

Thinking about psychiatry

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First thoughts

In the stanzas opposite, satirist Alexander Pope captured the essence of the then ongoing European enlightenment, inspiring his readers to use their sense of reason to replace irrationality in their exploration of the world. This period also saw the re-emergence of attempts to use the same methods of thinking to study mental illness, whose sufferers had then spent more than a thousand years as objects of fear and superstition. Pope's words resonate even today, 275 years later, when—confronted with patients thinking 'too little or too much' or in 'chaos of thought and passion all confused'—we are still struggling to use science to guide the exploration of this 'riddle of the world'.

Psychiatry has often been derided as the Cinderella specialty: poorly funded, exiled to outside hospitals, a victim of rushed political experiments, castigated by anti-psychiatrists, its intellectual basis ridiculed, and the self-confidence of its practitioners lowered. As a trainee psychiatrist you will have to cope with questions like 'are you a real doctor?' In addition, the general public (and sometimes other medical professionals) frequently misunderstand the types and severity of illnesses that you deal with. Either they picture you spending all of your time tending to Woody Allen-like self-obsessed, befuddled neurotics, or guarding Hannibal Lecter-like murdering psychopaths. The reality is that psychiatrists deal with the most common human disorders which cause the greatest morbidity worldwide.

Psychiatry considers all aspects of human experience over the whole of the lifespan: elation, grief, anxieties, flights of fancy, confusion, despair, perception and misperception, and memory and its loss. We see the mother with a healthy baby, perplexed and frightened by her tearfulness and inability to cope, and terrified by her thoughts of harming her child. We see the family of a young man who have watched him become a stranger, muttering wild accusations about conspiracies, and we aim to be the doctors who know what best to do in these circumstances. The specialty of psychiatry is (or should be) the most 'human' specialty—devoted to the understanding of the whole person in health and illness. Indeed, it is the only medical specialty without a veterinary counterpart.

It is certainly true that the level of knowledge about causation and treatment of mental disorders is less advanced than for other branches of medicine. In some ways, however, this is an attraction. In other specialties much of what was formerly mysterious is now understood, and interventions and diagnostic methods once fantastic are now quotidian. Psychiatry offers a final frontier of diagnostic uncertainty and an undiscovered country of aetiology to explore. Perhaps the lack of progress made in psychiatry, compared with the other specialties, is not because of lack of will or intelligence of the practitioners but due to the inherent toughness of the problems. To put this another way, all scientists 'stand on the shoulders of giants': in psychiatry we have no fewer and no shorter giants, just a higher wall to peer over.

The proper study of mankind

Know then thyself, presume not God to scan
 The proper study of mankind is man
 Placed on this isthmus of a middle state
 A being darkly wise, and rudely great
 With too much knowledge for the sceptic side
 With too much weakness for the stoic's pride
 He hangs between, in doubt to act, or rest
 In doubt to deem himself a God, or Beast
 In doubt his mind or body to prefer
 Born but to die, and reasoning but to err
 Alike in ignorance, his reason such
 Whether he thinks too little, or too much
 Chaos of thought and passion, all confused
 Still by himself abuse, or disabuse
 Created half to rise, and half to fall
 Great lord of all things, yet a prey to all
 Sole judge of truth, in endless error hurled
 The glory, jest, and riddle of the world
 Go, wondrous creature!
 Mount where Science guides
 Go, measure earth, weigh air and state the tides
 Instruct the planets in what orbs to run
 Correct old time, and regulate the sun
 Go, soar with Plato to the empyreal sphere
 To the first good, first perfect, and first fair
 Or tread the mazy round his followers trod
 And quitting sense call imitating God
 As Eastern priests in giddy circles run
 And turn their heads to imitate the Sun
 Go, teach Eternal Wisdom how to rule
 Then drop into thyself, and be a fool
 Superior being, when of late they saw
 A mortal man unfold all Nature's law
 Admired such wisdom in an earthly shape
 And showed a Newton as we show an Ape
 Could he, whose rules the rapid comet bind
 Describe or fix one movement of his mind
 Who saw its fires here rise, and there descend,
 Explain his own beginning, or his end?
 Alas what wonder! Man's superior part
 Unchecked may rise, and climb from art to art
 But when his own great work is but begun
 What reason weaves, by passion is undone
 Trace science then, with modesty thy guide
 First strip off all her equipage of pride
 Deduct what is but vanity, or dress
 Or learning's luxury, or idleness
 Or tricks to show the stretch of human brain
 Mere curious pleasure, ingenious pain
 Expunge the whole, or lop the excrescent parts
 Of all, our vices have created arts
 Then see how little the remaining sum
 Which served the past, and must the times to come!

From Alexander Pope (1688–1744). *An Essay on Man*.

As reproduced in *Poetical Works*, ed. Cary HF (London: Routledge, 1870), 225–6.

What is disease?

Most mental diagnoses have had their validity questioned at several points in their history. Diagnosed by doctors on the basis of symptoms alone, some people find their presence difficult to accept in a field which has been almost universally successful in finding demonstrable physical pathology or infection.

Disease in medicine as a whole was not always based on pathology. The microscope was developed long after doctors began to make disease attributions. Thomas Sydenham developed the medico-pathological model based on symptoms, but it has grown to incorporate information obtained from post-mortem and tissue examination. This model of disease has become synonymous in many peoples' mind with a model based solely on demonstrably abnormal structure. Thomas Szasz (p. 21) has criticized psychiatry in general by suggesting that its diseases fail when this model is applied.

This argument that psychiatric diagnoses are invalid still strikes a chord with many doctors and non-medical academics. When the *BMJ* conducted a survey of non-disease¹ (see opposite), many people thought depression to be a non-disease, although schizophrenia and alcoholism fared somewhat better. It is clear from the graph that many conditions rated as real diseases have a characteristic pathology, although some do not (alcoholism, epilepsy). Similarly, many people regard head injury and duodenal ulcer as non-disease, although their pathology is well described.

There are several models of disease in existence (see Table 1.1). No single model is adequate by itself and diseases may move from one group to another. Models based on aetiology or pathology have been found to be the most useful, but the reality may be that 'disease' is a concept which will tend to change over time and has no real existence in itself.

Table 1.1 Models of disease

Model	Summary of assumptions
Medical-pathological definition (Sydenham 1696; Szasz 1960)	Assumes diseases are associated with a necessary cause (e.g. bacterial infection) or have a replicable morbid anatomy.
Biological disadvantage (Scadding 1972)	Assumes that sufferers from a disease have a common characteristic to place them at a biological disadvantage.
Plan of action (Linder 1965)	Assumes disease labels are justifications for treatments and further investigations.
Syndrome with characteristic symptoms/outcome (Kendell 1975)	Assumes diseases represent circumscribed concepts distinguished from others by a bimodal distribution of scores on a discriminant function.
Disease as imperfection (Cohen 1943, 1953)	Assumes diseases are quantitative or qualitative deviations from a desirable norm.
Disease as 'concept' (Aristotle)	Assumes diseases are man-made abstractions with no independent existence.

¹ Smith R (2002) In search of 'non-disease'. *BMJ*, **324**, 883–5.

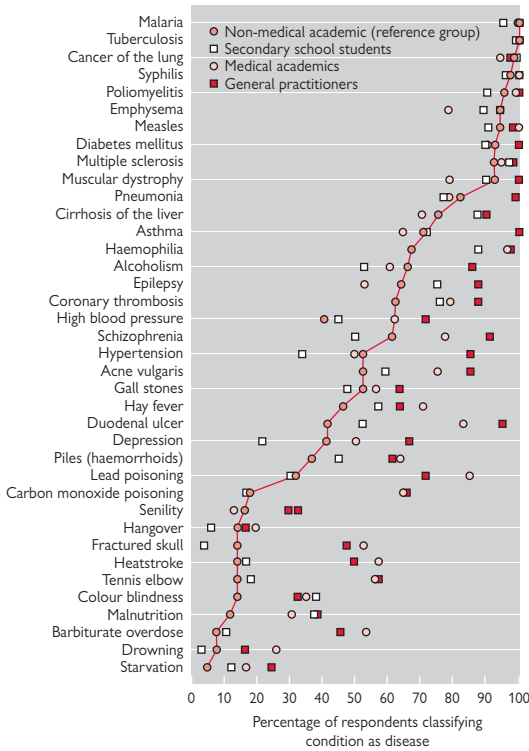


Fig. 1.1 Percentage of respondents classifying a condition as a disease. Figure appears in *BMJ* 1(2); reproduced with permission of BMJ Publishing Group.

2 Campbell EJ, Scadding JG and Roberts RS (1979) The concept of disease. *BMJ*, **29**, 757–62.

The role of the psychiatrist

What is illness?

Doctors, being generally practical people, busy themselves with the diagnosis and treatment of various types of illness. They rarely ask 'what is illness?' or 'what is health?' For several reasons this type of questioning is more germane for psychiatrists:

- While all illnesses have subjective components, psychiatric disorders are usually completely diagnosed by the patient's subjective experiences rather than objective abnormalities.
- There is a non-absolute, value judgement involved in the diagnosis of mental disorder—e.g. wheeze and dyspnoea are abnormal and a sign of disease, but some degree of anxiety at times is a common experience and the point at which it is pathological is debatable.
- Mental illnesses have legal consequences.
- It is important that psychiatrists are clear in themselves about which behaviours and abnormalities are their province. Psychiatrists have been involved in human rights abuses in states around the world when the definitions of mental illness were expanded to take in political insubordination.

Disease, sickness, and illness behaviour

The distinction between disease (or disorder) and sickness should be understood. Disease encompasses either the specific tissue lesion or characteristic constellation of symptoms. Sickness, on the other hand, encompasses the suffering and functional deficit consequent on symptoms. One may exist without the other—e.g. a patient with undiagnosed, asymptomatic breast cancer undoubtedly has disease but is not sick; a patient with chronic fatigue syndrome may see themselves (and be considered) as sick, but does not have an identifiable lesion.

Patients generally present complaining of symptoms, and this process is called illness or illness behaviour. Patients need not be suffering from a disease or disorder in order to do this, and sometimes illness behaviour may be abnormal (even when the patient does have a disease). Subject to certain social conventions (e.g. attending a doctor), they are then afforded the 'sick role' which allows them to relinquish some of their normal obligations. This is a man-made concept, encompassing the special rights and expected behaviour of both someone who is sick and the doctor who is treating them (see box opposite). Difficulties arise when a person adopts the sick role to gain the rights afforded to them, whilst neglecting their duties. Another concern relates to the process of diagnosis—causing someone who is not currently ill to adopt the 'sick role'. Doctors should understand their special responsibility to act in the patient's best interests and not to stray outside their area of expertise.

The rights and duties of patients and doctors

Patient	Doctor
Rights	
Exemption from blame	To be considered an expert
Exemption from normal duties whilst in the sick role	To have privileged access to patient information and person
To expect the doctor to act in their best interests	To direct (and sometimes insist on) a course of action To validate the sick role
Duties	
To seek help	To act in the patient's best interests
To be open and honest	To maintain confidentiality
To comply with treatment	To keep up to date
To give up the sick role once well	To act, where possible, in society's interests

Clarity of roles

It is all too easy for psychiatrists to slip into other roles than that which is properly theirs—an expert in mental disorder. These may include: substitute parent, 'friend', guardian of public morals, predictor of future criminality, arbiter of normal behaviour. Psychiatrists have special training and experience in mental disorder, and should avoid being drawn outside this remit in their professional role.

Mental health and mental illness

Psychiatrists are properly occupied in the business of diagnosing and treating significant psychiatric disorders. As gatekeepers to mental health resources there are often pressures to validate distress or medicalize normal experience. Saying that someone does not satisfy criteria for a specific mental disorder does not mean that they do not have significant problems; rather, the problems do not fall within the scope of psychiatry and would probably be best dealt with by help or advice elsewhere. In general, psychiatrists should not spend their time advising people on 'good mental health' or how to live their lives—this is the self-appointed remit of popular psychology.

Good mental health is more than simply the absence of mental disorder, it requires:

- A sense of self-sufficiency, self-esteem, and self-worth.
- The ability to put one's trust in others.
- The ability to give and receive friendship, affection, and love.
- The ability to form enduring emotional attachments.
- The ability to experience deep emotions.
- The ability to forgive others and oneself.
- The ability to examine oneself and consider change.
- The ability to learn from experience.
- The ability to tolerate uncertainty and take risks.
- The ability to engage in reverie and fantasy.

Diagnosis in psychiatry

Labels People have a natural enthusiasm to be seen as individuals rather than members of a class: 'I'm a person, not a label'. This desire for the recognition of individuality and uniqueness is a part of the public reaction against race-, class-, and gender-related value judgements. Doctors, on the other hand, appear to love labels and classification, and in their enthusiasm can sometimes appear like the stereotypical Victorian butterfly collector who cannot deal with life unless it is named, categorized, and safely inert behind glass. Labels in medicine are based on characteristic combinations of symptoms and signs, but these are viewed differently by patient and doctor. Symptoms are important to patients because of their *individual* nature; that this strange and atypical thing is happening to them. Symptoms are important to doctors because they indicate diagnosis and are features which make this patient similar to others we have seen or read about.

Diagnosis The naming of a thing is the first step towards understanding it. We seek to identify disorders (diagnosis) in order that we should be able to suggest treatments (management) and predict their course (prognosis). Ultimately, the aim is to identify the physical abnormality (pathology) and the cause of the disease (aetiology) and so develop means of prevention and cure. The ideal diagnostic system labels diseases according to aetiology. The aetiology of most mental disorders is unknown and so we tend towards a diagnostic system based upon common clinical features, shared natural history, common treatment response, or a combination of all three. Diagnosis leads to the consideration of individual diseases as members of groups contained within a hierarchy: a form of classification system.

Why make a diagnosis? Why allocate the patient, with his individual and unique history, experience, and range of signs to a single label, with the inevitable compromises and loss of information this entails? Diagnosis must be justified on a general and an individual basis. Generally, the process of establishing a diagnosis is essential to allow succinct communication with colleagues, to help predict prognosis, and to carry out valid research on pathological mechanisms and on treatments. Remember, however, that allocation of a patient to a diagnostic category can only be justified if it will bring him benefit, not harm.

Classification in psychiatry Over the past century within psychiatry there has been a debate about the value of, and method of, psychiatric classification. On one hand the academic and biological psychiatrists worried that psychiatric diagnosis was insufficiently reliable and valid, with a wide variety of terms being used in imprecise or idiosyncratic ways; on the other hand psychodynamic practitioners emphasized the importance of unique patient factors and the degree of detail lost by the reductionism of the diagnostic method. The first concern was tackled by the development of *operational criteria*—clearly defined clinical descriptions of the disorders, together with explicit inclusion and exclusion criteria and details of the number and duration of symptoms required for diagnosis. The second concern was met by the development of *multi-axial diagnosis*, where, in addition to the primary mental disorder coded on axis-I, additional axes code information about the patient's psychosocial problems, personality factors, medical health, and degree of disability.

International classification

In psychiatric classification, there are two systems in use worldwide: the International Classification of Diseases (ICD-10), produced by the World Health Organisation; and the *Diagnostic and Statistic Manual of Mental Disorders (DSM-IV)*, produced by the American Psychiatric Association.

The International Classification of Diseases (ICD-10)

The ICD-10 is a general medical classification system intended for worldwide, multi-specialty use. It includes 21 chapters, each identified by a roman numeral and a letter. Psychiatric disorders are described in chapter V, and are identified by the letter F. An index of the disorders described in this book, together with their ICD-10 coding, is given on pp. 947-964.

Coding The disorders are identified using an open alpha-numeric system in the form Fxx.xx. The letter 'F' identifies the disorder as a mental or behavioural disorder; the first digit refers to the broad diagnostic grouping (e.g. psychotic, organic, substance-induced); and the second digit refers to the individual diagnosis. The digits which follow the decimal point code for additional information specific to the disorder such as subtype, course, or type of symptoms. When used as second or third digits, 8 codes for 'other' disorders while 9 codes for 'unspecified'.

Versions Four versions of the ICD-10 classification of mental disorders exist, suitable for different purposes. ICD-10: *Clinical descriptions and diagnostic guidelines* ('the blue book') is used by psychiatric practitioners and gives clinical descriptions of each disorder together with the diagnostic criteria. ICD-10: *Diagnostic criteria for research* ('the green book') contains more restrictive and clearly defined clinical features with explicit inclusion, exclusion, and time-course criteria, and is suitable for identification of homogenous patient groups for research purposes. The *primary care version* focuses on those disorders prevalent in primary care settings and contains broad clinical descriptions, diagnostic flow-charts, and treatment recommendations. A *short glossary* containing the coding together with brief descriptions can be used as a quick reference by practitioners, as well as by administrative and secretarial staff.

Axial-diagnosis The multi-axial version of ICD-10 uses three axes to broaden the assessment of the patient's condition. Axis 1 describes the mental disorder (including personality disorder and mental handicap); axis 2 describes the degree of disability; and axis 3 describes current psychosocial problems.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)

While ICD-10 is a wider general medical classification, DSM-IV describes only mental disorders. The two classifications are broadly similar; having undergone a degree of convergence and cross-fertilization with subsequent revisions. Relevant DSM-IV codes corresponding to ICD-10 disorders are given on pp. 947-964. DSM-IV uses a closed, numeric coding system of the form xxx.xx (mostly in the range 290-333.xx). A single version of DSM-IV is used for both clinical and research purposes. DSM-IV is a multi-axial diagnostic system using five axes. Axis 1 describes the clinical disorder or the current clinical problem; axis 2 describes any personality disorder and any mental handicap; axis 3, general medical conditions; axis 4, current psychosocial problems; and axis 5, a global assessment of functioning.

Why don't psychiatrists look at the brain?

Psychiatrists, with the exception of those doing academic research projects, are the only medical specialists who rarely directly examine the organ they treat. The chances that a patient with a serious psychiatric disorder (e.g. schizophrenia, bipolar disorder, severe depression) has ever had a brain scan are fairly slim. Psychiatrists prescribe antipsychotics, antidepressants, mood stabilizers, electroconvulsive therapy (ECT)—all of which have a major impact on brain function—but do not know beforehand which areas of the brain are working well, and which are not functioning properly. Why is this?

As a medical student, a medical practitioner, or even as a trainee psychiatrist, this situation does seem somewhat at odds with the medical training we receive. Imagine the outcry if an orthopaedic surgeon were to set fractures without first taking an X-ray, or a cardiologist diagnosed coronary artery disease without an electrocardiogram (ECG), angiography, or computed tomography (CT). Imagine if, based on your description of the problem, a car mechanic replaced the radiator in your car (at great expense to you) without even bothering to look under the bonnet first. How can it be that the state of the art in psychiatry is not to look at the brain?

Looking at this issue another way it is perhaps not surprising. If I were a patient, who presented to a psychiatrist with a catalogue of recent losses (including both my parents, and a recent redundancy), low mood, sleep problems, loss of appetite, and a feeling of general hopelessness about the future, I would probably be somewhat perturbed if my psychiatrist declared that they could not help me until they had taken half an armful of blood, performed a painful lumbar puncture (LP), and arranged a magnetic resonance image (MRI)/single photon emission computed tomography (SPECT) of my brain (which might take a few months). I might be impressed at their thoroughness, but over the following weeks as I fretted even more about the results of my brain scan, I might contemplate the wisdom of approaching someone who just seems to have added to my worries. When the final results came in and the psychiatrist declared that I was suffering from depression, I might seriously question their abilities, when I could have told them that three months ago!

In the main, psychiatrists base diagnosis and treatment on symptom clusters, not brain imaging or other investigations. This is not to say that it is not good clinical practice to perform a physical examination and some routine blood tests (or even an electroencephalograph [EEG] or CT/MRI when indicated by the history or clinical signs). Rather, these are generally investigations of *exclusion* (sometimes a *negative* result can be useful—a point that is often lost on other clinicians when psychiatrists do request investigations which are reported as 'normal'). Psychiatric disorders (with the exception of the organic brain disorders, e.g. dementia) are predominantly disorders of brain *function*; there are rarely observable changes in brain *structure* which would aid diagnosis. At present there are no gold standard diagnostic tests for psychiatric disorders. This is not to say that in the future functional imaging of the brain might not play a role in

psychiatric diagnosis, but at present (and despite the fact that high-resolution SPECT and positron emission tomography [PET] scans of the brain have been available for more than 15 years) it's not yet time to use these imaging tools in *routine* psychiatric practice. More research is needed to determine the specificity and sensitivity of these imaging tools, even though there are hundreds of articles on functional brain imaging in a variety of psychiatric disorders (as a Medline search will quickly reveal).

Does this relegate psychiatry to the lower divisions of medical specialties? No. Rather, the doctor practicing in psychiatry needs a firm grounding in general medicine (to recognize *when* a condition may have an organic basis), sharply honed interviewing skills (to elicit important psychiatric symptoms), a firm grasp of psychopharmacology (to differentiate between symptoms of disease and drug-related problems), and an appreciation of the psychosocial problems that may affect an individual in the society in which they live.

Psychiatry is not about *medicalizing* normal experience; it is the ability to recognize *symptoms of disease*, as they are manifest in abnormalities of emotion, cognition, and behaviour. Psychopathology reveals as much to a trained psychiatrist as *pathology* does to his medical or surgical colleagues. Psychiatrists may not (yet) examine the brain directly, but they are certainly concerned with the functioning of the brain in health and disease.

Can psychotherapy change the brain?

Descartes error is never more apparent than when confronted with explanations of *how* exactly the psychotherapies bring about often profound changes in a patient's beliefs, ways of thinking, affective states or behaviour. If we are ever to bridge the mind–brain divide, then a neurobiological understanding of the mechanisms by which the psychotherapies exert their actions is vital. This would not only provide a sound theoretical foundation for these treatment approaches, but also aid the improvement of psychotherapeutic interventions by opening up the possibility of *objectively* measuring potential benefits and comparing one approach with another.

Psychotherapy has been beset with accusations of being non-scientific. Even Freud had the good sense to abandon his Project for a Scientific Psychology which he started in 1895. He just did not have the tools he needed to detect functional changes in the living brain. However, Freud's early experiments with cocaine—mainly on himself—convinced him that his putative libido must have a specific neurochemical foundation. Now that we do have the ability to reliably detect training- and learning-related changes in brain activation patterns using non-invasive functional imaging,¹ Freud's unfinished Project may be finally realizable. Research in this area is never likely to attract the funding that major drug companies can invest in neurobiological research. Nevertheless, evidence is emerging for alterations in brain metabolism or blood flow that relate to therapeutic effects. A recent review article² identified a number of studies assessing the effects of cognitive behavioural therapy (CBT) in obsessive–compulsive disorder (OCD) and phobic disorders and of CBT and interpersonal therapy in depression.

In OCD, psychological intervention led to reduced metabolism in the caudate and a decreased correlation of right orbitofrontal cortex with ipsilateral caudate and thalamus. Interestingly, similar changes are observed in OCD treatment with fluoxetine, suggesting common or at least converging mechanisms in the therapeutic benefits of psycho- and pharmacotherapies. In phobia, the most consistent effect of CBT was reduced activation in limbic and paralimbic areas. Reducing amygdala activation appears to be a common final pathway for both psycho- and pharmacotherapy of phobic disorders. Whether different functional networks are responsible for this common end point remains to be determined, although animal research does suggest this may well be the case.

Studies of depression are more difficult to interpret, showing both increases and decreases in prefrontal metabolism associated with successful treatment. It does appear that depression is a much more heterogeneous disorder and the functional networks implicated in the treatment effects of the different therapies are not as straightforward as for the anxiety disorders.

Future studies need to address issues including larger patient numbers, use of standardized imaging protocols, and utilization of molecular markers.

1 Linden DEJ (2003) Cerebral mechanisms of learning revealed by functional neuroimaging in humans. In R Kühn et al. (eds) *Adaptivity and learning—an interdisciplinary debate*, pp. 49–57. Heidelberg, Springer.

2 Linden DEJ (2006) How psychotherapy changes the brain—the contribution of functional imaging. *Molecular Psychiatry*, **11**, 528–38.

However, it is clear that modulation of brain activity through psychotherapeutic interventions not only occurs, but also may explain the benefits that patients experience. It may be time to put old prejudices aside and properly study alternative non-pharmacological interventions. As the neurobiologist Jaak Panksepp has said, modern research into the aetiology of disorders of emotion and behaviour 'is not a matter of proving Freud right or wrong, but of finishing the job'.

Treating patients against their will

Psychiatric patients may have treatment, hospitalization, and other measures imposed on them against their wishes. The power to impose such measures does not sit comfortably with the usual doctor–patient relationship, and psychiatrists may find ‘sectioning’ patients unpleasant. The existence of these powers means that under some circumstances psychiatrists will be damned if they do (criticized for being agents of social control, disregarding a person’s autonomy, and being heavy handed) and damned if they don’t (neglecting their duties, not giving patients the necessary care, and putting the public at risk). Although it may not seem so, sectioning a patient may, in fact, be a very caring thing to do: akin to lifting and holding a two-year-old having a tantrum and at risk of hurting themselves and then soothing them. Such a (literally) paternalistic view may appal some people, but historically, paternalism has had a major influence in this area.

When we consider why it is that we have such powers, we might argue that because psychiatric illness may affect insight and judgement (i.e. a person’s *capacity*) sometimes patients might not be capable of making appropriate decisions about their care and treatment. Although to modern ears this may sound ethically sensible, we have had mental health legislation for over 200 years, and it is only recently that explicit consideration of such matters has influenced mental health legislation.

Mental health legislation has its origins in eighteenth-century laws allowing for the confinement of ‘lunatics’ and the regulation of private mad-houses. The main concerns at that time were the proper care of lunatics, fear of lunatics wandering free, and paternalistic sentiments that lunatics as a group did not know what was best for them and so others should determine this. Large county asylums were built in the nineteenth century and became the old mental hospitals of the twentieth. Until 1930, all patients were detained; there was no such thing as a voluntary or informal patient. If you were insane your relatives (if you were rich) or the poor law receiving officer (if you were poor) would apply to a justice of the peace with the necessary medical certification and you would be confined to an asylum—because this was deemed to be the best place for you. Our current legislation has its ancestral roots in such procedures—reform has rarely led to redrafting from scratch; vestiges of old laws are passed on through the centuries.

Another question often raised is why should we deal with psychiatric illnesses any differently from physical illnesses? After all, physicians cannot detain their patients in order to manage their medical problems, can they? Interestingly, in certain circumstances, they can. Although it is unusual, under Sections 37 and 38 of the Public Health Act, the compulsory detention of patients with infectious tuberculosis of the respiratory tract is allowed—however, the patient cannot be treated against their wishes. Patients with physical illness can only be treated against their wishes if they lack capacity (which may be due to psychiatric disorder).

Is it right that psychiatric patients can be treated against their wishes even when they have capacity to make such decisions? In the twenty-first century paternalism is dead and autonomy rules. A patient with motor neuron disease is allowed to have their life support machine turned off, despite the wishes of their doctors—why not the same right for psychiatric patients?

This does seem to raise interesting ethical questions about whether interventions can ever be justified by principles of paternalism or public protection, when a mentally disordered person has capacity. A pertinent example is that of a currently well patient with a diagnosis of bipolar disorder, who wishes to stop their mood stabilizer, despite past episodes of dangerous driving when unwell.

Let's return to the public health argument of public protection. Infectious patients with tuberculosis may pose a risk to others, and some psychiatric patients may also pose a risk to others. However, most people with mental disorder (even severe cases) are never violent; violence is difficult to predict, and many other people who pose a public risk (those who drink heavily or drive fast) are not subject to such special measures. Potentially dangerous behaviour is not *in itself* a justification for the existence of mental health legislation, but instead provides one criterion for the use of such measures when a person meets other criteria (namely having a mental disorder) and needs care and treatment.

We need to be very wary of how our special powers to detain and treat patients against their wishes might be extended and misused. It is not the role of psychiatric services (including forensic psychiatric services) to detain dangerous violent offenders and sex offenders just to prevent them from re-offending. That is not to argue that psychiatrists should not have a role in the assessment and management of such individuals; just that we should not have primary responsibility for their care.

In the twenty-first century we should be clear of our role: to care for individuals with psychiatric illnesses, without necessarily being paternalistic. We should treat our patients in such a way as to prevent harm to them and to others, but this should not be our *raison d'être*. The primary justification for the existence of mental health legislation should be to ensure the provision of care and treatment for people who, because of mental disorder, have impaired ability to make appropriate decisions for themselves. We should not be able to forcibly intervene unless this is the case and, when we do, our interventions should be for *their* benefit.

Perceptions of psychiatry

Since the beginning of recorded history, the public imagination has been fascinated and provoked by the mentally afflicted. Of equal interest have been the social and political responses to mental illness and the mechanisms that have emerged to manage and control the 'mad' among us. In general, public perceptions have tended towards polar extremes: on the one hand fear, ignorance, ridicule, and revulsion; on the other, idealization, romanticism, and a voyeuristic curiosity. The social constructions of madness throughout history have coloured both lay and professional notions of mental illness and its treatment in the present age. These varying perceptions are represented in the arts, the media, and the political discourse of our societies.

In the ancient world, mental illness came from the Gods. Nebuchadnezzar's delusions, the senseless violence of Homer's Ajax, and the suicidal depression of Saul were the result of angry or meddling deities and 'furies'. In Deuteronomy (vi: 5) it is written 'The Lord will smite thee with madness.' The first to situate mental suffering within the brain were the sages of the classic world: Hippocrates, Aristotle, and Galen. However, the dark age of medieval Europe saw a return to magical and spiritual interpretations of mental disturbance—madness was the work of demonic forces and witchcraft. Thus, Joan of Arc and countless others were burnt at the stake or drowned for their sins. With the dawn of the Enlightenment, Cartesian notions of rationality and a mind that resided separate from the body displaced the supernatural and laid a foundation for modern concepts of mental illness. Insanity represented 'the flight of reason' and religious moralism gave way to scientific moralism—instead of being one possessed the unfortunate sufferer was now a 'degenerate'. The Romantic era provided a foil to the empiricist veneration of reason. Byron, Blake, Rousseau, Shelley—these were the figures that epitomized in the public mind the archetypal union of madness and genius. 'Great wits are sure to madness near allied;/And thin partitions do their bounds divide' wrote Dryden, while in a 17th-century etching, Melancolicus proclaims 'the price of wisdom is melancholy'. The age of asylums and shackles (portrayed by Hogarth in his series depicting 'The Rake's Progress' through Bedlam and condemned by Foucault as 'the great confinement') came to an end when, in the spirit of the French Revolution, Pinel struck off the chains from his charges.

The beginning of the twentieth century witnessed Freud's description of the unconscious and the birth of medical psychiatry. It was to be a century of controversy and intense soul-searching as psychiatry became equated in the public imagination with 'shock therapy', lobotomies, and the political abuses of Nazi and Soviet regimes. This provided fodder for Laing and Cooper and the anti-psychiatry movement (p. 20), while skirmishes continue to this day between psychoanalytic and biological paradigms. Finally, in the age of mass media, the actions of a handful of mentally ill stalkers and assassins such as Hinckley (who shot President Reagan), Mark David Chapman (who killed John Lennon), and Tsafendas (who killed Verwoerd, the architect of apartheid) have kindled the public's image of the crazed killer into a blaze of prejudice and stigma.

In the first decade of the third millennium we are the inheritors of these historical constructs of mental illness. Our individual notions of madness and perceptions of psychiatry are derived in part from this varied bequest. Supernatural, romantic, biological, and psychological notions of madness abound, while the historic tensions between the belief that psychiatry is fundamentally benevolent and the conviction that it is inherently repressive continue into the present. The public mind is exposed to portrayals of madness and psychiatry in art, literature, film, and the media, and these are powerful influences in shaping individual and collective perceptions. There are many examples of our contrasting notions within popular art. For example, *The Crucible* illustrates the mentally afflicted as cursed and invokes witchcraft as the agent of causation. By comparison, *Quills* and *The Madness of George III* portray the sick as mentally impaired, disordered, degenerate (with differing degrees of historical accuracy). Similarly, in literature, *Don Quixote* and *King Lear* depict the anti-hero as simple or incomplete. The neurologist Oliver Sacks has done much to counter this stereotype with his sympathetic portrayal of neuropsychiatric conundrums, for example in *Awakenings*. The mad genius archetype appears in *A Beautiful Mind*, *The Hours*, and *Shine*, while Joyce's 'Nighttown' chapter of *Ulysses* and Nietzsche's *Thus Spake Zarathustra* celebrate the gift of unfettered thought. Nietzsche defines madness as the 'eruption of arbitrariness in feeling, seeing and hearing, the enjoyment of the mind's lack of discipline, the joy in human unreason'.¹ In Hannibal Lecter (*Silence of the Lambs*), Raskolnikov (*Crime and Punishment*), and the villainous Hyde of *Dr Jekyll and Mr Hyde*, we see the stereotype of the crazed and dangerous killer. Finally, artistic critiques of psychiatry abound, but the champions surely include *One Flew over the Cuckoo's Nest*, *The Snake Pit*, and Sylvia Plath's *The Bell Jar*.

The challenge for us in this postmodern era is to consider our own constructs of what mental suffering means and to reflect upon how we should portray our psychiatric profession in society. In doing so, it is worth remembering the ideas we have inherited from our ancestors and how these ideas pervade current discourse. In sifting the grain from the chaff we would do well to proceed cautiously: most ideas contain at least some grains of wisdom.

1 Nietzsche F (1974) *The gay science*, trans. W Kaufmann. New York, Vintage.

Stigma

Stigma is a Greek word meaning 'mark' and originally referred to a sign branded onto criminals or traitors in order to identify them publicly. The plural, *stigmata*, when used in medical settings, means the collection of symptoms and signs by which a particular disorder may be identified. In its wider, modern sense, stigma refers to the sense of collective disapproval and group of negative perceptions attached to a particular people, trait, condition, or lifestyle. Stigmatization describes the process by which the characteristics of the group in question are identified and discriminated against.

Stigmatization can be thought of as a three-stage process: first, the individual is marked out as different by his actions or appearance; secondly, society develops a series of beliefs about the affected individual; finally, society changes its behaviour towards these individuals in a way consistent with those beliefs, often to the detriment of the stigmatized individuals. Stigma can become self-reinforcing as it can be associated with avoidance of the stigmatized individuals, leaving no opportunity for society to confront and change its beliefs.

Fear of the unknown, fear of contamination, and fear of death or the sight of death have led to diseases of all kinds being stigmatized throughout history. This is a particularly true of infectious diseases, diseases causing disfigurement, and mental disorders. As the infectious and disfiguring diseases have become both more treatable and better understood, sufferers from mental disorders have remained uniquely vulnerable to stigmatization.

One marker of this has been the ease with which originally neutral, descriptive terms for mental disorders have taken on a pejorative and disparaging meaning: cretin, maniac, spastic, imbecile. All have been abandoned in an attempt to free affected individuals from the approbation the name had acquired. Unfortunately, stigmatization involves fundamental and widely held beliefs and is not usually amenable to simple cures such as changes of name of conditions or organizations.

For the person affected by mental illness, the name of the condition and their abnormalities of experience and behaviour will mark them out as different, and are the root cause of their distress. However, the wider societal beliefs, expressed as stigmatization, will add to the burden of morbidity, and may in themselves prolong the condition. For example, the belief that depression is 'all in the mind' and could be resolved if the affected individual would only 'pull themselves together', may cause people to behave less sympathetically towards the sufferer, but it may also hinder the sufferer from seeking appropriate help.

There is no simple answer to the problem of stigma. We can certainly learn from the increasingly successful approach to the problem of the stigmatization which initially attached to those individuals suffering from HIV infection. Increased public awareness of the cause of the disease, its method of transmission, the plight of its sufferers, and its means of treatment appear to be associated with less, not more stigmatization. The Royal College of Psychiatrists, with its 'Defeat Depression' campaign, has been active in this regard.

On an individual basis we can:

- **Challenge our own prejudices** These may exist, particularly in connection with patients with personality disorder and patients with substance misuse problems.
- **Avoid stigmatizing language** There is no place for forced political correctness in medicine, but we should consider whether calling an individual 'a schizophrenic' describes them as a single, unfavourable characteristic, rather than as a person with an illness.
- **Challenge lack of knowledge within the profession** A surprising lack of knowledge of mental disorders is often seen in our colleagues in other specialties. This may be expressed in, for example, a lower aspiration for treatment in individuals with mental handicap or chronic psychotic illness.
- **Be advocates for political change** Professional conservatism should not halt us from being at the forefront of moves to improve the autonomy of patients, their involvement in society, and their legal protection.

Anti-psychiatry

One view of medicine is that it is an applied science whose object of scientific curiosity is the understanding of the causes and processes of human illness and the study of methods of preventing or ameliorating them. In the scientific method there are no absolute truths, only theories which fit the observed facts as they are currently known. All scientists must be open to the challenging of firmly established theories as new observations are made and new experiments reported.

All psychiatrists should retain this healthy scientific scepticism and be prepared to question their beliefs about the causes and cures of mental illness. Developments (and hence improvements in patient care) come from improvement in observation methods and trials of new treatment modalities. A result of this may be the enforced abandonment of cherished beliefs and favoured treatments. Always remember that insulin coma therapy¹ was at one time believed to be an effective treatment for psychotic illnesses.

While rigorous examination of the basic and clinical sciences of psychiatry is essential if the specialty is to progress, psychiatry as a medical specialty has, over the last fifty years, been subject to a more fundamental criticism—that the empirical approach and the medical model are unsuited to the understanding of mental disorder and that they cause harm to the individuals they purport to treat. This basic belief, known as 'anti-psychiatry', has been expressed by a variety of individuals over the years, reaching a peak in the late 1960s. Although the central arguments of the anti-psychiatry movement have largely been discredited in the mainstream scientific literature, they have retained currency in some areas of the popular press, within some patient organizations, and in certain religious cults. They are presented here for historic interest and so that the sources for modern-day advocates of these ideas can be identified.

Central anti-psychiatry beliefs

- The mind is not a bodily organ and so cannot be diseased.
- The scientific method cannot explain the subjective abnormalities of mental disorder as no direct observation can take place.
- Mental disorder can best be explained by social, ethical, or political factors.
- The labelling of individuals as 'ill' is an artificial device used by society to maintain its stability in the face of challenges.
- Medication and hospitalization are harmful to the individual so treated.

The anti-psychiatry movement did raise some valid criticisms of then contemporary psychiatric practice; in particular, pointing out the negative effects of institutional living, criticizing stigma and labelling, and alerting psychiatrists to the potential use of political change in improving patient care.

¹ In 1933 Manfred Sakel introduced insulin coma therapy for the treatment of schizophrenia. This involved the induction of a hypoglycaemic coma using insulin, the rationale being that a period of decreased neuronal activity would allow for nerve cell regeneration. In the absence of alternative treatments, this was enthusiastically adopted by practitioners worldwide. However, with the advent of antipsychotics in the 1950s and the emergence of randomized controlled trials (RCTs), it became clear that the treatment had no effect above placebo and it was subsequently abandoned.

It was, however, fatally flawed by a rejection of empiricism, an over-reliance on single case reports, domination by a small number of personalities with incompatible and deeply held beliefs, and an association with half-baked political theory of the Marxist–Leninist strain.

Prominent anti-psychiatrists

- **Szasz** Rejected compulsory treatment. Author of *Pain and pleasure* and *The myth of mental illness*. Viewed disease as a bodily abnormality with an observable pathology to which, by its nature, the brain was immune. Saw mental illness as conflict between individuals and society. Rejected the insanity defence and committal to hospital. Accepted patients for voluntary treatment for drug-free analysis on payment of fee and acceptance of treatment contract.
- **Scheff** Worked in labelling theory. Wrote *Being mentally ill*. Hypothesized that mental illness was a form of social rule-breaking. Labelling such individuals as mentally ill would stabilize society by sanctioning such temporary deviance.
- **Goffman** Wrote *Asylums*. Described the 'total institution' observed as a result of an undercover study. Commented on the negative effects of institutions segregated from the rest of society and subject to different rules.
- **Laing** Author of *The divided self*, *Sanity, madness and the family*, and *The politics of experience*. Developed probably the most complete anti-psychiatry theory. He saw the major mental illnesses as arising from early family experiences, in particular from hostile communication and the desire for 'ontological security'. He saw newborns as housing potential which was diminished by the forced conformity of the family and the wider society. Viewed normality as forced conformity and illness as 'the reality which we have lost touch with'.
- **Cooper** Revived anti-psychiatry ideas. A committed Marxist, he saw schizophrenia as a form of social repression.
- **Busaglia** Wrote *The deviant majority*. Held that diagnosis didn't aid understanding of the patient's experience. Believed that social and economic factors were crucial. Successful in pressing for significant reform of the Italian mental health system.
- **Schull** Wrote *Museums of madness*. Saw mental health systems as part of 'the machinery of the capitalist system'.
- **Breggin** Modern advocate of anti-psychiatry views. Author of *Toxic psychiatry* which views psychopharmacology as 'disabling normal brain function'. Rejects results of systematic reviews.

A brief history of psychiatry

Ancient times ~4000 BC Sumerian records describe the euphoriant effect of the poppy plant. ~1700 BC First written record concerning the nervous system. 460–379 BC Hippocrates discusses epilepsy as a brain disturbance. 387 BC Plato teaches that the brain is the seat of mental processes. 280 BC Erasistratus notes divisions of the brain. 177 Galen lectures *On the brain*.

Pre-modern 1649 Descartes describes the pineal gland as a control centre of body and mind. 1656 Bicêtre and Salpêtrière asylums established by Louis XIV in France. 1755 Perry publishes *A mechanical account and explication of the hysteric passion*. 1758 Battie publishes his *Treatise on Madness*. 1773 Cheyne publishes his book *English malady*, launching the idea of 'nervous illness'. 1774 Mesmer introduces 'animal magnetism' (later called hypnosis). 1793 Pinel is appointed to the Bicêtre and directs the removal of chains from the 'madmen'. 1794 Chiarugi publishes *On insanity*, specifying how a therapeutic asylum should be run.

1800–1850 1808 Reil coins the term 'psychiatry'. 1812 Rush publishes *Medical inquiries and observations upon the diseases of the mind*. 1817 Parkinson publishes *An essay on the shaking palsy*. • Esquirol lectures on psychiatry to medical students. 1813 Heinroth links life circumstances to mental disorders in the *Textbook of mental hygiene*. 1825 Bouillaud presents cases of aphonia after frontal lesions. • Todd discusses localization of brain functions. 1827 Heinroth appointed as the first professor of psychological therapy in Leipzig. 1832 Chloral hydrate discovered. 1843 Braid coins the term 'hypnosis'. 1848 Phineas Gage has his brain pierced by an iron rod with subsequent personality change.

1850–1900 1856 Morel describes 'démence précoce'—deteriorating adolescent psychosis. 1863 Kahlbaum introduces the term 'catatonia'. • Friedreich describes progressive hereditary ataxia. 1864 Hughlings Jackson writes on aphonia after brain injury. 1866 Down describes 'congenital idiots'. 1868 Griesinger describes 'primary insanity' and 'unitary psychosis'. 1869 Galton claims that intelligence is inherited in *Hereditary genius*. 1871 Hecker describes 'hebephrenia'. 1872 Huntington describes symptoms of a hereditary chorea. 1874 Wernicke publishes *Der Aphasische Symptomenkomplex* on aphasias. 1876 Ferrier publishes *The functions of the brain*. • Galton uses the term 'nature and nurture' to describe heredity and environment. 1877 Charcot publishes *Lectures on the diseases of the nervous system*. 1883 Kraepelin coins the terms 'neuroses' and 'psychoses'. 1884 Gilles de la Tourette describes several movement disorders. 1885 Lange proposes use of lithium for excited states. 1887 Korsakoff describes characteristic symptoms in alcoholics. 1892 American Psychological Association formed. 1895 Freud and Breuer publish *Studies on hysteria*. 1896 Kraepelin describes 'dementia praecox'. 1899 Freud publishes *The interpretation of dreams*.

1900s 1900 Wernicke publishes *Basic psychiatry* in Leipzig. 1903 Barbiturates introduced. • First volume of *Archives of neurology and psychiatry* published in USA. • Pavlov coins the term 'conditioned reflex'. 1905 Binet and Simon develop their first IQ test. 1906 Alzheimer describes

'presenile degeneration'. **1907** Adler's *Study of organ inferiority and its physical compensation* published. • Origins of group therapy in Pratt's work supporting TB patients in Boston. **1909** Brodmann describes 52 cortical areas. • Cushing electrically stimulates human sensory cortex. • Freud publishes the case of Little Hans in Vienna.

1910s **1911** Bleuler publishes his textbook *Dementia praecox or the group of schizophrenias*. **1913** Jaspers describes 'non-understandability' in schizophrenia thinking. • Syphilitic spirochaete established as cause of 'generalized paresis of the insane'. • Jung splits with Freud forming the school of 'analytic psychology'. • Mental Deficiency Act passed in UK. • Goldmann finds blood-brain barrier impermeable to large molecules. **1914** Dale isolates acetylcholine. • The term 'shell shock' is coined by British soldiers. **1916** Henneberg coins the term 'cataplexy'. **1917** Epifanio uses barbiturates to put patients with major illnesses into prolonged sleep. • Wager-Jauregg discovers malarial treatment for neurosyphilis.

1920s **1920** Moreno develops 'psychodrama' to explore individual problems through re-enactment. • Watson and Raynor demonstrate the experimental induction of phobia in 'Little Albert'. • Crichton-Miller founds the Tavistock Clinic in London. • Klein conceptualizes development theory and the use of play therapy. • Freud's *Beyond the Pleasure Principle* published. **1921** Rorschach develops the inkblot test. **1922** Klaesi publishes results of deep-sleep treatment, which is widely adopted. **1923** Freud describes his 'structural model of the mind'. **1924** Jones uses the first example of systematic desensitization to extinguish a phobia. **1927** Jacobi and Winkler first apply pneumoencephalography to the study of schizophrenia. • Wagner-Jauregg awarded the Nobel Prize for malarial treatment of neurosyphilis. • Cannon-Bard describes his 'theory of emotions'. **1929** Berger demonstrates first human electroencephalogram.

1930s **1930** First child psychiatry clinic established in Baltimore, headed by Kanner. **1931** Hughlings-Jackson describes positive and negative symptoms of schizophrenia. • Reserpine introduced. **1932** Klein publishes *The Psychoanalysis of children*. **1933** Sakel introduces 'insulin coma treatment' for schizophrenia. **1934** Meduna uses chemical convulsive therapy. **1935** Moniz and Lima first carry out 'prefrontal leucotomy'. • Amphetamines synthesized. **1936** Mapother appointed as England's first Professor of Psychiatry. • Dale and Loewi share Nobel Prize for work on chemical nerve transmission. **1937** Kluver and Bucy publish work on bilateral temporal lobectomies. • Papez publishes work on limbic circuits and develops 'visceral theory' of emotion. **1938** Cerletti and Bini first use 'electroconvulsive therapy'. • Skinner publishes *The behaviour of organisms* describing operant conditioning. • Hoffmann synthesizes LSD.

1940s **1942** Freeman and Watts publish *Psychosurgery*. **1943** Antihistamines used in schizophrenia and manic depression. **1946** Freeman introduces 'transorbital leucotomy'. • Main publishes *Therapeutic communities*. **1948** Foulkes' *Introduction to group analytical psychotherapy* published. • *International classification of diseases* (ICD) first published by WHO. • Jacobsen and Hald discover the use of disulfiram. **1949** Cade introduces lithium for treatment of mania. • Penrose publishes *The biology of mental defect*. • Moniz awarded Nobel Prize for treatment of psychosis

with leucotomy. • Hess receives Nobel Prize for work on the 'interbrain'. • Magoun defines the reticular activating system. • National Institute of Mental Health is established. • Hebb publishes *The organization of behaviour: a neuropsychological theory*.

1950s **1950** First World Congress of Psychiatry held at Paris. • Chlorpromazine (compound 4560 RP) synthesized by Charpentier. • Roberts and Awapara independently identify GABA in the brain. **1951** Papiere and Sigwald report efficacy of chlorpromazine in psychosis. **1952** *Diagnostic and statistical manual (DSM-I)* introduced by the APA. • Eysenck publishes *The effects of psychotherapy*. • Delay and Deniker treat patients with psychological disturbance using chlorpromazine. • Delay, Laine, and Buisson report isoniazid use in the treatment of depression. **1953** Lurie and Salzer report use of isoniazid as an 'antidepressant'. **1954** Kline reports that reserpine exerts a therapeutic benefit on both anxiety and obsessive-compulsive symptoms. • Delay and Deniker, Noce and Steck report favourable effects of reserpine on mania. • First community psychiatric nurse post established in UK. **1955** Chlordiazepoxide, the first benzodiazepine, synthesized by Sternbach for Roche. • Kelly introduces his 'personal construct therapy'. • Shepherd and Davies conduct the first prospective placebo-controlled, parallel-group randomized controlled trial in psychiatry, using reserpine in anxious-depressive outpatients (with definite benefit.) **1957** Imipramine as an antidepressant. • Iproniazid launched as an antidepressant. • Delay and Deniker describe the characteristics of neuroleptics. **1958** Carlsson *et al.* discover dopamine in brain tissues and identify it as a neurotransmitter. • Janssen develops haloperidol, the first butyrophenone neuroleptic. • Lehman reports first (successful) trial of imipramine in USA. **1959** Russell Barton's *Institutional neurosis in England* draws attention to the adverse effects of institutional regimes. • Diazepam first synthesized by Roche. • Schneider defines his 'first-rank symptoms' of schizophrenia. • English Mental Health Act of 1959 allows voluntary admission to psychiatric hospitals.

1960s **1960** Merck, Roche, and Lundbeck all launch versions of amitriptyline. **1961** Knight, a London neurosurgeon, pioneers stereotactic subcaudate tractotomy. • Founding of the World Psychiatric Association. • Thomas Szasz publishes *The myth of mental illness*. **1962** Ellis introduces 'rational emotive therapy'. • US Supreme Court declares addiction to be a disease and not a crime. **1963** Beck introduces his 'cognitive behavioural therapy'. • Carlsson shows that neuroleptics have effects on catecholamine systems. **1966** Gross and Langner demonstrate effectiveness of clozapine in schizophrenia. **1968** Strömberg describes 'brief reactive psychosis'. • Ayllon and Azrin describe the use of 'token economy' to improve social functioning. • Publication of DSM-II and ICD-8.

1970s **1970** Laing and Esterson publish *Sanity, madness and the family*. • Rutter publishes the landmark Isle of Wight study on the mental health of children. • Janov publishes *Primal scream*. • Maslow describes his 'hierarchy of needs'. • Axelrod, Katz, and Svante von Euler share Nobel Prize for work on neurotransmitters. **1971** British Misuse of Drugs Act passed. • Carlsson, Corrodi *et al.* develop zimeldine, the first of the SSRIs. **1972** Feighner *et al.* describe the St Louis criteria for diagnosis of schizophrenia.

1973 International pilot study of schizophrenia uses narrow criteria and finds similar incidence of schizophrenia across all countries studied. **1974** Hughes and Kosterlitz discover enkephalin. **1975** Research diagnostic criteria (RDC) formulated by Spitzer *et al.* in the USA. • Clozapine withdrawn following episodes of fatal agranulocytosis. **1976** Johnstone uses CT to study schizophrenic brains. **1977** Guillemin and Schally share Nobel Prize for work on peptides in the brain. **1979** Russell describes bulimia nervosa.

1980s **1980** DSM-III published by the APA. • Crow publishes his two syndrome (type I and type II) hypothesis of schizophrenia. **1984** Klerman and Weissman introduce 'interpersonal psychotherapy.' • Smith *et al.* first use MRI to study cerebral structure in schizophrenia. • Andreasen develops scales for the assessment of positive and negative symptoms in schizophrenia (SAPS/SANS p. 77). **1987** Liddle describes a three-syndrome model for schizophrenia. • Fluvoxamine introduced. • Mednick publishes first prospective cohort study of schizophrenia using CT. **1988** The 'harm minimization' approach to drug misuse introduced in Britain. • Kane *et al.* demonstrate efficacy of clozapine in treatment-resistant schizophrenia.

1990s **1990** Sertraline introduced. • Ryle introduces 'cognitive analytical therapy'. **1991** Paroxetine introduced. **1992** Moclobemide introduced as first reversible inhibitor of monoamine oxidase (RIMA). • The False Memory Syndrome Society Foundation formed in the USA. • Publication of ICD-10. **1993** Huntington's disease gene identified. • Launch of risperidone as an 'atypical' antipsychotic. • Linehan first describes her 'dialectical behaviour therapy'. **1994** Publication of DSM-IV. • Launch of olanzapine. • Gilman and Rodbell share the Nobel Prize for their discovery of G-protein coupled receptors and their role in signal transduction. **1995** Citalopram, a selective serotonin reuptake inhibitor (SSRI), nefazodone (dual-action SSRI), venlafaxine, a serotonin and noradrenaline reuptake inhibitor (first SNRI) all introduced. **1999** Hodges publishes first results from prospective Edinburgh High Risk (Schizophrenia) Study using MRI.

2000s **2000** Carlsson, Greengard, and Kandel share Nobel Prize for their work on neurotransmitters. **2002** Neuregulin-1 and dysbindin identified as susceptibility genes for schizophrenia. **2003** Aripiprazole, the first dopamine partial agonist antipsychotic launched. Caspi and colleagues show that genetic and environmental factors interact to modulate risk for depression and antisocial behaviour. **2005** The DISC1 gene, implicated in psychotic and affective illness, is shown to regulate cyclic adenosine monophosphate (cAMP) signalling. The first non-commercial large-scale trial compares new and old antipsychotics—Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE). **2006** Hall and co-workers show that the Neuregulin-1 gene is associated with changes in brain function and psychosis in the Edinburgh High Risk (Schizophrenia) Study. **2007** A glutamate agonist (LY2140023) is found by Patel and colleagues to have antipsychotic effects in patients with schizophrenia—potentially the first genuinely new (i.e. non-dopamine-based) treatment for psychosis.

The future

Attempting to predict the future is a dangerous business. Predictions tend to be based upon contemporary ideas and have a tendency to overestimate some types of change and underestimate others. Wild inaccuracy is the usual rule. This is particularly so in medical science where change is often a result of chance discoveries (e.g. penicillin) and sweeping reforms which make most then-current knowledge redundant (e.g. the germ theory of disease).

Currently practicing psychiatrists are (or should be) keenly aware of the deficiencies of current psychiatric practice. We lack knowledge of the aetiology and pathogenesis of most psychiatric disorders; we have no objective diagnostic or prognostic investigations; and our drug and psychological treatments are often minimally or only partially effective. While we welcome the ongoing gradual progress in knowledge and treatments, we are naturally impatient for rapid and fundamental improvements—we hope to join the other medical specialties in moving 'from the descriptive to the analytical'. Now at last it seems the tools are becoming available to develop a true understanding of psychiatric disease.

We are, however, cautious—there have been false dawns before. The insights into mental mechanisms provided by the psychoanalytical pioneers in the first half of the twentieth century gave rise to hope that these methods would prove therapeutic in many mental illnesses. The discovery of effective antipsychotic and antidepressant drugs in the 1950s raised hopes that examination of drug effects would reveal the pathological mechanisms of the underlying diseases. The move to community care which followed Enoch Powell's 'Water Tower Speech' in 1961 was driven by the hope that many of the deficits experienced by sufferers from mental disorder were not intrinsic to the disorders themselves, but were related to institutional living. None of these hopes were fulfilled. However, in this first decade of the twenty-first century, we have a number of genuine reasons for optimism and excitement.

Genetics

The information provided by the Human Genome Project, and large linkage and association studies, combined with techniques of high-throughput genetic screening allow identification of susceptibility genes for complex polygenic disorders. Advances in molecular biology will allow the functions of these gene products to be understood, potentially generating new therapies. We are increasingly coming to understand how susceptibility genes interact with the environment to cause illness, including the potential role of epigenetic factors in mediating the impact of environmental stresses on gene expression.

Novel treatment approaches

In the last century discovery of effective treatments led to aetiological hypotheses. In this century the hope is that understanding of the molecular and chemical pathways involved in risk for illness will lead to the development of novel treatment approaches, therapeutics becoming hypothesis driven rather than hypothesis creating. Rational drug design will be aided by computer modelling and screening of large numbers of potential drug molecules. There will be further investigation of stem cell therapy in neurodegenerative disorders.

Functional and diagnostic imaging

Current structural scanning methods (e.g. CT and MRI) reveal changes across cohorts of patients with major mental disorders but do not allow objective diagnosis in individuals. Many psychiatric disorders show no measurable abnormalities at all using current structural methods. In the future, functional imaging (e.g. PET, functional MRI), either alone, or in combination with structural scanning may allow an understanding of how changes in neural systems contribute to illness and possibly true diagnostic imaging.

Large-scale treatment trials

In current practice, even relatively common treatment decisions are not clearly evidence-based. The current evidence base is overly reliant on small randomized trials, uncontrolled trials and 'expert opinion'. Now, however, psychiatry researchers are following their peers in cardiology and oncology and recruiting to large scale treatment trials.

Every generation enjoys the use of a vast hoard bequeathed to it by antiquity, and transmits that hoard, augmented by fresh acquisitions, to future ages.

Thomas Babington Macaulay

I like the dreams of the future better than the history of the past.

Thomas Jefferson

There are fish in the sea better than have ever been caught.

Irish proverb

