry deals with the chemical constitution of living things and involves the study of human structure and functions in terms of their chemistry. The chemical reactions that take place in the body are known collectively as metabolism. Metabolic reactions require a catalyst or enzyme. Enzyme-catalysed reactions result in chemical change, leading to the formation of a new chemical substance.
- **Biophysics**
Physics is the study of the forces that govern the properties of matter in the universe. Biophysics seeks to explain biological phenomena by applying the laws of physics.
- **Genetics**
Genetics is concerned with links between symptoms and inheritance and with the precise nature of inheritance.

The practice of medicine (clinical medicine) and psychiatry

The practice of medicine consists of the application of knowledge concerning human biology to the prevention and treatment of illness.¹³ This is often referred to as the biomedical approach to mental disorder. Psychiatry is that branch of medicine concerned with the study, diagnosis, treatment and prevention of mental disorder. A number of related specialist branches of medicine are defined below, although it should again be emphasised that the boundaries between them are artificial.

SPECIALIST BRANCHES OF MEDICINE

- **Psychiatry**
The psyche is the mind, the soul, and the use of the prefixes psycho- and psycho- indicate that a discipline deals with the psyche or mind. Although psychiatry literally means the healing of the psyche, in modern usage the word refers to that branch of medicine concerned with the study, diagnosis, treatment and prevention of mental disorder.
- **Neurology**
The use of the prefix neuro- (from the Greek "neuron," nerve) indicates that a discipline is concerned with the nervous system, including therefore the brain. Neurology is the branch of medicine concerned with the organisation and functioning of the brain and the nervous system.

¹³ See S.B. Guze, "Validating Criteria for Psychiatric Diagnosis: The Washington University Approach" in *Psychiatric Diagnosis: Exploration of Biological Predictors* (ed. H.S. Akiskal & W.L. Webb, S.P. Medical & Scientific Books, 1978), pp.49-59.

purpose of science being to explain why certain events or phenomena occur — to describe the world in an orderly fashion — and so to predict the outcome of events. In contrast to the sciences, the value of the arts and humanities lies in the very fact that they are unsystematic and impressionistic, involving the expression of subjective human experiences through the application of qualities such as sensitivity, intuition, empathy, feeling and creative thought.

Contemporary ideas about science

While the distinction just drawn will be familiar to many people, the classical description of the scientific method represents an ideal and, if used as the yardstick, there is then much that is unscientific about science. It is now generally accepted that the "idea of unbiased observation is a myth ... Sense data are chosen, simplified, and interpreted before being committed to memory."¹⁴ More fundamentally, scientific observation and reasoning have limitations¹⁵ while Popper has emphasised — many would say demonstrated — that observation and logic are not the sole basis for developing scientific theories: the generation of hypotheses may be largely intuitive, although they can be subjected to analytical reason when tested. This ability to intuitively reason, to break free of conventional thought processes and established scientific theory, lies at the root of many scientific breakthroughs and constitutes one of the highest human faculties. In Popper's phrase, "the history of science is everywhere speculative."¹⁶

Problems applying the scientific method to mental phenomena

Irrespective of whether one prefers the modern or classical viewpoint, there is broad acceptance about the very real problems involved in attempting to apply traditional scientific methods and reasoning to medicine and, in particular, to mental phenomena —

- Bradley has observed that while Newtonian principles of cause and effect leading to a world which is certain and predictable have been successful when applied to a wide spectrum of natural phenomena — including many relevant to medical practice — they fail to deal adequately with complex non-linear systems such as the whole human body, thermodynamics and weather patterns.¹⁷ Such complex systems do not behave predictably and the simple rules of cause and effect do not operate. The awareness that, within certain broad boundaries, it is possible for minor influences to have profound effects because of the amplifying effect of the non-linearity leads to the collapse of predictability.¹⁸

¹⁴ G. W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.27.

¹⁵ Hume pointed out that any generalization allowing predictions about an infinite number of possibilities from a finite number of observations is unsound since it involves a leap beyond the observations.

¹⁶ Sir Karl Popper, in J. Horgan, "Profile: Karl R. Popper, the intellectual warrior" *Scientific American* (November 1992), p.21.

¹⁷ G. W. Bradley, *Disease, Diagnosis and Decisions*, supra, pp.x-xi.

¹⁸ This realisation is sometimes referred to by scientists as "chaos theory." However, deprived of its scientific gloss, chaos theory is little more than an acknowledgement of the limits of science, i.e. that phenomena as complex as human behaviour cannot be predicted using scientific methods because of the number of variables involved. The importance of the observation in the context of psychiatry and tribunal proceedings mainly relates to assessments of dangerousness. However, it is also possible that certain diseases, such as schizophrenia and some cancers, are the result of "chaos" within the body, i.e. small changes in a critical variable but not a particular one.

- Scientific approaches to human conduct are hampered by the fact that the research subjects — human beings — are resistant to the rigid controls demanded by laboratory science.¹⁹ The response of a patient to disease does not allow closely controlled experiments. While, as Bradley notes, the mysteries of life can only be fully understood by examining living organisms, the simplest and most revealing experiments are often unethical.²⁰

- Because of this complexity of biological systems when studied in their entirety and the additional restrictions imposed by ethical considerations, it is common to take a reductionist approach and study a relatively small aspect of physiology or biochemistry to allow control of extraneous factors. Unfortunately, real life reintroduces these extraneous factors into the equation.

- The observation of human phenomena is more susceptible to distortion than is the observation of static phenomena. What is observed (that is what is seen and consciously recorded) depends on attentiveness and also personal opinion about what is significant and relevant. Some degree of subjectivity is inevitable and this partly explains why superficially similar research projects, including clinical trials of new drugs, produce different results. As yet there is no way of accurately measuring or compensating for observer distortion.²¹

- The absence of any universally accepted language for describing mental phenomena means that it is impossible to accurately and systematically record or communicate what is observed. Consequently, many controversies about subjects such as schizophrenia are essentially semantic, the by-products of a failure to agree the meaning of abstract nouns.²² While "all science depends on the ability to measure natural phenomena ... much psychiatric research in the last two decades has been concerned with the first task of science, that of learning how to define and measure the phenomena with which it deals. In psychiatry this is particularly difficult."²³

- If each person's thoughts and feelings are known only to that individual and cannot be directly observed or measured by others, this recognition that it is only feasible to scientifically observe and study human behaviour — the external manifestations of thoughts and feelings — is also a recognition that traditional scientific methods are limited to explaining surface phenomena. While it may be eminently sensible to restrict scientific inquiry to areas of human life which can be objectively observed and quantified, the scientist who accepts this restriction avoids matters of fundamental significance.

¹⁹ See *Studying health and disease* (ed. K. McConway, Open University Press, 1994), pp. 9–20.

²⁰ G. W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), pp.x-xi.

²¹ It would be possible to psychometrically rate the professional, political and social views of researchers and to publish those findings alongside the data concerning the patients' personality and health. Although such an approach has limitations, it might explain some of the variation both in what is observed and the scientific conclusions drawn from those observations (the degree of bias).

²² Locke's observations are again apposite: "Let us look into books of controversy and we shall see that the effect of obscure terms is only noise about sounds, the controversy is about names not things ... Here I desire it to be considered carefully whether the greater part of the disputes of the world are not about the signification of words and whether if the terms were defined all these disputes would not end of themselves." J. Locke, *An Essay concerning Human Understanding* (Clarendon Press, 1975), Bk. III, pp.510–512.

²³ C. Thompson, *The Instruments of Psychiatric Research* (John Wiley & Sons, 1989), p.2.

THE CONCEPT OF PERSONALITY

Not all conditions characterised by abnormal mental functioning are conceived of as an illness: certain forms of mental disorder are conceptualised, and therefore categorised, as disorders of the personality. Here, the individual's abnormal mental state is considered to be innate, the manifestation of an abnormal personality rather than the consequence of an illness overlying and distorting that personality. The concept implies a certain cohesion and "consistency of the personality as a backdrop upon which the vicissitudes of illness and other circumstances make transitory patterns, but the underlying features remain constant."²⁸

Definitions of personality

The *Lexicon of Psychiatric and Mental Health Terms* defines personality as "the ingrained patterns of thought, feeling, and behaviour characterising an individual's unique lifestyle and mode of adaptation, and resulting from constitutional factors, development, and social experience."²⁹ Schneider described personality as being the unique quality of the individual, his feelings and personal goals; it is the sum of his traits, habits and experiences; the whole system of relatively permanent tendencies, physical and mental, which are distinctive of a given individual.³⁰

Permanence and regularity

Most definitions of personality emphasise the relative permanence and regularity of certain personal characteristics, whether inherited or learnt, which consequently give behaviour an element of predictability. Personality has a genetic component and behaviour genetics is concerned with the pathway from genes to behaviour and the lifelong interactions between the genetic constitution of an individual (the genotype) and his environment. However, certain aspects of each individual's personality are generally considered to be acquired through learning. Learning may be defined as any relatively permanent change in behaviour which is brought about as a result of past experience, that is because of an association of events; the learner is not always aware that learning is taking place.³¹ An underlying biological assumption is that "if what is learnt at any one stage did not have some permanence, we would be endlessly open to change in response to events and circumstances ... It is the relative permanence of personality characteristics which fosters the maintenance of individual differences and these are thought to contribute to the preservation of the species within a changing physical and cultural environment."³²

Personality traits

The study of personality approaches it either by way of surface characteristics (traits) or by underlying tendencies, which may be described in terms of drives, needs and unconscious mechanisms. In genetics, a trait is the characteristic observable expression of a hereditary predisposition, for example red hair. The trait is

²⁸ A. Sims, *Symptoms in the Mind* (Baillière Tindall, 1988), p.299.

²⁹ *Lexicon of Psychiatric and Mental Health Terms* (World Health Organisation, 2nd ed., 1994), p.75.

³⁰ K. Schneider, *Clinical Psychopathology* (5th ed., trans. M.W. Hamilton, Grune & Stratton, 1958).

³¹ F.M. McPherson, "Psychology in relation to psychiatry" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.24.

³² S. Wolff, "Personality development" in *Companion to psychiatric studies*, supra, p.61.

Stated another way, while natural sciences benefit from a traditional scientific approach, establishing causal connections and associations between psychological events requires empathy. Although symptoms and signs — the public manifestation of inner mental processes — may be observed and, arguably, quantified by a neutral unbiased third party, eliciting the underlying causes of such phenomena — the private unobservable conflicts — requires this quality. Without it, there can be no understanding of the individual or the causes of his symptoms. The development and application of sympathy and intuitive understanding becomes a prerequisite for the objective observation of phenomena in others. Thus, Jaspers wrote that "natural science is indeed the groundwork of psychopathology and an essential element in it but the humanities are equally so and, with this, psychopathology does not become any less scientific but scientific in another way."²⁴

Summary

An understanding of these obstacles at the outset is important because it places the limitations of professional knowledge about mental disorder in context and explains why so many of the ideas and terms referred to in the text and in psychiatric reports suffer from a lack of clarity. Although science is generally associated with consistency and certainty, the scientific basis of clinical psychiatry is modest. The subject remains essentially impressionistic, lacks clear concepts and a universally agreed use of language, is of modest predictive value, and assessments often rely as much on the views of the examiner as the illness of the patient. In short, we still know less about the structure and functioning of the brain that we do about any other organ in the body and there remains much uncertainty about the diagnosis and management of disease. Given this state of knowledge, the successful practice of psychiatry necessarily relies as much on intuition as objective methodology or enquiry, and is part science and part art — "the artful application of science,"²⁵ "a personal skill which uses some of the tools of science, but which also goes beyond science,"²⁶ "the process of judgement involving a combination of knowledge, personal experience, common sense and humanity."²⁷ Acknowledging that we remain largely ignorant in this area, and will be known as such by future generations, is also a useful reminder of the need to be cautious before interfering with individual liberty and imposing forms of treatment whose mechanisms are not understood. Although one cannot be sure, there seems no reason to believe that our era is the first to escape from the historical trend that some contemporary forms of treatment are with hindsight later shown to have been misconceived. It is important to both seek the truth and to be wary of those who have found it.

²⁴ K. Jaspers, *General psychopathology* (trans. J. Hoening and M.W. Hamilton, Manchester University Press, 1962). The limitations of applying traditional scientific methods to mental phenomena have led some psychiatrists to favour a more humanistic, "phenomenological," approach to mental disorder. Phenomenology is the theory that behaviour is determined by the way in which the subject perceives reality at any moment and not by reality as it can be described in physical, objective terms.

²⁵ R.S. Greenberg, *Medical Epidemiology* (Appleton & Lange, 1993), p.58.

²⁶ D. Sedhous, *Health: The foundations for achievement* (John Wiley & Sons, 1986), p.95.

²⁷ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), pp.xiii and xvi.

therefore the outward manifestation so that, when the word is used, it describes something characteristic about a person's behaviour rather than his physique, a personality trait is "a constant or persistent way of behaving."³³ Although, strictly speaking, the trait is the observed characteristic behaviour rather than the recurrent tendency to it³⁴ — for example, aggression rather than aggressiveness — the assumption that observable behaviour patterns are the manifestations of unobservable dispositions within the individual's personality has led some authorities to define personality traits in terms of these generalised predispositions. Thus, the *Lexicon of Psychiatric and Mental Health Terms* defines a personality trait as "a constant purposive portion of the personality which is inferred from the totality of an individual's behaviour but never directly observed."³⁵ The predisposition may be towards some mental state (such as depression) or some mode of conduct (such as aggression or violence).³⁶ A personality trait is often compared and contrasted with the individual's mental state, which is a momentary or time-limited characteristic. For example, a person's mental state may be characterised by anxiety in a particular setting although he is not an anxious person in general.

Personality and behaviour disorder

What constitutes a disorder of personality depends on how normality and abnormality are defined (1031). A personality and behaviour disorder is defined in the *Lexicon of Psychiatric and Mental Health Terms* as one of "a variety of conditions and behaviour patterns of clinical significance that tend to be persistent and appear to be the expression of the individual's lifestyle and mode of relating to self and others. Specific personality disorders, mixed personality disorders, and enduring personality change are deeply ingrained and persisting behaviour patterns, manifested as inflexible responses to a broad range of personal and social situations. They represent extreme or significant deviations from the way in which the average individual in a given culture perceives, thinks, feels, and, particularly, relates to others."³⁷

Enduring personality changes

An enduring personality change is defined in the *Lexicon of Psychiatric and Mental Health Terms* as "a disorder of adult personality and behaviour that has developed following catastrophic or excessive prolonged stress, or following severe psychiatric illness, in an individual with no previous personality disorder. There is a definite and enduring change in the individual's pattern of perceiving, relating to, or thinking about the environment and the self. The personality change is associated with inflexible and maladaptive behaviour that was not present before the pathogenic experience and is not a manifestation of another mental disorder or a residual symptom of any antecedent mental disorder."³⁸

³³ See G.W. Allport, *Personality: a psychological interpretation* (Holt, 1937).

³⁴ G.L. Klerman and R.M.A. Hirschfeld, "Personality as a vulnerability factor: with special attention to clinical depression" in *Handbook of social psychiatry* (ed. A.S. Henderson & G.D. Burrows, Elsevier, 1988), pp.41-53.

³⁵ *Lexicon of Psychiatric and Mental Health Terms* (World Health Organisation, 2nd ed., 1994).

³⁶ If this approach is adopted, it must be borne in mind that because the traits are observed from behaviour so the direction of causality cannot be reversed and the trait then used to explain that behaviour.

³⁷ *Lexicon of Psychiatric and Mental Health Terms, supra, p.75.*

³⁸ *Ibid.*

Personality and intelligence

Intelligence is sometimes considered to form part of an individual's personality,³⁹ but it is probably more accurate to say that it is one of the factors which affects the way in which an individual's personality develops. Significant intellectual impairment may be associated with limited personal development and severe behavioural problems⁴⁰ although, as the classification of mental disorders set out in the Mental Health Act 1983 recognises, disordered conduct may result from personality problems essentially unrelated to the individual's intelligence — in which case the term "personality disorder" or "psychopathic disorder" is generally used to describe the condition.

Personality and mental illness

The individual's position in a stressful environment is somewhat analogous to that of a boat caught in inclement weather, with the boat representing the individual's brain, its crew his personality, the sea his hostile environment. Some ships are better constructed than others to survive and a well-equipped or well-trained crew is able to respond to the threat with a series of effective emergency measures: battening down the hatches, casting out drogues, pouring oil on troubled waters, and so on. If a ship is well designed and its crew well drilled, it may survive even a tempest largely intact because of its innate seaworthiness and measured responses. By contrast, the fair-weather, poorly-crewed, boats will capsize before the winds ever reach gale-force. Another analogy, used by Freud, is based on the fact that many gemstones split along well-defined cleavage planes which are characteristic for all specimens of that species. These lines of cleavage form along the weakest plane in the structure. Just as when a crystal glass shatters the fragments of glass are not entirely random but reflect the characteristic structure of the original vessel so Freud observed that when an individual becomes mentally ill the way in which he breaks down is determined by his type of personality. More recently, Armstrong has similarly suggested that dispositions are identical with structural causes.⁴¹ For example, the disposition to brittleness of glass is identical to its molecular structure and the habitual dispositions of the brain which we call personality likewise correspond to the structure of the individual's brain and nervous system. Structure and functioning virtually always go hand in hand, the established structure of an organism, or indeed a mechanical device such as a car, limiting and defining the way in which it can function. To summarise, an individual's personality determines and reflects the unique adjustment which he makes to his environment, including the unique way in which he becomes mentally ill. This is not surprising because what we refer to as an individual's personality is simply the tendency of his brain to function in certain characteristic ways — his ingrained patterns of thought, feeling, and behaviour — and these dispositions can only be attributed to the characteristic way in which his brain has developed and adapted to its environment, that is its structure.

³⁹ For example, Wolff describes the components of personality as temperament, intelligence, affect and motivation. See S. Wolff, "Personality development" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.60.

⁴⁰ As, more rarely, may abnormally high intelligence.

⁴¹ See D.M. Armstrong, *A Materialist Theory of the Mind* (Routledge and Kegan Paul, 1968).

PERSONALITY

- *Personality*
The unique quality of the individual, his feelings and personal goals; the sum of his traits, habits and experiences; the whole system of relatively permanent tendencies, physical and mental, which are distinctive of a given individual.
A constant or persistent way of behaving.
- *Personality trait*
- *Personality disorder*
A variety of conditions and behaviour patterns that tend to be persistent and appear to be the expression of the individual's lifestyle and mode of relating to self and others; they represent extreme or significant deviations from the way in which the average individual in a given culture perceives, thinks, feels, and, particularly, relates to others.

THE CONCEPT OF MIND

Disorders of the body, including the brain, are commonly referred to as being physical, organic or somatic while those "in the mind" are termed mental, psychological, psychiatric, or functional. The concept of a mind is fundamental to the law, being expressed in legal concepts such as mental illness, mental disorder, disorders and disabilities of mind, mens rea, and abnormality of mind. Descartes believed that the mind or psyche drove the body through the brain and the nerves and was qualitatively different from the body, being non-physical and non-material. It was in possessing a mind or soul that human beings differed from other animals. This distinction between material brain and immaterial mind (Cartesian dualism) encouraged the development of psychiatry and neurology as separate specialist fields. The brain, the sphere of neurology, was the organ through which the mind or psyche, the sphere of psychiatry, expressed itself.⁴² Neurology was concerned with organic disease, conditions known to be closely correlated with alterations of brain structure or a disorder of physiological or biochemical function. Psychiatry was the province of functional disturbances which could not be correlated with alterations of brain structure or biological function, the primary cause of which was related to stressful environmental influence. Although neurology dealt directly with the apparatus of the mind by investigating malfunction of the brain, paradoxically it paid scant attention to mental disorder itself. Similarly, psychiatry had relatively little to do with the hardware upon which the mind depended.⁴³ It is now generally

⁴² Yellowlees provides a good description of this distinction. "You are a pianist attempting to play Beethoven on a grand piano. The piano is your brain, gross damage to it corresponding to organic disease. You are a mixture of brain and mind, your technique being something little less mechanical than the piano itself, but your other qualities such as your enthusiasm for practice, your power of expression, your critical taste, and so forth, becoming less of the brain and more of the mind till we reach your love of music in general, which can never be learned or acquired but only developed. Your love of music and the quality of the piano on which you are forced to play are two entirely different things. They are, nevertheless, the two extremes of the whole chain of factors which determine the quality of the music you produce." Henry Yellowlees, *To Define True Madness* (Pelican Books, 1955), p.9.

⁴³ W.A. Lishman, *Organic Psychiatry, The Psychological Consequences of Cerebral Disorder* (Blackwell Scientific Publications, 2nd ed., 1987), p.ix.

considered that this historical disjunction between material brain and immaterial mind is artificial and akin to conceiving of the mind as the source of human thought and the heart as the source of human feeling. As Kendell has pointed out, all mental activity has a neurophysiological substrate and all mental events are accompanied by matching somatic events in the brain. In the last analysis "mental" and "biological" are one and the same. A headache may simultaneously be caused by changes in the blood flow through the brain ("biological") and be the effect of pressure of work ("mental"). Which language is used depends on the perceived objective — drugs to change the flow of blood to the brain or altering the conditions of work to lower the pressure.⁴⁴ However, while it may be a truism that the mind does not exist apart from the brain, the precise relationship between mind and body — and, more specifically, between mind and brain — remains unsolved, both medically and philosophically.⁴⁵ In particular, "the numerous findings that the neurosciences, relying on apparatus of ever-increasing sophistication, have produced about the functioning of the brain have not been accompanied by any significant advance in the understanding of ways in which structures or processes in the brain are translated into mental functioning, or how the brain relates to mind."⁴⁶ William James suggested that what we call mental states are functional states resulting from the complex interaction between ourselves and the outside world, a functional outcome of brain-world interaction; by analogy, digestion is the interaction of food with the tissues of the stomach and breathing the interaction of air and the lungs. So mental events refer to interactions between the brain and the environment which cannot be separated.⁴⁷ And Sir Gilbert Ryle has suggested that the distinction between mind and body is essentially grammatical whereby brain matter is described using nouns and pronouns, and the mind using verbs, adverbs and adjectives.⁴⁸ The two views are not incompatible.

THE BRAIN, MIND AND PERSONALITY

- *Brain*
The organ of the body within which thoughts, feelings, emotions, perceptions, sensations and moods are generated, experienced and memorised in response to stimuli received from the world outside it (the body and the environment).
- *Mind*
The way in which the brain functions, both in the present (an individual's mental state) and its tendency to function and respond to events outside it in certain habitual ways (the individual's personality, his tendency to certain mental states).
- *Mental state*
An individual's contemporaneous thoughts, feelings, emotions, perceptions, sensations, and mood.
- *Personality*
The whole system of relatively permanent abilities and tendencies distinctive of a given individual's brain.

⁴⁴ S. Murphy, *Experiencing and Explaining Disease* (The Open University Press, 1985), p.2.

⁴⁵ J.H. Pincus and G.J. Tucker, *Behavioral Neurology* (Oxford University Press, 1978), p.i.
⁴⁶ N Sartorius in *Sources and Traditions of Classification in Psychiatry* (ed. N Sartorius et al., World Health Organisation/ Hogrefe & Huber, 1990), p.2.

⁴⁷ W. James, *The principles of psychology* (Dover Press, 1890).

⁴⁸ G. Ryle, *The concept of mind* (Hutchinson, 1949).

Categorising mental functioning: cognition, affect and conation

The range of mental experiences being so vast, it is convenient to distinguish different kinds of mental functioning and skills, and mental phenomena have been divided into three great classes: the cognitive, conative and affective⁴⁹ —

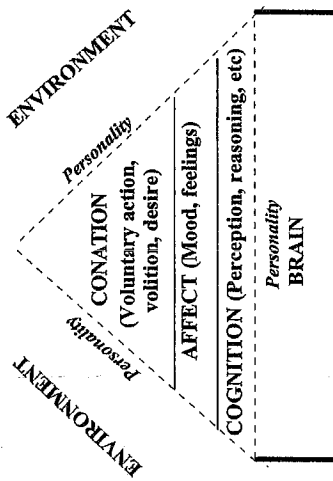
- Cognition is the quality of knowing and it includes perceiving, recognising, judging, sensing, reasoning and imagining. Cognitive skills represent the ability to take in information, to gain knowledge, to learn and to think; they also involve organising that information and knowledge so that it can be used usefully. Cognition is impaired in mentally impaired persons and organic conditions such as dementia.
- Conation is the faculty of volition, of voluntary action, will, striving, endeavour, desire (the "exertive powers"). Schizophrenia is characterised by passivity, that is impairment of the capacity for goal-directed voluntary action: the individual's well-being and actions are undermined by outside forces and hence outside his own control; in severe cases, these forces manage to penetrate his mind so that even his thoughts are no longer his but controlled, infiltrated, poisoned, stolen or made public by others; in other cases, even the patient's body may be immobile, passively assuming any position in which it is placed; while in enduring cases the passivity may crystallise over time in the form of negative symptoms such as lack of motivation and initiative, loss of interest and withdrawal from social contacts.

- A person's affect is how he appears to be emotionally affected by an idea or mental representation: it is the emotional tone or feeling which accompanies an idea or mental representation, such as happiness or sadness, pleasure or pain. The feelings are intermediate between the cognitions and the conations.⁵⁰ For example, an environmental event gives rise to a perception, which gives rise in turn to a feeling (how what is perceived affects the individual), and the way it affects him then determines the voluntary action taken in response to the original perception. Mood is the pervasive and sustained emotion which colours an individual's whole personality and perception of events. Consequently, it is sometimes described as sustained affect and mood disorders to involve a morbid change of affect.

The brain's tendency to distinguish three broad areas or classes of mental functioning gives rise to its corresponding tendency to categorise abnormal mental functioning according to which class of mental functioning and skills is impaired: organic (cognitive) disorders, the schizophrenias (conative disorders), and affective disorders. The three different classes of mental phenomena can be represented graphically. In the diagram below, the area within the dotted triangle represents the individual's mental state (the interaction of his brain with the world outside it) while the development of his personality is represented by the structure of the triangle, which both shapes and is shaped by the way in which his brain now interacts with the environment.

⁴⁹ See Sir W. Hamilton, *Metaphysics* (1859).

⁵⁰ *Ibid.*



HEALTH

Having considered what is meant by the terms personality and mind, it is necessary to consider what constitutes a healthy or normal personality and mind because a diagnosis of mental disorder implies a departure from a state of health. "Health" is equated with "perfect health" by the World Health Organisation, which describes it as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."⁵¹ In biological terms, health depends on the body maintaining its internal harmony (homeostasis). When that harmony is so disturbed that the body is unable to respond adequately to compensate for that disruption then disease occurs. Not only must the internal environment be maintained in a steady state but of equal importance is the maintenance of harmony with the external environment — with other species, such as bacteria and viruses, with physical factors, such as temperature, and with other people. Health involves such physiological and emotional matters as well as simple relationships with the physical world. The need to maintain both internal and external harmony is a feature of all living organisms and maintenance of this equilibrium requires that the body is able to grow and change over time, *i.e.* to develop normally.⁵² In more practical terms, health may be described as the standard of physical and mental functioning necessary for a person to perform the activities which are expected of him, according to the norms of the society in which he lives; all *disabling* disease, illness and handicap must be absent.⁵³

NORMALITY AND ABNORMALITY

Although abnormality is generally a key feature of any definition of disease — the identification of which depends on measurements and comparison against normal states — the problem of defining what is abnormal is particularly acute when considering mental phenomena and other medical conditions about which there is considerable debate as to what is normal and abnormal. For example, although risk

⁵¹ *Constitution of the World Health Organisation* (Geneva, 1946).

⁵² R. Ransom, *The Biology of Health & Disease* (The Open University Press, 1985), p.1.

⁵³ See Talcott Parsons, "Definitions of Health and Illness in the Light of American Values and Social Structure" in *Concepts of Health and Disease: Interdisciplinary perspectives* (ed. A.L. Caplan *et al.*, Addison-Wesley Publishing Co., 1981), p.69; D. Seedhouse, *Health: The foundations for achievement* (John Wiley & Sons, 1986), p.33.

factors increase in proportion to the blood pressure of persons who are hypertensive and obese, any dividing line between normal and abnormal can only be arbitrary. In order to define a group as normal it is necessary to exclude abnormal people, but to exclude abnormal people it is necessary to know what is normal. In such cases, therefore, distinctions between normal and abnormal states are ultimately arbitrary and prescriptive.⁵⁴ The way in which a person defines what is mentally normal and mentally abnormal will necessarily affect his ideas about the causes and treatment of mental disorder.

Types of normality

The word "normal" may be correctly used in at least four senses in the English language,⁵⁵ three of which merit consideration in this context.

Value norms

The use of the word "health" by the World Health Organisation to denote a state of complete well-being is often described as a "value norm" since it takes the ideal as its concept of normality and any departure from that ideal constitutes abnormal physical or mental health.⁵⁶ What is idealised depends upon our ideas about what is good and healthy which are, in turn, inseparable from our knowledge or thoughts on disease processes.⁵⁷ To this extent, illness is a socially defined concept and involves value judgements which are liable to change from time to time and place to place. Thus, Kendell observes that paedophilia is regarded as a psychiatric disorder but not homosexuality, not because of any assumed difference in the underlying causes of the two phenomena, but because our culture strongly disapproves of the former but not of the latter. Similarly, grief after bereavement is both expected and esteemed and we are loathe to label something we esteem as illness. Nevertheless, it is unlikely that the underlying biological mechanisms which we choose to describe as "grief" differ from states of severe depression which have some other cause.⁵⁸

Statistical norms

Since many biological characteristics, such as height, are distributed in a population according to the Gaussian curve, the statistical norm defines abnormality by reference to extreme variations. The statistical norm defines normal health as existing where an individual's level of mental functioning falls within a limited range around the mean or average value. Definitions of intelligence, and therefore mental handicap, are partly based on such statistical norms with an IQ of 100 denoting a person of statistically average intelligence compared with the population at large. Some definitions of disease also use the word "normal" in this way⁵⁹ and

⁵⁴ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), pp.17-18. The choice of the population from which normality is defined and environmental factors will be influential in deciding what is normal and abnormal.

⁵⁵ R.M. Mowbray, R.I. Ferguson and C.S. Mellor, *Psychology in relation to medicine* (Churchill Livingstone, 5th ed., 1979).

⁵⁶ A. Sims, *Symptoms in Mind* (Baillière Tindall, London, 1988), p.4.

⁵⁷ G.W. Bradley, *Disease, Diagnosis and Decisions*, *supra*, p.18.

⁵⁸ R.E. Kendell, "The nature of psychiatric disorders" in *Comparison to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.6.

⁵⁹ For example, Scadding's often-repeated definition of disease as being a statistical variation from the norm carrying "biological disadvantage." Examples of "biological disadvantage" are increased mortality (as in manic-depressive disorders) or decreased fecundity (as in schizophrenia), survival and reproduction being functions typical of our biological species and necessary to achieve the natural goals set by nature. See I.G. Scadding, "Diagnosis: the clinician and the computer" *Lancet* (1967), ii, 877-882.

Culver and Gert have commented: "The tendency in medicine to define a normal range for trait x and thereby to have discovered two new diseases — hyper- x and hypo- x ." The description of certain behaviour as eccentric — away from a central point — is a geometric expression of what is statistically normal, as are the two-dimensional scales used in psychometric testing.

Individual norms

A further possibility is to apply an "individual norm," that is to define physical and mental health by reference to the level of functioning which a particular individual has consistently maintained over time. Here, abnormality arises if there is a decline in a person's individual overall level of functioning.

Variability and deviation from the norm

However one defines what is normal, most individuals will be found to conform to the norm in relation to some but not all of their mental characteristics so that, when taken in aggregate, most of us fail to escape some departure from the norm.⁶¹ The amount of deviation regarded as being present in any particular case will depend on the definition of the norm in question, whether implicit or explicit. What we regard as illness or disorder appears to shade insensibly into normality and Campbell summarises the situation by stating that abnormality may be the result of disease in some cases and in others the expression of variability.⁶² It is, of course, possible to have a tolerant view of what is normal but to be intolerant of abnormality, and vice-versa, and consideration must be given to the feasibility and desirability of intervention to restore the norm.

Legal definitions

In general, definitions of mental impairment rely to a significant extent on a statistical norm, definitions of psychopathic disorder on statistical and value norms, and definitions of mental illness on an individual norm revealed through a full history of the patient's previous, pre-morbid, level of functioning. Another way of making essentially the same point is to say that the difference between normal behaviour on the one hand and mental impairment, neurosis and personality disorder on the other is essentially quantitative, while that between normal behaviour and mental illness is qualitative. In short, the difference between a person who is mentally impaired and a person of statistically average intelligence is one of degree, whereas the difference between sanity and insanity is expressed as absolute and one of kind, that is qualitative.

TERMS USED TO DESCRIBE ABNORMAL HEALTH

Various terms are used to describe abnormal physical and mental states or their consequences — abnormality, affliction, condition, defect, deviation, disability, disfigurement, disorder, disturbance, dysfunction, illness, injury, lesion, reaction, variant, wound.⁶³ The concepts of disorder (1034), illness (1035), disease (1038),

⁶⁰ C. Culver and B. Gert, *Philosophy in Medicine* (Oxford University Press, 1982).

⁶¹ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), p.34.

⁶² R.J. Campbell, *Psychiatric Dictionary* (Oxford University Press, 6th ed., 1989), p.4.

⁶³ *Ibid.*, p.205.

ILLNESS

Illness and sickness are essentially synonymous.⁶⁹ It has already been observed that there are considerable difficulties applying the concept of illness to mental phenomena because of the problem of deciding what constitutes a deviation from a mentally normal state of health. Illness may, however, be seen as the difference between a person's current state of being and functioning and his state of health immediately prior to the onset of a decline in his health, whether subjectively or objectively apparent.⁷⁰ Ill-health represents an interference "with the individual's ability to discharge those functions and obligations that are expected of him. In other words, the sick person is unable to sustain his accustomed social role and cannot maintain his customary relationships with others. This view is sufficiently broad to take account of the vast majority of calls that are likely to be made on a health care system. At one extreme, it embraces life-threatening disease, and, at the other, it includes less medical experiences such as anxiety or the wish for advice and counselling."⁷¹

Illness and disorder contrasted

In conventional usage, "mental illness" is more specific than "mental disorder" because the latter includes abnormal mental states which are part of an individual's ordinary personality or, more specifically, associated with low intelligence. This division of mentally abnormal states is found in both medical and legal classifications, which reflects the fact that mental health legislation has tended to import the broad classes of mentally abnormal states set out at the time in the World Health Organisation's International Classification of Diseases — the classification having been in official usage in the United Kingdom for half a century. The distinction, although ultimately artificial, is nevertheless useful. Linguistically, there is a need for an inclusive phrase to describe all mental states considered to be abnormal and further terms are then required to describe the different types of abnormal states most frequently encountered. Thus, intelligence is one of the factors affecting the way in which a person's personality develops and the fact that an individual's intelligence is low may give rise to behavioural problems. However, an individual's personality may be abnormal in some respect for reasons essentially unrelated to his intelligence. In other cases, a person's abnormal behaviour may be attributable to a mental illness overlying an distorting his usual personality.

⁶⁹ Inevitably, some writers distinguish between illness and sickness and would therefore disagree with this statement. For example, Susser describes illness as a subjective state of the person who feels aware of not being well, and "sickness" as a state of social dysfunction, i.e. a role that the individual assumes when ill. See M.W. Susser, *Causal Thinking in the Health Sciences* (Oxford University Press, 1973).

⁷⁰ Although an illness has been described as a departure from a state of health this is only true insofar as there was no immediately preceding disease or illness. Some writers, for example Kraupl Taylor and Jeremy Bentham, have stressed the self-defining nature of an illness in contrast to a disease which results in identifiable changes to the structure of the body's organs and not merely an alteration or decline in functioning: illness denotes a perception by a person that he or she is not well. The fact of a person perceiving himself to be unwell or attending a surgery with a complaint as to his health defines him as a patient and his complaint may be regarded as an illness since he feels or perceives a decline in his state of health. However, some mentally ill people do not perceive themselves as being in any way unwell and the approach is therefore defective in this respect.

⁷¹ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), p.10.

impairment (1128), disability (1128) and handicap (1129) are of par. .ar medico-legal importance since they are commonly used in both legal and psychiatric classifications of mentally abnormal states.

DISORDER

In their respective classifications, the American Psychiatric Association uses the term "mental disorder" and the World Health Organisation "mental and behavioural disorders" as their main generic terms.⁶⁴ "Disorder" is a broad term which denotes any significant departure from a state of normal health and it therefore includes diseases and illnesses. The current edition of the International Classification of Mental and Behavioural Disorders, published by the World Health Organisation, uses "disorder," in preference to disease and illness, to describe abnormal mental phenomena:

"The term "disorder" is used throughout the classification, so as to avoid even greater problems inherent in the use of terms such as 'disease' and 'illness.' 'Disorder' is not an exact term, but it is used here simply to imply the existence of a clinically recognisable set of symptoms or behaviour associated in most cases with distress and with interference with personal functions. Social deviance or conflict alone, without personal dysfunction, should not be included in mental disorder as defined here."⁶⁵

The term "mental disorder" is therefore relatively neutral and so has the advantage of not prejudicing consideration of the causes or treatment of such states of mind. Mental disorder is simply the opposite of mental health, that is the opposite of an ordered mind.

Mental health

Mental disorder

Psychiatry and mental disorder

Kendell notes that although the territory of psychiatry is still formally described as mental disorder, the term now embraces a far broader range of conditions than when first introduced.⁶⁶ In practice, the classification of certain disorders as mental or psychiatric is largely determined by the historical fact that these conditions have generally been treated by psychiatrists. Thus, Kendell observes that Alzheimer's disease and anorexia nervosa are classified as mental disorders but if the former were usually treated by neurologists it would be regarded as a neurological condition, and if the latter were usually treated by endocrinologists it would probably be regarded as an endocrine disorder.⁶⁷ Likewise, the fact that multi-infarct dementia is regarded and classified as a psychiatric rather than as a vascular disorder ... illustrates the utilitarian basis of such distinctions, and the distinction between neurological disorders and psychiatric disorders may be particularly artificial.⁶⁸

⁶⁴ P.R. McHugh, "Schizophrenia and the Disease Model" in *What is Schizophrenia?* (ed. W.F. Flack, et al., Springer-Verlag, 1990), p.74.

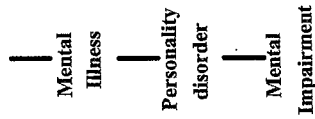
⁶⁵ *Classification of Mental and Behavioural Disorders* (Tenth Revision, ICD-10): *Clinical Descriptions and Diagnostic Guidelines* (World Health Organisation, 1992), p.5.

⁶⁶ R.E. Kendell, "The nature of psychiatric disorders" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.2.

⁶⁷ R.E. Kendell, "Schizophrenia: A Medical View of a Medical Concept" in *What is Schizophrenia?* *supra*, pp. 61-62.

⁶⁸ R.E. Kendell, "The nature of psychiatric disorders" in *Companion to psychiatric studies*, *supra*, p.4.

MENTAL HEALTH ————— MENTAL DISORDER



Describing the severity of a mental illness

It is common to distinguish between psychotic and neurotic states of mind. In psychosis, there is a disturbance of the patient's judgement of reality and this results in symptoms and disturbances in behaviour and daily living: "Psychosis implies loss of reality judgement, loss of insight and especially such positive symptoms as delusions, hallucinations and thought disorder. In neuroses, the symptoms are out of proportion to the stimulus, they may persist after the stimulus has been removed, and they are disabling; however, the experience of a neurotic patient is on a continuum and therefore within the powers of empathy and identification of a normal person."⁷²

Contemporary usage of the term "psychotic"

The term "psychosis" (literally, a diseased or abnormal condition of the mind) was devised by Feuchtersleben in 1845 as a common term for a variety of mental and personality disorders. Since then, the term has acquired a range of meanings, being used to describe severely impaired functioning; a state of mind defined by "impaired reality testing"⁷³; the presence of certain symptoms (e.g., hallucinations, delusions or stupor) or symptoms of a certain intensity; or to refer to certain classes of mental disorder such as the schizophrenias ("the psychoses"). The term "neurosis" (literally, a diseased or abnormal condition of the nervous system) underwent a similar change of usage and, by the end of the nineteenth century, had become associated with disorders arising from psychological conflict rather than from any disorder of the nervous system. Because the terms have ceased to have any universal meaning — and, linguistically, may be objected to as reflecting an obsolete dichotomy between disorders of the mind and the nervous system — the traditional division between neuroses and psychoses (the "neurotic-psychotic dichotomy") has been dropped from the 10th Revision of the International Classification of Diseases. Instead, disorders are "now arranged in groups according to major common themes or

⁷² A. Sims and D. Owens, *Psychiatry* (Baillière Tindall, 6th ed., 1993), p.34.

⁷³ The capacity to challenge bizarre perceptions — when a person is psychotic, he or she incorrectly evaluates the accuracy of his or her perceptions and thoughts and makes incorrect inferences about external reality, even in the face of contrary evidence. The term when used in this sense does not apply to minor distortions of reality that involve matters of relative judgement.

descriptive likenesses, which make for increased convenience of use...⁷⁴ The term "psychotic" is, however, retained as a convenient descriptive term "to indicate the presence of hallucinations, delusions, or a limited number of several abnormalities of behaviour, such as gross excitement and overactivity, marked psychomotor retardation, and catatonic behaviour."⁷⁵

Organic and functional mental illnesses

Apart from differentiating between the psychoses and neuroses, another customary distinction now frequently objected to is the description of different forms of mental illness as either "organic" or "functional." Where the human body is concerned, altered structure and disordered functioning virtually always go together although the severity of the resulting disorder will depend on the locality and extent of the damage, which may be gross or relatively mild.⁷⁶ Forms of disordered mental functioning which are attributable to some alteration in the structure of the brain or other organs of the nervous system as a result of disease, infection, or injury are often referred to as organic disorders. However, many individuals suffer from mental disorders which cannot be attributed to any known disease or structural damage to the body. A patient may suffer bizarre delusions for many years and yet, following his death, the post-mortem not reveal any apparent damage to the brain which might account for this. Functional disorders are mental disorders characterised by significant alterations in the functioning, that is in performance or operation, of the brain and the nervous system but without any known cause in terms of organic damage or changes in their structure. The two groups of mental disorders most commonly encountered at tribunals — the schizophrenias and the manic-depressive disorders — are commonly described as functional disorders. Functional disorders may be the result of as yet undiscovered structural defects in the brain or nervous system; have toxic, metabolic or physiological causes; or be "psychogenic" in origin.

Psychogenic disorders

The term "psychogenic disorder" — literally "originating within the mind or psyche" — was introduced into psychiatry by Sommer in 1894 and is used "widely and loosely to indicate attribution of aetiology to mental, psychological or emotional factors rather than to physical causes."⁷⁷ The term is sometimes erroneously used as a synonym for "functional disorder." Although psychogenic disorders are functional, in that their symptoms are not based on any detectable alterations in the structure of the brain, it is not true that all functional disorders are of emotional origin. For example, a drug-induced, temporary disturbance may produce many alterations in thinking, affect, and behaviour. Since such a disturbance does not depend upon structural changes in the brain, it is properly termed functional but cannot properly be considered to be of psychogenic origin.⁷⁸ As with the terms "neurotic," "organic"

⁷⁴ *Classification of Mental and Behavioural Disorders (Tenth Revision, ICD-10): Clinical Descriptions and Diagnostic Guidelines* (World Health Organisation, 1992), pp.3-4.

⁷⁵ *Ibid.*

⁷⁶ It should, however, be noted that structural damage to an organ can also be the effect of disordered functioning, rather than its cause, in the same way that faulty posture or functioning of various muscles may lead to curvature of the spine. Similarly, structural alterations in the brain may reflect its functioning in response to environmental stimuli over a sustained period.

⁷⁷ *Lexicon of Psychiatric and Mental Health Terms* (World Health Organisation, 1989), Vol. 1, p.64.

⁷⁸ Psychogenic disorders should also be distinguished from psychosomatic disorders. The term "psychosomatic" denotes a physical disorder seemingly caused or exacerbated by psychological factors. The ICD-10 classification does not use the term, in part because its use might be taken to imply that psychological factors play no role in the occurrence, course and outcome of other diseases that are not so described.

and "functional," the term "psychogenic" is now falling into disuse, due to the present ascendancy of the disease model. It is no longer used in the titles of categories of mental disorder in the International Classification of Diseases but still occurs occasionally in the text, where its use indicates that the diagnostician regards obvious life events or difficulties as playing an important role in the genesis of the disorder.¹⁷⁹

Summary

Many psychiatrists object to the organic-functional distinction because it implies a sort of dualism, "a belief that the world can be divided up into two sorts of causative process, one biological, the other mental."⁸⁰ From the biomedical perspective, the presumption that most psychiatric disorders should be assumed to involve a cerebral pathology of some kind implies that the distinction between organic and functional disorders is pointless. If this is true, there are no truly functional disorders although, by definition, intensive research into the brain basis of functional psychoses can never succeed in one sense: when brain disorder is established in particular cases these are no longer considered functional psychoses, precisely because a brain disorder has been established.⁸¹ Nevertheless, because of a lack of alternatives, the terms "organic" and "functional" are convenient epithets to distinguish between affective, schizophrenic and paranoid psychoses from dementias and confusional states. Furthermore, the failure to identify structural changes which account for the functional disorders may indicate that any defects are qualitatively different.⁸²

DISEASE

The World Health Organisation notes that "in contemplating illness phenomena it is customary to invoke the concept of disease."⁸³ However, the term is not defined in the International Classification of Diseases and, as Kendell has written, disease is an imprecise concept and one which is therefore not capable of precise definition.⁸⁴ While the function of medicine is to promote and preserve health by seeking out and destroying its enemy disease, in the same way that the law seeks to promote and preserve justice by rooting out injustice, neither can define what it is they are seeking to promote or eliminate. Nevertheless, the use of the term "disease" to describe abnormal mental states is now so widespread that its meaning, and the meaning of associated terms such as morbidity and pathology, must be considered.

Disease processes and the medical model

In general, psychiatrists tend to be "materialists," proponents of the "biomedical model" or "disease model," holding that organic or physiological causes will eventually be found for every kind of mental disorder. In viewing psychiatric disorders

⁷⁹ *Classification of Mental and Behavioural Disorders (Tenth Revision, ICD-10): Clinical Descriptions and Diagnostic Guidelines* (World Health Organisation, 1992), p.5.

⁸⁰ S. Murphy, *Experiencing and Explaining Disease* (The Open University Press, 1985), p.57.

⁸¹ D. Rogers, *Motor Disorder in Psychiatry: Towards a Neurological Psychiatry* (John Wiley & Sons, 1992), p.5.

⁸² R.E. Kendell, "The nature of psychiatric disorders" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.6.

⁸³ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), p.23.

⁸⁴ R.E. Kendell, "Schizophrenia: A Medical View of a Medical Concept" in *What is Schizophrenia?* (ed. W.F. Flack et al., Springer-Verlag, 1990), p.60. See 1017.

as disease entities, the medical model attempts to place psychiatry alongside neurology and general medicine. The "medical model of illness is dominated by the concept of disease, which may be depicted symbolically as a sequence,"⁸⁵



Viewing this sequence in reverse, the patient's disease comprises symptoms and signs which are the manifestations of certain pathological changes in the structure or biological functioning of his body, changes initiated by a particular cause or causes (the aetiology⁸⁶). Each type of pathology, or pathological process, produces a particular pattern of symptoms and signs. Although pathological states and processes are most often the product of a genetically determined predisposition within the body to react in a particular way to certain environmental events, more rarely a genetic defect alone is sufficient. The notion of disease and its derivatives, such as the International Classification of Diseases (1117), consider pathological phenomena — rather than their causes — as if unrelated to the individuals in whom they occur.⁸⁷ Bodies are thought to be complicated biochemical machines and the disease model assumes that medicine has produced a store of knowledge which can be applied to bodies as bodies, rather than bodies as people; disease can be cured by reducing bodies to their smallest constituent parts.⁸⁸ According to the disease model therefore, it is the pathology which produces the symptoms and signs, whereas in more psychologically-orientated approaches this middle-stage in the process is either non-existent or largely irrelevant: there is no mediating pathology and the patient's symptoms and signs are the direct consequence of their causes, that is defence mechanisms or other direct but distorted manifestations of the internal conflicts which torment the individual.

Associated terms

Three terms which relate to the disease process are morbidity, pathology and pathogenesis, and these are briefly dealt with below.

Morbidity

The word "morbid" indicates the presence of disease. "Pre-morbid" therefore refers to a patient's state of health prior to the onset of disease. However, the term is often loosely used in psychiatric reports, as a description of the patient's personality and level of functioning prior to some perceived decline in his health, *i.e.* before the onset of mental disorder generally rather than disease specifically.

⁸⁵ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), p.10.

⁸⁶ The American spelling "etiology" is used below in some quotations.

⁸⁷ *International Classification of Impairments, Disabilities, and Handicaps, supra*, p.23.

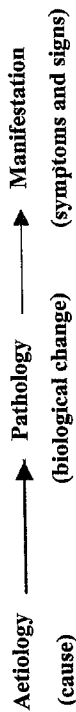
⁸⁸ D. Seedhouse, *Health: The foundations for achievement* (John Wiley & Sons, 1986), p.45.

Pathology

As a subject, pathology is the study of disease and its causes, mechanisms and effects on the body and it is customary to regard pathology as the basis of medicine and surgery.⁸⁹ When the morbid anatomy and altered physiology of a patient are understood, the clinical picture falls into place⁹⁰ and so medicine generally aims to make a diagnosis based on pathology, if only by inference.⁹¹ "Pathological" means "relating to disease"⁹² while "the pathology" is that anatomical or physiological abnormality which is responsible for the decline in the patient's health. Many diseases are named according to the pathological anatomy, for example hepatic cirrhosis, but this is as far as knowledge of the disease has progressed in some cases. Other diseases are not associated with clearly abnormal anatomy. The way organs function is also important; certain diseases are defined in physiological (atrial flutter), biochemical (porphyria) or microbiological (amoebiasis) terms. "True" disease status in general medicine is determined by the most definitive diagnostic method, commonly referred to as a "gold standard." So, for example, the gold standard for breast cancer diagnosis might be histopathologic confirmation of cancer in a surgical specimen.⁹³

Pathogenesis

The way in which a particular disease develops, and its precise relationship to the various factors believed to cause the disease process, is often unclear. Pathogenesis refers to "the postulated mechanisms by which the (a)etiologic agent produces disease."⁹⁴



Pathogenesis

Psychopathology

Psychopathology literally means the study of mental diseases or mental suffering and, in common usage, the word means nothing more than "the systematic study of abnormal experience, cognition (intellectual processes) and behaviour."⁹⁵ The word is therefore often used in psychiatric reports as a collective term for all of the patient's abnormal mental experiences.

⁸⁹ J.B. Walter and M.S. Israel, *General Pathology* (Churchill Livingstone, 4th ed., 1974), p.30.

⁹⁰ *Ibid.*

⁹¹ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.19.

⁹² Likewise, a pathogen is an organism capable of causing disease, that is a pathological process, while "pathogenicity refers to "the property of an organism that determines the extent to which overt disease is produced in an infected population, or the power of an organism to produce disease." See *A Dictionary of Epidemiology*, *supra*, p.122. Although "disease" literally means a state of unease and pathology is the study of suffering, the modern view that most unease and suffering has a physical cause which is best dealt with by doctors has led to this change in the word's usage.

⁹³ G.W. Bradley, *Disease, Diagnosis and Decisions*, *supra*, pp.12 and 15.

⁹⁴ *A Dictionary of Epidemiology* (ed. J.M. Last, 3rd ed., International Epidemiological Association/Oxford University Press, 1995), p.122.

⁹⁵ A. Sims and D. Owens, *Psychiatry* (Baillière Tindall, 6th ed., 1993), p.8.

A working definition

When people think about disease, the majority of them probably think of it as a process which has the following characteristics. Firstly, disease is a biological process. The process is not consciously desired and is not one within the control of the affected individual. Rather, once set in motion along its natural course, it has a "will of its own." It has a natural course and, without intervention, develops and interferes with the body in a certain characteristic way. Secondly, any changes in the structure of the body are not directly attributable to a recent, time-limited, and externally caused injury. Although mental disorder may result if the brain or nervous system is damaged by some external object penetrating or striking it, the injured organ is not usually thought of as diseased. An organ may therefore be damaged otherwise than through disease. Thirdly, while the recent ingestion of a toxic substance may set a disease process in motion, more often the body's biological harmony is restored following its excretion, in which case the body is not normally considered to have been diseased. Fourthly, the process must be abnormal for a person in that condition of life, because it is possible to be disabled or ill without being diseased. The normal ageing process (though leading to death), morning sickness during pregnancy, and depression following bereavement, are not generally considered to be diseases. Fifthly, as screening programmes demonstrate, a person may have no symptoms of illness and yet be diseased ("sub-clinical disease"). The early recognition of the transition from the healthy to the diseased condition may be difficult, if not impossible, and the individual affected may not be aware that his body is diseased.⁹⁶ Insofar as these suppositions are accepted, a "disease" may be defined as a disabling process characterised by involuntary changes in the patient's organs, tissues or cells, or the way in which they function, which is not naturally found in a person with the patient's characteristics in that particular stage of life.

Disease and illness contrasted

Disease is often thought of as the cause of illness, of the symptoms and signs which result in the individual's condition being referred to, or coming to the attention of, a doctor. For example, Field states that disease is somatic while illness relates to the psychological and social level.⁹⁷ And Bradley observes that, "in the research field, the research worker aims to discover the cause of disease and in the clinical field the physician seeks the cause of illness."⁹⁸ However, it is not true to say that disease is the cause of all illness: symptoms may develop that cannot currently be linked to any underlying disease process. According to the definition given above, a disease may also be described as an illness but not all illnesses are diseases. That is, not all illnesses are attributable to changes in the structure of the body, such as the brain, or to the way in which those structures function.

Disease and disorder contrasted

McHugh notes that disease is "a very loosely employed term in many circles" and "the most obvious laxity has been its drift into an all inclusive concept for

⁹⁶ D. Seegal, *Journal of the American Medical Association* (1962) 182: 1031.

⁹⁷ D. Field, "The Social Definition of Illness" in *An Introduction to Medical Sociology* (ed. D. Tuckett, Tavistock, 1976).

⁹⁸ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.15.

disorder.⁹⁹ To describe all abnormal mental phenomena as disease... merely a hypothesis. Furthermore, the concept of disease is "much more specific than disorder."¹⁰⁰ The "identification and study of deviance in mental deficiency and personality disorders ... is not, strictly speaking, the study of disease. The study of life burdens and the discouragement they produce in many individuals, and for which counselling is needed, is also not to be viewed as disease reasoning."¹⁰¹ Indeed, a limitation of the disease model is that it is self-validating and of semantic interest only if it is based upon an all-encompassing definition of what constitutes disease. If disease becomes merely a synonym for disorder then all mental disorders are *per se* diseases. More particularly, if even personality disorders are viewed as diseases, as the Reed Working Group implied,¹⁰² any mental state, gene, or personality trait which is personally or socially undesirable may be conceptualised as a disease and all mental disorders are necessarily diseases. Similarly, the fact that a common set of genes (XYZ) may be common to all persons suffering from schizophrenia might, depending upon one's view, be evidence that it is a disease (its biological pathology has been established) or merely that people with a certain type of personality are predisposed to developing schizophrenia (the XYZ genes determining sensitivity to criticism, low self-esteem, and inflexibility of response to a changing environment). That being so, disease is best viewed as the cause of some but not all kinds of mental illness.

Diseases as concepts

It can be seen from the description of the disease process that diseases are not things in themselves, merely descriptions of entities believed "to have characteristic signs and symptoms with known or discoverable underlying mechanisms and, ultimately, known or discoverable aetiologies."¹⁰³ They are simply models,¹⁰⁴ "concepts which make it easier to comprehend the variegated phenomena of ... illness than it would be otherwise."¹⁰⁵ In each case what is described as a disease is a pattern of factors which have occurred in sufficient people for a specific type of deviation from a particular norm to be identified.¹⁰⁶ Typically the process of identifying a "disease" evolves from the description of a few unusual cases, to the description of a general "disease pattern" (called a syndrome) for which the cause is not clear, to the description of a specific condition with a known cause.¹⁰⁷ "Disease reasoning" derives from this assumption that when disease is present,

⁹⁹ P. R. McHugh, "Schizophrenia and the Disease Model" in *What is Schizophrenia?* (ed. W.F. Flack, *et al.*, Springer-Verlag, 1990), p.73.

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*, p.75.

¹⁰² "Despite considerable research ... little is known ... of the cause or causes of diseases in the psychopathic disorder category." *Report of the Department of Health and Home Office Working Group on Psychopathic Disorder* (Department of Health and the Home Office, 1994), para. 9.2. The usage of the term "disease" here is similar to that in I.M. Peery & F.N. Miller, *Pathology* (Little Brown, 1971): "Disease is any disturbance of the structure or function of the body or any of its parts; an imbalance between the individual and his environment; a lack of perfect health."

¹⁰³ C. Culver and B. Gert, *Philosophy in Medicine* (Oxford University Press, 1982).

¹⁰⁴ P. R. McHugh, "Schizophrenia and the Disease Model," *supra*, p.76.

¹⁰⁵ R.E. Kendell, "Diagnosis and classification" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.278.

¹⁰⁶ D. Seedhouse, *Health: The foundations for achievement* (John Wiley & Sons, 1986), pp.26-27. It is generally at the syndrome stage that the underlying condition acquires the distinction of becoming a "disease." J.B. Walter and M.S. Israel, *General Pathology* (Churchill Livingstone, 4th ed., 1974), p.30.

"the cluster of features of a disorder that represent the manifestations of the specific disease will — with a complete understanding — turn out to rest upon some structural or functional abnormality of a body part. At some crucial level of organization of the body, patients with a given disease will all be seen to share a distinct anomaly. It will be provoked by several different agencies, but it will, ultimately, help to explain both these patients' qualitative distinction as sufferers of the disease from the broadly construed normal population in which they are sequestered, and their remarkable resemblance to each other in the characteristics marking them as sufferers of the condition."¹⁰⁸

In psychiatry, the underlying assumption is that psychiatric symptoms coalesce into distinct disorders having different aetiologies, distinguishable clinical presentations and natural courses, and different treatment responses, in the same way as do diseases of other organs. If the disease model is appropriate to a condition such as schizophrenia, knowledge of that condition will eventually "result in an appreciation of some damage to an intrinsic mechanism of the human brain essential to the smooth and proper functioning of mental life."¹⁰⁹ However, until that is established, the ascription of the term 'disease' is ultimately "hypothetical, unvalidated, and challengeable,"¹¹⁰ and a condition described as a disease "may be the name of a precisely defined disorder identified by a battery of tests, a probability statement based on consideration of what is most likely among several possibilities, or an opinion based on pattern recognition."¹¹¹

Disease as a normal response

The description of certain forms of mental disorder, such as schizophrenia, as diseases sometimes arouses the objection that such a perspective overlooks the fact that the patient's illness and distress represent an understandable and perhaps natural reaction to environmental events, and to that extent has a social or political dimension. In fact, many diseases, for example tuberculosis, are caused by exposure of the individual to environmental influences and social deprivation, and "the characteristics of each individual, and each disease, are the results of the interplay of two basic factors: inherited genetic constitution and environment."¹¹² Environmental influences may produce permanent changes within the nervous system¹¹³ and only relatively infrequently is the body's response abnormal and the result of innate genetic errors.¹¹⁴ Disease processes most often involve the body's normal responses to abnormal environmental influences. One example of this is the body's reaction to noxious external influences such as pathogenic organisms and dietary deficiencies.¹¹⁵ Indeed, "the most characteristic feature of living matter, apart from its reproductive capacity, is its ability to adapt to changing circumstances and to make good any damage that may be sustained. The mechanisms involved in the protective or reparative reactions are of fundamental importance; they are of a structural or

¹⁰⁸ P. R. McHugh, "Schizophrenia and the Disease Model" in *What is Schizophrenia?* (ed. W.F. Flack, *et al.*, Springer-Verlag, 1990), p.74.

¹⁰⁹ *Ibid.*, p.75.

¹¹⁰ *Ibid.*, p.74.

¹¹¹ *A Dictionary of Epidemiology* (ed. J.M. Last, 3rd ed., International Epidemiological Association/Oxford University Press, 1995), p.48.

¹¹² J.B. Walter and M.S. Israel, *General Pathology* (Churchill Livingstone, 4th ed., 1974), p.30.

¹¹³ J.H. Pincus and G.J. Tucker, *Behavioral Neurology* (Oxford University Press, 1978), intro. Even here, a few illnesses are advantageous in certain circumstances. For example, to have sickle cell trait in malaria infested countries is advantageous because of the resistance it provides against malaria. G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.17.

¹¹⁴ R. Ransom, *The Biology of Health & Disease* (The Open University Press, 1985), p.67.

chemical nature, and may be regarded as the units from which all biological lesions are built. The fact that certain circumstances are sufficiently common for the body's reaction to them to be regarded as 'diseases' does not detract from this concept.¹¹⁶ If certain forms of mental disorder are diseases, they are unlikely to be different in this respect.¹¹⁷ A damaging environmental event results in the registration of a memory and therefore a change within the brain: the "consistency and chronicity of the complex of symptoms developing after overwhelmingly terrifying experiences (post-traumatic stress disorder) strongly suggests that enduring changes in cerebral functioning have occurred, that the revealing phrase 'scarred for life' is more than a metaphor."¹¹⁸ Quite contrary to the maxim taught to young children, words and perceptions, and not merely "sticks and stones," may break bones.

Disease model and Cartesian dualism

It has already been noted that the historical distinction between material brain and immaterial mind — the world of thoughts, perceptions and feelings which the brain enables us to experience — is essentially artificial. All mental events are accompanied by a corresponding biological event. However, the fact that there is no real difference between the biological and the mental, between the psychological and the neurological, cuts both ways. A distressed body may give rise to abnormal thoughts but, equally, a distressing perception or thought may give rise to bodily disease of the brain, a kind of inflammatory response. As in general medicine, chronic inflammations most commonly arise in response to chronic infection and an inflammatory response may persist for months or years. It is therefore quite possible to conceive of schizophrenia as a disease which constitutes the body's normal pathological reaction to infection, with words and perceptions being the "immaterial" organisms. Because they are received by the body in a biological, that is a material, form, a thought or perception may be a toxic substance or poison in the same way as a "material" thing. The overall effect of these biological inputs (thoughts and perceptions) may be such that compensating for them disrupts the proper functioning of the organ. If so, the pathology comprises the body-brain's normal response to acute or chronic infection by words and perceptions, which constitute the infective organisms or pathogens. Moreover, because psychological approaches are directed towards aetiology and biological approaches towards the resulting pathology, the two approaches are not incompatible. Nevertheless, the fact that the brain's reaction is natural in the sense that it is explicable, and that most people's bodies would have reacted similarly to the environmental inputs, does not mean that the process is not a disease; any more than cancer is not a disease because it is a natural consequence of smoking. Furthermore, addressing and eliminating the cause does not generally suffice once the pathology has commenced its development along a natural course, just as stopping smoking is no cure for a cancer which has developed in response to smoking. The whole controversy about whether mental disorders such as schizophrenia are psychological or biological in origin may therefore be, in more than one sense, simply about the status of words — their reception and commitment to memory, and the cancerous effect of many memories, being biological in form.

¹¹⁶ J.B. Walter and M.S. Israel, *General Pathology* (Churchill Livingstone, 4th ed., 1974), p.30.
¹¹⁷ As with external conflict, such internal discord can most readily be understood by applying a dialectical approach, the conflict between the individual/biological organism and his environment (antithesis) producing a "synthesis," a modification of the status quo ante.
¹¹⁸ R.E. Kendell, "The nature of psychiatric disorders" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.5.

Summary

The disease model has revolutionised general medical practice by revealing the cause of many illnesses¹¹⁹ and has provided "a very efficient approach to disorders that can be prevented or cured — the impact of illness is relieved secondarily as the underlying condition is brought under control."¹²⁰ However, this has also led to "a huge split between the constructed object of biomedical cure — the dehumanised disease process — and the constructed object of most other healing systems — the all-too-humanly narrated pathos and pain and perplexity of the experience of suffering."¹²¹ Providing a meaningful explanation of the illness experience becomes "something physicians undertake with both hands tied behind the back."¹²²

Disease model and the organic-functional controversy

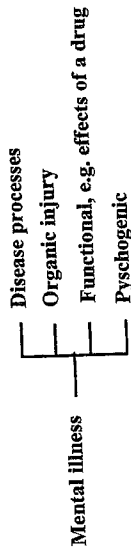
The concept of disease is narrower than that of organic disorder, insofar as the latter includes injury to the brain, but broader in that it incorporates the idea of disordered biological functioning not caused by structural damage to an organ such as the brain. Nevertheless, the debate about whether functional disorders such as schizophrenia are diseases is essentially an extension of the debate about whether all functional disorders are merely imperfectly understood organic disorders. The failure to identify structural differences in the brains and bodies of people with schizophrenia and manic-depressive illnesses has led to the revised hypothesis that all seriously disabling mental disorders are attributable to brain damage or disordered biological processes, and never psychogenic in origin.

Validity of the disease model

There is ultimately no agreement about the validity of the disease model as a way of understanding, investigating, and treating schizophrenia and affective disorders. "In the absence of convincing evidence, some continue to consider psychiatric disorders to be similar to ailments in general medicine and thus eventually definable as diseases, with specific causes, symptoms, course and outcome; others — with just as much conviction — preach the view that psychiatric problems are responses that are not specific to causes and therefore not appropriate to a system that classifies disease entities."¹²³ On the one hand is Kendell's view is that it is valid to assume that there must be something biological, which may one day be measurable, that distinguishes sufferers from non-sufferers: "such differences must exist ... although they are extremely elusive and may be of little help in either explaining or offering treatment for the distress."¹²⁴ For example, it may well be that the failure to establish the model's validity for illnesses such as schizophrenia is merely due to the fact that so little is known about how thoughts and perceptions are memorised and how they may later be evoked in ways outside conscious control. Nevertheless, on the other hand, "in spite of its promise, so prominent in the 1960s, research during the past

¹¹⁹ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.15.
¹²⁰ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), pp.10-11.
¹²¹ A. Kleinman, "What is Specific to Western Medicine" in *Companion Encyclopaedia of the History of Medicine* (ed. W.F. Bynum & R. Porter, Routledge, 1993), Vol. 1, p.19.
¹²² *Ibid.*
¹²³ N. Sartorius in *Sources and Traditions of Classification in Psychiatry* (ed. N. Sartorius et al., World Health Organisation/Hogrefe & Huber, 1990), p.2.
¹²⁴ S. Murphy, *Experiencing and Explaining Disease* (The Open University Press, 1985), p.57.

two decades failed to provide evidence that could help to create disease concepts and disease entities in psychiatry.¹¹²⁵ The "most telling reason to reject disease reasoning and this brain-based search for a pathological change in schizophrenia is that it has been the sinkhole of reputations for close to a century ... With proper controls, the claims for the discovery of the pathology of schizophrenia have evaporated. This fact should hold a cautious person back from the disease model."¹¹²⁶ Because legal decisions must be founded on evidence, not hypothesis or conjecture, it is not presently possible to go any further than to say that some mental illnesses may be caused by organic injury, some by disease, and others be functional or psychogenic in origin.



THE CAUSE OF MENTAL DISORDER (AETIOLOGY)

Aetiology is literally the study of causes. It has been noted that, according to the disease model (1038), the patient's disease comprises symptoms and signs which are the manifestations of certain pathological changes in the structure or functioning of the body, changes initiated by a particular cause or causes (the aetiology). Because the disease model holds that pathological bodily changes are the direct cause of the patient's symptoms and signs, the aetiology is therefore a step removed from this stage and refers to the causes of the disease process (the pathology). The relationship between the various factors believed to cause a particular disease process, and their connection with the way the disease develops, is usually unclear: the pathogenesis of a disease refers to the postulated mechanisms by which the causal agents produce disease.¹²⁷

NORMALITY AND ABNORMALITY

The World Health Organisation has observed that "the very notion of what will count as a causal agent in disease is connected with a normative view of the normal or healthy organism."¹²⁸ In other words, ideas about what causes mental disorder depend on how mental health and, by elimination, mental disorder are defined. A person who has a narrow, perhaps conventional, attitude about what is mentally normal will have a proportionally more inclusive view of what constitutes mental disorder than a person who is more accepting of individual variation. Arising from this, the former will also have a correspondingly broader view of what events may

¹²⁵ N. Sartorius in *Sources and Traditions of Classification in Psychiatry* (ed. N Sartorius et al., World Health Organisation/Hogrefe & Huber, 1990), p.2.
¹²⁶ P.R. McHugh, "Schizophrenia and the Disease Model" in *What is Schizophrenia?* (ed. W.F. Flack et al., Springer-Verlag, 1990), p.76.
¹²⁷ *A Dictionary of Epidemiology* (ed. J.M. Last, 3rd ed., International Epidemiological Association/Oxford University Press, 1995), p.122.
¹²⁸ *International Classification of Impairments, Disabilities, and Handicaps: A manual of classification relating to the consequences of disease* (World Health Organisation, 1976), p.33.

"cause" a person to become mental, disordered. Likewise, what is believed to cause severe depression — the aetiology of "major depressive disorders" — depends on whether the diagnostic category is restricted to persons who are suicidal or includes people with less serious disturbances of mood.

WHAT IS MEANT BY CAUSE

Descriptions of the aetiology of different kinds of mental disorder are also affected by ideas of what constitutes a cause. Cause and effect concerns associations in time between events, a point well illustrated by Bradley:

"If event B follows A it is said to be caused by A. In the simplest form this relationship is invariable; when a billiard ball is hit by a cue, the ball moves; and when a gas is heated in a sealed container the pressure increases. These effects are caused by a transfer of energy and the result of this transfer can be precisely calculated. When the events are closely connected the concept of cause is easily applied; even when there are several steps involved as in $A \rightarrow B \rightarrow C \rightarrow D$ the cause or sequence may be well established and is reliable."¹¹²⁹

Bradley then makes the following important points—

- While physics and mathematics have traditionally dealt with linear systems of the kind just described — because it is possible to make testable predictions — the situation is usually not so simple because many systems found in nature are non-linear; this is particularly true of biological systems. When a system is non-linear, small differences in the initial conditions can result in vastly different outcomes; although an outcome can be determined accurately if the initial conditions are known precisely, they never are.¹³⁰
- An outcome "often occurs as a result of a whole chain of events which are best regarded together as an effective causal complex. None of the various causes in the sequence may be essential even though, colloquially, they are regarded as the primary cause. A different set of causal factors could have the same end result and the choice of any one particular causal factor in this complex may be arbitrary."¹³¹
- Very few associations have a simple and invariable causal pathway connecting them; most events are connected by a series of possible causal pathways in parallel. Failure to appreciate this has led to futile arguments about the cause of disease and mental disorder. Although some people may argue that because 70 per cent. of cancers are caused by environmental factors then 50 per cent. cannot be genetically determined, the statements are compatible because, in many cases, both environmental and genetic factors influence disease.¹³²
- Notwithstanding these difficulties, "without a belief in cause and effect, without knowing that something will happen predictably, any common sense attempt to understand the world would be frustrated and scientific progress would be in jeopardy."¹³³

¹²⁹ G.W. Bradley, *Disease, Diagnosis and Decisions* (John Wiley & Sons, 1993), p.39.
¹³⁰ *Ibid.*, p.45.
¹³¹ *Ibid.*, p.39.
¹³² *Ibid.*, p.40.
¹³³ *Ibid.*, p.47.

Cause and coincidence

Cause is inferred and involves a retrospective interpretation of the likelihood of association between events. It is sometimes difficult to decide whether the occurrence of two or more effects is coincidence or the result of cause and effect. The problem is often seen with regard to a patient's improvement following the prescription of medication. The improvement of a considerable number of patients receiving a placebo during a clinical trial indicates that the improvement of some patients with drug therapy is not due to medication but natural remission and the involvement of other factors. Nevertheless, in practice, human vanity means that the coincidental improvement in their conditions is often interpreted by the doctor as having been caused by the treatment which he has prescribed.

Different levels of explanation

Failure to realise that what is regarded as having caused a person to become unwell depends on the perspective of the onlooker has led to many sterile debates about the causes of different kinds of mental disorder. When considering states of ill-health, there are always several levels of explanation and they are sometimes categorised as "bottom up" or "top down." Health and disease can be explained in terms of assumed abnormalities in an individual's biochemical make-up, as being located in the social order to the exclusion of biology, and in terms of the individual's unique personal life history — the level of parts of the person, the level of the individual person, the level of groups of persons. All living creatures, even the simplest, interact dynamically with their environment, constantly changing it, and themselves, in the process. Thus, while reductionist disciplines like biochemistry give up a bottom-up explanation, top-down explanations tend to explore the relationship between the whole animal and its environment. For example, several levels of explanation of why a person has developed tuberculosis are possible — the fact that he has certain bacteria in his body, that he was not immunised, that his mother had it and he has a genetic susceptibility, that he is too poor to heat his flat properly, that lesions formed in his lungs, that he is run down after years of being unemployed.¹³⁴ The point is well illustrated by the well known concept of "cause of death" recorded on a death certificate. The death certificate is a medical certificate and hence records all those diseases, morbid conditions, or injuries that resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries. The certificate does not record other significant circumstances which may have "caused" the death, such as "died of a broken heart," "died from over-work," or "died from poverty." Medical explanations are concerned with parts of the body and therefore termed biomedical explanations. Even here, there are many different levels of interest and what we regard as the causes of events again depends on the level of our interest. Thus, Bradley says that "in the research field, the research worker aims to discover the cause of disease and in the clinical field the physician seeks the cause of illness."¹³⁵

Multifactorial causes the norm

A determinant is any factor, such as a characteristic or an event, that brings about change in a person's health. Mental illness is almost always multifactorial in nature

¹³⁴ *Studying health and disease* (ed. K. McConway, Open University Press, 1994), p.5.

¹³⁵ G.W. Bradley, *Disease, Diagnosis and Decisions*, *supra*, p.39. It will be noted that this statement relates back to an essential difference between the ideas of disease and illness.

so that no single causative agent can be isolated. Biological, psychological and social determinants all need to be taken into account. It may be that many causes acting together have collectively caused the disease to develop: genetic factors (one parent had the illness), constitutional factors (a recent viral infection), psychodynamic factors (a recent bereavement), and social factors (the threat of redundancy). Some of these causes may be remote in time and the time lag or latent period between exposure to a risk factor and the diagnosis of a disease can be a few hours or decades. Obviously, "the greater the time between an initiating event and recognition of disease, the more difficult it may be to establish the linkage between risk factor and disease occurrence. The task is made even more challenging if the risk factor is a weak determinant ... or if multiple risk factors are involved."¹³⁶

Whether a cause is necessary or sufficient

One way of attempting to make sense of the multiplicity of causes involved in the development of human disease is to search for what are known as necessary and/or sufficient causes. A cause is termed "sufficient" when it inevitably initiates or produces an effect. A cause is "necessary" when it must always precede an effect although the effect need not be the sole result of the one cause. Any given factor may be necessary, sufficient, neither, or both —

RELATIVE IMPORTANCE OF CAUSES

Cause X is necessary and sufficient to cause Y (schizophrenia) • X and Y are always present together and nothing but X is needed to cause Y (X→Y)

Cause X is necessary but not sufficient to cause Y (schizophrenia) • X must be present when Y is present but Y is not always present when X is; some additional factor(s) must also be present (X and Z→Y)

Cause X is not sufficient but is necessary to cause Y (schizophrenia) • X is not necessary but is sufficient to cause Y. Y is present when X is, but X may or may not be present when Y is present, because Y has other causes and can occur without X (X→Y; Z→Y)

Cause X is neither necessary nor sufficient to cause Y (schizophrenia) • X is neither necessary nor sufficient to cause Y. Again, X may or may not be present when Y is present. However, if X is present with Y, some additional factor must also be present. Here X is a contributory cause of Y in some causal sequences (X and Z→Y; W and Z→Y)

Source: Adapted from *A Dictionary of Epidemiology* (ed. J.M. Last, Oxford University Press, 3rd Ed., 1995), p.25.

Genetic factors

The genetic study of any individual psychiatric illness "is concerned with whether a link can be found between symptoms and inheritance, and what is the precise nature of inheritance."¹³⁷ Establishing familiarity (that a condition runs in families) is not sufficient evidence of genetic involvement. The medical literature on the genetic basis of psychiatric disorders has a distinct terminology. There is only space here to deal with the terms most frequently encountered. Diathesis refers to a constitutional or genetic predisposition to disease. The genotype is the genetic constitution of an individual while the phenotype represents the set of observable characteristics of an individual as determined by his genotype and environment. Thus, one can talk of genotypic differences and phenotypic differences. A person's genotype may direct development in various indirect ways. For example, people with genotypic differences create different environments for themselves, so that smiling, "easy" children are less likely to be the target of parental irritability. Thus, the effects of parental behaviour on the psychosocial development of their children partly reflects the child's own genetic make-up.¹³⁸ Much of the present understanding of genetic and environmental interaction is derived from two research strategies, the study of twins and of adopted children. Identical or Monozygotic (MZ) twins share exactly the same genes. Non-identical or Dizygotic (DZ) twins have only approximately 50 per cent. of their genes in common. Consequently, they are similar to any pair of siblings except that, by virtue of their similar age, their life experiences should be more similar than those of siblings of different ages.¹³⁹ In the case of schizophrenia, twin studies demonstrate a 50 per cent. concordance for monozygotic twins and 17 per cent. for dizygotic. The concordance rates for MZ twins reared together and apart are generally similar, indicating a genetic component. It should be emphasised that genetic control of development does not stop at birth. Genetic factors make a major contribution to personality development throughout adult life. Likewise, throughout life, certain genetically determined physical characteristics and even complex patterns of behaviour are making their first appearance. Thus, the symptoms of Huntington's Chorea, like many other hereditary illnesses, become manifest only in adulthood even though the person has been carrying the gene since conception. In these instances, "environmental stress and learning may have little impact on modifying the expression of genetic endowment. However, in the development of characteristics such as intelligence, personality traits and complex behaviour patterns such as sex role activity, the expression of a genetic predisposition may be radically influenced by the social environment in which the child grows up."¹⁴⁰

Life events and environmental causes

Genes cannot act independently of their environment and, according to McHugh, "the need for life stresses to bring out what can be construed as an underlying vulnerability, as represented by the multi-hit concept or the diathesis-stress concept,

¹³⁷ A. Sims and D. Owens, *Psychiatry* (Baillière Tindall, 6th ed., 1993), p.32.

¹³⁸ M. Rutter, "Family and school influences on cognitive development" *Journal of Child Psychology & Psychiatry* (1985) 26: 683-704; M. Rutter and D. Quinton, "Long-term follow-up of women institutionalised in childhood: factors promoting good functioning in adult life" *British Journal of Developmental Psychology* (1984) 18: 225.

¹³⁹ D.H.R. Blackwood, "The biological determinants of personality" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), p.44.

¹⁴⁰ *Ibid.*, 1993, p.43.

Factors in the causation of disease

Unfortunately, it has not been possible to isolate any necessary or sufficient causes of seriously disabling illnesses such as schizophrenia and manic-depressive states. A further approach, at present largely impressionistic, is to categorise likely causes according to the sort of role they are likely to play in an illness' development. A certain factor may predispose an individual to disease, precipitate (that is trigger) it, or perpetuate it once set in motion. Sims and Owens' summary of some of the most important predisposing, precipitating and reinforcing factors is set out in the table below. Inevitably, different authors use different terms and some epidemiologists also refer to enabling factors (such as housing, nutrition and the availability of medical care) which facilitate the manifestation of disease or ill-health. Although the table below concentrates on factors implicated in the cause of disease, it must be emphasised that it is equally important to identify the factors which predispose or enable an individual to recover, which precipitate recovery, or which reinforce remission or recovery once it has been achieved. Similarly, yet other factors may insure an individual against the development of a particular disease.

FACTORS IN THE CAUSE OF MENTAL ILLNESS

Predisposing factors	Precipitating factors	Perpetuating/reinforcing
<ul style="list-style-type: none"> • These lie in the background — constitution of the patient, e.g., genetic, early childhood influences, abnormal personality. • Predisposing factors are those that prepare, sensitise, or otherwise create a situation such as a level of immunity or state of susceptibility so that the host tends to react in a specific fashion to a disease agent, personal interaction, environmental stimulus, or specific incentive. • Examples include age, sex, marital status, family size, educational level, previous illness experience, presence of concurrent illness, dependency, working environment, and attitudes towards the use of health services. 	<ul style="list-style-type: none"> • Causes which can be seen to be immediately related in time to the development of the illness, e.g., marital breakdown. • Precipitating factors are those associated with the definitive onset of a disease, illness, accident, behavioural response, or course of action. Usually one factor is more important or more obviously recognisable than others if several are involved and one may often be regarded as "necessary." • Examples include exposure to specific disease, amount or level of an infectious organism, drug, noxious agent, physical trauma, personal interaction, occupational stimulus, or new awareness or knowledge. 	<ul style="list-style-type: none"> • Disorder is caused to continue, e.g., loss of self-esteem, demoralisation, social withdrawal. • Reinforcing factors are those tending to perpetuate or aggravate the presence of a disease, disability, impairment, attitude, pattern of behaviour, or course of action. They may tend to be repetitive, recurrent, or persistent and may or may not necessarily be the same or similar to those categorised as predisposing, enabling, or precipitating. • Examples include repeated exposure to the same noxious stimulus (in the absence of an appropriate immune response) such as an infectious agent, work, household, or interpersonal environment, presence of financial incentive or disincentive, personal satisfaction or deprivation.

Adapted from A. Sims and D. Owens, *Psychiatry* (Baillière Tindall, 6th ed., 1993), p.28. By permission of the publisher W B Saunders Company Limited, London.

has much to recommend it.¹⁴¹ An analogous situation is that of turning — a light. This can generally be done successfully thousands of times over many years in response to impending darkness. However, the switch is merely the trigger which activates an effective response in a particular environmental situation rather than the cause of the light in any meaningful sense. This requires complex wiring, the presence of a current, physical apparatus in correct working order, and so forth. Turning the switch on and off would have no effect at all unless these mechanisms were first in place. If too many lights are added to the circuit in an attempt to respond to increasing levels of darkness, the limitations of the system will become apparent when the switch is next turned and the genetic fuse is blown. The critical role of memory processes in the development of personality and psychiatric illness has been emphasised by Kendell —

"One of the most important distinguishing characteristics of psychiatric disorders is the contribution which the patient's previous experience and current psychological and social predicaments — his childhood upbringing, recent life events, the fact that he always feels unwanted, or is lonely or demoralised — make to their aetiology. This is hardly surprising, however, if one reflects that it is one of the brain's most important functions to keep a detailed record of past experience ... stressful past experiences and the patient's appraisal regarding his current social environment play a part in the genesis of many illnesses ... To remember what has happened in the past, to appraise current situations in the light of that memory, and to create moods and action plans appropriate to these appraisals are amongst the brain's most important functions. It should not surprise us, therefore, that psychiatric illnesses characteristically involve disorders of perception, memory, cognition, mood and volition. Memory is of central importance because it is involved in most of these activities. Information processing is the brain's most basic function and the means by which meaning, which is derived from the interrelationships between different items of information, is attributed to events and symbols. The brain's memory stores are as crucial to this role as the memory banks of a computer are to its functioning. It is no coincidence, therefore, that memories and meanings play a key role in most psychological theories of the aetiology of psychiatric disorders ... What matters is that memory has a physical substrate in the brain and almost certainly cannot exist in the absence of such a substrate."¹⁴²

EPIDEMIOLOGY

Sims and Owens describe epidemiology and psychopathology as the "twin bases of psychiatric knowledge."¹⁴³ Epidemiology is the study of diseases or syndromes (1112) as they affect groups of people, as opposed to individuals. The name of the field reflects the fact that such studies were once often concerned with the outbreak of epidemics. Most of epidemiology concerns causality although it focuses on the determinants of disease development, that is risk factors, rather than with cause *per se*. The major characteristics in descriptive epidemiology can be classified under the headings of persons, place, and time. For example, who develops schizophrenia?; where does schizophrenia occur?; when does schizophrenia occur?¹⁴⁴ To this end,

¹⁴¹ P.R. McHugh, "Schizophrenia and the Disease Model" in *What is Schizophrenia?* (ed. W.F. Flack *et al.*, Springer-Verlag, 1990), p.79. Diathesis means a predisposition to certain forms of disease.

¹⁴² R.E. Kendell, "The nature of psychiatric disorders" in *Companion to psychiatric studies* (ed. R.E. Kendell & A.K. Zealley, Churchill Livingstone, 1993), pp.3-4.

¹⁴³ A. Sims and D. Owens, *Psychiatry* (Baillière Tindall, 6th ed., 1993), p.8.

¹⁴⁴ *A Dictionary of Epidemiology* (ed. J.M. Last, 3rd ed., International Epidemiological Association/Oxford University Press, 1995), p.56; R.S. Greenberg, *Medical Epidemiology* (Appleton & Lange, 1993), p.25.

general observations are made concerning the relationship of a disease to basic characteristics such as age, sex, race, occupation, social class, and geographical location, and the data is then subjected to analysis. Examining patterns of illness in groups of people may enable epidemiologists to learn why certain individuals develop a particular disease whereas other persons do not, that is to identify persons at "high risk." A basic tenet of epidemiology is therefore that diseases do not develop at random. Not everyone is equally likely to develop a particular disease and certain persons are at comparatively high risk by virtue of their personal characteristics and environment.¹⁴⁵ Any variation of occurrence in relation to personal characteristics may reflect differences in level of exposure to causal factors, susceptibility to the effects of causal factors, or both exposure and susceptibility.¹⁴⁶

Risk, prevalence and incidence

Risk is the likelihood that an individual will contract a disease. Prevalence is the amount of a disease already present in a population, *i.e.* the proportion of a population that has the disease of interest at a particular time. Prevalence (P) is measured along a range between 0 and 1 so that if P = 0.4 then 40 per cent. of the population being surveyed have the condition in question. The measure of the rapidity of disease occurrence is referred to as an incidence rate (how fast new occurrences of disease arise). This is often measured in terms of new cases per person-year. The usual rate of occurrence for a disease in a population is referred to as the endemic rate. A rapid and dramatic increase over the endemic rate is described as an epidemic rate. In the case of chronic illnesses, an epidemic may emerge over a period of years to decades.¹⁴⁷ Correlation studies seek to determine the extent to which two characteristics — risk factor and disease occurrence are related. Thus, where the coefficient of determination is 0.75 this means that 75 per cent. of the variation in the incidence of the disease under consideration can be accounted by knowing the incidence of some other specified (risk) factor.

¹⁴⁵ R.S. Greenberg, *Medical Epidemiology*, *supra*, p.2.

¹⁴⁶ *Ibid.*, p.25.

¹⁴⁷ R.S. Greenberg, *Medical Epidemiology* (Appleton & Lange, 1993), p.28.