TOWARDS A STRUCTURE OF INSIGHT: A CLINICAL AND CONCEPTUAL ANALYSIS

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Section II: The Structure of Insight

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SUMMARY OF THESIS

The concept of insight in mental illness is explored with the objective of developing a structural model of insight. This model, in turn, aims to provide a framework allowing the different clinical phenomena subsumed under the term 'insight' to be identified in a systematic manner. It is through the identification of, and differentiation between, such clinical phenomena that further progress can be made in the determination of the possible neurobiology underlying the different aspects of insight and insightlessness.

The thesis is divided into 2 sections. The first section (chapters 1-5) examines and analyses the notion of insight into mental illness from its historical development as an independent concept to the ways in which insight has been conceptualised and explored in clinical psychiatry and related disciplines. The second section (chapters 6-8) focuses on developing a model for the structure of insight. This section represents an integration of both conceptual and empirical work. Thus, the issues arising from the analysis in the first section are examined critically in order to determine possible theoretical components to the concept of insight as a whole. The empirical work draws on 2 studies undertaken to explore insight clinically and which help to support some of the theoretical distinctions made between the constituents of insight.

An overview of the chapters

Chapter 1 examines the concept of insight in mental illness from a historical perspective, concentrating predominantly on the views held by the late 19th century French alienists. This focus is the result of, firstly, the importance and influence of 19th century French psychopathology on Western psychiatry in general (Ackerknecht, 1967). Secondly, the French debates on this issue seemed to be particularly explicit in ways which not only bear resemblance to

current problems in this area, but help also to show how ideas on consciousness and insight developed in the context of the changing philosophical and medico-pathological views at the time.

Chapter 2 examines insight from a variety of psychological approaches which have also contributed to the conceptualisation of insight in psychiatry and neurology. Of interest here has been the view of insight as a particular form of intelligent behaviour developed by the Gestalt and the Gestalt-influenced cognitive psychologists. The different meaning of insight with its inherent underlying mechanism is explored in the psychoanalytical literature with the particular emphasis being placed on the gaining of insight in the context of psychotherapy.

Chapter 3 reviews the current empirical work on insight within clinical psychiatry. Most researchers have focused on exploring insight in patients with psychoses. It is apparent that there is considerable variability in both the way in which insight is defined, and the methods used to evaluate it clinically. Consequently, it is also not clear whether in fact studies are seeking to capture and assess the same clinical phenomenon. Results of research in this field are likewise variable and the relationship between patients' insight into their psychopathology and clinical variables such as severity of illness, type of illness or cognitive function remains unclear.

Chapter 4 examines work on insight and awareness in relation to neurological syndromes. Anosognosia, or unawareness of a specific and overt neuropsychological deficit, presents as a fairly dramatic clinical picture of insightlessness. It is important to question whether this constitutes the same clinical phenomenon as loss of insight in relation to mental illness. Neuropsychological theories attempting to explain such phenomena are

examined. These theories are particularly important since they have increasingly also been applied to research on insight in general psychiatry.

Chapter 5 reviews the work on insight in chronic organic brain syndromes. This is considered as a separate chapter partly because of the recent increase in studies examining insight in patients with dementia, and also because approaches in this area have tended to be based on an admixture of methods used in both psychiatry and neurology.

Following these analyses, chapter 6 begins to develop a definition and structure for the concept of insight in psychiatry. On the basis of this, a simple instrument devised to assess levels of insight is constructed and a study is described in which this is tested in patients suffering from either schizophrenia or a depressive illness. The insight instrument identifies qualitative aspects to the insight held by the patients. In particular, items relating to awareness of change in patients are distinguished from items relating to awareness of illness and are differentially endorsed. The study also shows that the level of insight (as assessed by the insight instrument) held by the patients changes during the course of their illness episode. In addition, differences in the level and type of insight held are identified between patients with schizophrenia and those with depression. The small number of patients involved in this study preclude firm conclusions to be drawn, but nevertheless, point towards interesting issues relating to the components of insight and to the direction of future research.

Chapter 7 continues to develop the structural configuration of insight by focusing particularly on the differences apparent between the psychiatric and neurological/neuropsychological disciplines in their conceptualisation and approaches used in the study of insightlessness. A study is described in which this issue is highlighted by examining insight into memory function in a mixed group of patients suffering from either organic memory dysfunction or functional

psychiatric disorders. Most significantly, the study identifies qualitative differences in the impaired insight shown between patients with an organic basis to their memory difficulties (n=56) and those without an organic deficit (n=44). It is argued, in the light of further analysis, that this result is best understood in terms of there being different phenomena elicited in the patient groups. The differentiation between such clinical phenomena falling within the concept of insightlessness carries important implications for the structure of insight. These implications are discussed with reference to possible different underlying explanatory mechanisms.

Chapter 8 brings together the analytical and empirical work to formulate a hierarchical model for the structure of insight. The model identifies different levels of insight structure and suggests that these may be differentially important when insight is assessed in relation to different 'objects' as well as for different purposes (i.e. clinical or research). The importance of maintaining distinctions between levels of insight structure is discussed in relation to implications for underlying mechanisms and hence for brain localisation.

INTRODUCTION

The concept of insight in relation to the 'healthy' mind has for a long time been a source of much interest to philosophers, psychologists, theologians, writers, and lay people. In Western cultures, for example, interest in self-examination is already evident in ancient Greek philosophy. 'Know Thyself' is inscribed on the temple of Apollo at Delphi and self-knowledge was a dominant feature in Socrates' teaching (Plato, Charmides, 164e). According to Socrates, caring for one's soul was the individual's main duty. However, only when one had self-knowledge could one care for oneself (Plato, Alcibiades, 129b).

With the decline of the Greek culture, the interest in self-knowledge appeared to diminish. Morris (1972) argued that concern about human individuality reappeared in the eleventh and twelfth centuries, but primarily in relation to Christianity. The emphasis in the Middle Ages on self-examination seemed to lie in the pursuit of moral virtues and the self was viewed as under constant supervision and judgement by God. During the Renaissance, the conception of self changed. Accompanying the expansion in science, technology and the economy, interest became more focused on the self as an individual and on his or her relationship with the world. Amongst the Renaissance writers, Pico della Mirandola (1965) placed the self at the centre of the universe. He maintained that the individual was capable of judging himself and thus should be in control of his own life. In other words, the emphasis was on the self as someone who could exert effects on himself and on the world and society.

In the 17th century interest in individuality continued to develop. Descartes identified consciousness or awareness with thinking: 'It is correct that to be aware is both to think and to reflect on one's thought... [the soul] has the power to reflect on its thoughts as often as it likes, and to be aware of its thought in this way...' (Descartes, 1648/1991, p335). He assumed, as did Locke later, that

every experience of the individual was accompanied by self-awareness (Perkins, 1969). In the 18th and 19th century, during the Enlightenment and the period known as Romanticism, the self became the true focus of thought. Self-awareness became self-reflection and self-consciousness. In contrast to Descartes who focused predominantly on the individual's self, the Romantics and some of the philosophers of that time argued that self-consciousness develops mutually with the consciousness of others. By being aware of others as reflexive beings, one is able to look at oneself through the eyes of others. One becomes the object of one's own observation (Mead, 1934, 1936). As a result, introspection became a prevailing theme of that time.

While interest in the self and self-awareness has grown and developed over a long time, there has been, in comparison, very little work carried out on the notions of awareness and insight into mental illness. Little is written on the history of these concepts, for example, when and why insight into illness was introduced into Western psychiatry. In the late 19th century, work on consciousness and awareness in relation to mental illness, as well as discussions on the value of subjective information, begins to appear (Dagonet, 1881; Parant, 1888). Similarly, early neurologists and neuropsychologists were having to provide explanations for strange clinical findings such as the anosognosias or the occasional refusal of blind patients to accept their disability (Anton, 1899). Based on clinico-anatomical correlations the suggestion was soon made that such clinical syndromes resulted from specific brain lesions. Others, on the other hand, claimed that such major states of insightlessness resulted from diffuse pathological changes in cognition and mental functioning. Much the same debate continues to the present day.

In current clinical practice, the mental state examination demands an assessment of the patient's insight, but until relatively recently, questions concerning what this actually meant, how this should be done and even why

this might be important, had not been addressed. In the last decade, however, insight into mental symptoms and illness has become an important subject of systematic research. Various instruments have been developed in attempts to assess patients' understanding of their experiences in a quantitative and qualitative way. Likewise, increasing interest in the subjective experiences of patients with neurological syndromes and dementias has resulted in a proliferation of studies focusing specifically on this aspect of patients' mental states. Curiously, research on insight from these various areas has tended to converge into two main domains of interest. First, studies have been aimed at exploring the specific features characterising those patients who seem to show some degree of insight, in comparison to those patients who appear insightless. In other words, questions are focused on the relationship between the presence/absence of insight and features such as the severity of the disorder affecting the patient, the effect of past experience of the illness, duration of hospital admission, and so on. Second, interest has been directed at correlating insightlessness with both neuroimaging and neuropsychological variables in an attempt to identify some form of brain localisation for insight.

It is interesting, however, and striking in the midst of this increased enthusiasm for the subject, that very little work has focused on examining the concept of insight itself, i.e. what insight means in the context of mental disorder and what its components might be. Is lack of insight simply unawareness of a particular phenomenon (akin to anosognosia in relation to neurological syndromes), or does insight involve additional judgements, i.e. attempts to make some sort of sense of the experienced phenomena? Is there a difference in the types of mental (and hence neurological) processes underlying awareness and judgement? Is this sort of distinction important clinically? Is it important from the research viewpoint, i.e. in exploring possible mechanisms and localisation of insight? Does the type of mental illness, mental symptom or neurological impairment, affect the way in which insight is conceptualised and assessed?

The aim of this thesis is to explore the concept of insight in mental illness, in order to try to answer some of the above questions. Crucial to empirical work and further research is the development of a clear understanding of what is being assessed, not only from the perspective of trying to gain more knowledge about insight itself, but also thereby clarifying the value and limitations of methods used for its investigation, and consequently, the results and conclusions that can be drawn from these. For the purpose of conceptual analysis, the thesis is divided into two sections. The first section (chapters 1-5), is concerned with reviewing and analysing the ways in which the term 'insight' has been used and the concept studied in general psychiatry and related disciplines. The aim of the second section (chapters 6-8) is to build up a picture of the structure of insight. This is constructed on the basis of both theoretical and empirical work. Thus, some of the ideas emerging from the first section are developed alongside the analysis of individual terms and concepts important to the notion of insight, so that a model of the structure of insight is gradually built up. The results of empirical work reviewed in the first section together with additional results based on two empirical studies undertaken to specifically explore insight clinically, help to further develop and illustrate the model.

An overview of the chapters

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neurological/neuropsychological disciplines in their conceptualisation and approaches used in the study of insightlessness. A study is described in which this issue is highlighted by examining insight into memory function in a mixed group of patients suffering from either organic memory dysfunction or functional psychiatric disorders. Chapter 8 brings together the analytical and empirical work to formulate a hierarchical model for the structure of insight. The model identifies different levels of insight structure and suggests that these may be differentially important when insight is assessed in relation to different 'objects' as well as for different purposes (i.e. clinical or research). The importance of maintaining distinctions between levels of insight structure is discussed in relation to implications for underlying mechanisms and hence for localisation.

Section I: Insight in Clinical Psychiatry

Chapter 1

Insight in mental illness (psychoses): a historical overview

Examining the concept of insight or insightlessness from a historical perspective presents numerous problems. There is the issue, for example, of deciding which definition of insight should be used as the object of inquiry. As will be seen in subsequent chapters, the definition of insight is variable not only between different clinical disciplines, but also within the same discipline. The question then is whether narrower definitions, such as the meaning of 'awareness of illness' implicit in much of the current empirical research in psychiatry (McEvoy et al., 1989a,b,c; Amador et al., 1991; Young et al., 1993), should be explored and traced. Alternatively, the specific problem-solving notion in configurational learning as employed in Gestalt cognitive psychology (Sternberg & Davidson, 1995) could be examined, or perhaps it might make more sense to trace wider notions of insight such as self-knowledge (Marková & Berrios, 1992a, Gillett, 1994), self-appropriation of one's intellectual and rational self-consciousness (Lonergan, 1957), psychodynamic 'comprehension' (Richfield, 1954), or the cognitive view according to which insight is a function of a putative 'mind reading system' (Baron-Cohen, 1995). The problem here goes beyond that of tracing individual accounts or even attempting to capture the 'correct' invariant (assuming that there is such an object) that would enable one to devise a useful and valid reconstruction. More importantly, this problem concerns the consideration of the broader issue of chronicling a general history of insight, of determining whether the definitions grounded in the different traditions are based on a common ancestor or whether they are only related by a tenuous etymological link.

Berrios (1994a, 1996) has suggested that one way of approaching the above problem, i.e. in the construction of a valid historical account of symptoms/illness, is to make an explicit distinction between the histories of the terms, the behaviours and the concepts relating to the object of inquiry. Differentiating between the histories of these aspects of insight helps to illustrate and clarify how the meanings of insight may change, not only in time but also in relation to different contexts, whether these are social, cultural, intellectual, etc. This approach shall thus be followed here. It should be emphasised, however, that such distinctions made in relation to the histories of insight, do not entail their independence. For example, when considering insight as a 'behaviour', then clearly this is not an atheoretical object, nor one that is given as an overt expression of an ontological entity. Indeed, behaviours corresponding to insight are likely to have less ontological mass than other medical objects such as tumours, heart murmurs or hallucinations. Instead, interpretation of such behaviour (as insightful or insightless) is the result of overt and covert conceptualisation which in turn is shaped by a background of related concepts (e.g., ideas about the 'self', about the workings of the mind, about illness and mental illness, etc.) themselves determined in part by the views and knowledge held during the particular historical period of the subject. This is not to say that insight has no neurobiological basis but only that the capture of its behavioural core (ontology) depends on concepts (epistemological devices). Hence, the history of insight must study the contextualised interaction of etymology, concepts and behaviours.

This chapter thus first examines some of the historical contexts forming the background to insight and related notions. Then a brief overview of the history of the term 'insight' will be given, followed by an account of the history of the concept and behaviour of 'insight'. The histories of the concept and behaviour of insight are discussed together because of their particular interdependence.

The focus in this chapter will be, for reasons of space and in accordance with the general clinical interest, on insight in relation to psychoses.

1.1 Historical contexts

Until the early 19th century, the official view of insanity, as had been first offered by Hobbes and Locke during the 17th century (Berrios, 1994b), was based on the presence of delusions. Delusions, by definition, incorporated the notion of 'insightlessness'. In other words, between the late 17th century and the early 19th century, it would have been a logical contradiction in terms to talk about 'awareness of delusions'. Insight, being inherent to the concept of delusion, was therefore a parameter in the definition of insanity, rather than a variable that could be examined separately. Consequently, this makes it difficult to find discussions from this period concerning the significance of 'varying insightlessness' in relation to insanity. In addition, at this time, ideas of subjectivity or introspection were not yet central to the meaning of madness and did not become important in this respect until the middle of the 19th century.

Only occasionally and in the legal sense 'awareness of (mental) illness' became an issue during the late 18th century. At this time debates were emerging surrounding the existence of partial insanity. In this context, lawyers, challenging the concept of total insanity (Goldstein, 1987), raised the question of the possibility of awareness in relation to insanity. At the beginning of the 19th century partial insanity had two meanings. First, it referred to the concept of intermittent insanity, i.e. periods of madness interspersed with 'lucid' intervals, lucidity relating to either reversion (temporarily) to normality by the mental faculties, or the sparing of the intellectual faculties in the face of disease involving rest of the mental faculties (Despine, 1875; Legrand du Saulle, 1864). Second, partial insanity meant incomplete insanity or monomania, i.e. the

madness was viewed as affecting only one or some regions of the psyche (Kageyama, 1984). Thus, awareness of illness could in such contexts be conceived as occurring in relation to either the unaffected faculties of the mind, or in relation to the unaffected periods in the course of the illness.

Another development important to the history of insight at the beginning of the 19th century and relating also to the conceptualisation of partial insanity, was the gradual emergence of different forms of faculty psychology. This in broad terms referred to the view that the mind operates on the basis of individual, independent units or functions, and contrasted with the prevailing associationism which, following the empirical philosophy of Locke and Condillac, viewed the mind as indivisible. The challenge to the associationistic view of the 'workings of the mind' and hence also to the notion of total insanity came from a variety of both theoretical and empirical sources. Prominent amongst these was the rise of the phrenology movement through the work of Gall and Spurzheim which was important in influencing the views of alienists in early 19th century France (Goldstein, 1987) and Britain (Cooter, 1979). Specifically, Gall proposed that innate, independent faculties were localisable to particular organs/regions in the brain and that these were responsible for individual mental qualities, constitutive of both mind and character (Spoerl, 1936). A different form of faculty psychology, viewing faculties more in functional terms (or powers) and consisting of different 'content' (e.g. understanding, will, judgement etc.), came from the 18th century Scottish philosophers, particularly Thomas Reid (1785/1863). This also permeated into the thinking of French philosophers and alienists during the early and middle of the 19th century (Boutroux, 1908). From an empirical perspective, the clinical observations of the alienists of the early 19th century likewise contributed to the development of views about the mind as consisting of separate mental functions and hence, vulnerable to independent dysfunction. Pinel, Prichard and Esquirol, amongst others, proposed a definition of insanity in terms of

faculty psychology which in due course made possible the creation of new clinical categories such as the 'emotional' and 'volitional' insanities (Berrios & Gili, 1995). Pinel, in particular, was explicit in the conclusions he drew on the basis of his observations of insane patients: '...the examples of manic patients with fury but without délire and without any incoherence in their ideas, are far from being rare in both women and men, and they go to show how much lesions of the *will* can be *distinct* from those of the *understanding*, even though they frequently occur together' (Pinel, 1809, p102, my emphases). Pinel then went on to question how such examples could be explained if the views held by Locke and Condillac were to be followed. Similarly, he noted that patients could appear to have lesions of the affective faculties only, or even isolated lesions involving attention, memory, thoughts or judgement. Again, Pinel could not reconcile his observations with the doctrine of indivisibility of human understanding (Pinel, 1801). The new clinical categories formed as a result of such observations, e.g. volitional insanities, were thus subsequently found not to be necessarily linked to 'insightlessness', even if in practice, patients with severe depression or mania or abulia might refuse to accept that they were 'ill'. In other words, the concept of 'partial' insanity and of monomania allowed for the existence of an insanity which could have awareness of itself. This is thus the historical moment in which 'insightlessness' ceased to be a parameter in the definition of insanity. It became meaningful, for the first time, to treat it as a variable.

Faculty psychology raised important debates in relation to mental illness. Falret (1866), for example, believed that faculties represented useful psychological divisions but did not necessarily represent pathological divisions of the brain. He, like Maudsley some years later, believed that madness, even if affecting predominantly one or some faculties, had its effects on all. Others, like Delasiauve (1866) in the same debate, disagreed and held that insanity could be specific to different faculties.

The conceptualisation of insight or awareness into mental illness was made further possible by the changing views on the causes of insanity, these in turn relating to shifts in the notion of disease itself. An anonymous historian stated in 1840: 'all explanations of mental illness boil down to three options: they are localised in the brain ... or in the soul ... or in both.' (Fabre, 1840, p118). Supporters of the anatomo-clinical view of disease, including madness (Ackerknecht, 1967), were thus more able to accept the notion of partial insanity and monomania and hence also the possibility of insight into the diseased mental faculties. In contrast, those who believed that insanity was exclusively sited in the mind or soul (l'âme) had difficulty in conceiving partial insanity and insight into illness since the soul was, in terms of the philosophy of the period, indivisible and could not become partially diseased.

Besides the changing views developing in relation to the nature of mental processes and mental illness, the growth and enrichment of insight as a concept, was, in the late 19th century, further enabled by the increased interest taken in related concepts such as consciousness, introspection (Boring, 1953), the self (Berrios, 1993) and in the importance of the subjectivity of inner experiences. In addition, there was the arrival in psychology and psychiatry, of the concept of comprehension (Verstehen), as developed in different ways by Brentano (1973), Dilthey (1976) and eventually, Freud, Husserl and Jaspers, amongst others (Berrios, 1992). This concept encompassed more than 'understanding' and more than 'looking into one's mind' (as suggested by introspection). It attempted rather to capture the totality of one's mental and existential state (which included also regions of information which are not conscious or volition-driven). Within this new frame, 'full insight' demanded more than a definition of 'intellectual' knowledge of 'being ill'. Instead, deeper processes involving emotions and volitions also needed to be invoked. The mechanisms that made such holistic insight possible varied according to the

school of thought. In Brentano, for example, this concerned intentionality and particularly his mechanism of a 'third consciousness': 'Experience shows that there exist in us not only a presentation and a judgement, but frequently a third kind of consciousness of the mental act, namely a feeling which refers to this act, pleasure or displeasure which we feel towards this act' (Brentano, 1973/1874, p143). For Dilthey, on the other hand, 'Verstehen' attempted to grasp the totality of individual's experience ('Erlebnis',- not just inner experience but including the relationship between inner and outer), in its historical context as well as the cognitive, affective and volitional aspects of consciousness (Dilthey, 1976; Makkreel, 1992; Apel, 1987).

1.2 History of the word

The history of the word 'insight' and equivalents is potentially informative. The main issue arising here is that the term only exists in the North and West Germanic families of languages. The Italic family (French, Spanish, Italian, Portuguese, etc.) does not have a corresponding unitary term and the translation of insight into any of these languages is made according to verbal function. For example, a well known 19th century German-French dictionary translates the German word for 'insight', 'Einsicht', as: 'inspection, examen, connaissance de cause, bon sens, jugement' (Rose, 1878). This linguistic fact is interesting as it also corresponds with a more marked interest shown in 'insight' in the countries of the Germanic families. It is not however clear whether, or to what extent, having a unitary term (insight or Einsicht) might carry implications for the conceptualisation of insight (particularly with respect to a putative ontological entity).

For the German term 'Einsicht', Grimm and Grimm propose as equivalents the Latin terms 'intelligentia' and 'judicium', and suggest that the term gained wider usage in the work of Goethe and Kant (Grimm and Grimm, 1862). Adelung, at

the very beginning of the 19th century, defines it as 'Das sinneinsehen in eine Sache' (understanding the sense of something) (Vol. 1, Adelung, 1811). Ritter adds that the Middle German term 'însehen' is present in Medieval mystical writings meaning 'hineinsehen' (looking into); and that J.C. Günther at the beginning of the 18th century discarded the religious denotation to use 'Einsicht' as equivalent to personal evidence (Vol. 2, Ritter, 1972). This writer also suggests that the 'psychological' meaning introduced by Köhler (see chapter 2) was a departure in that it simply meant 'intelligence' and hence approached the old Aristotelian meaning of φρονησις (thought or understanding).

As far as the English is concerned, the second edition of the Oxford English Dictionary provides a set of definitions governed by the same metaphor: 'internal sight, with the eyes of the mind, mental vision, perception discernment' or 'the fact of penetrating with the eyes of the understanding into the inner character or hidden nature of things; a glimpse or view beneath the surface; the faculty or power of thus seeing'.

On the other hand, one of the earliest clinical usages of the term 'insightlessness' can be seen in Krafft-Ebing (1893): 'in the later stages of insanity, where delusions have become organised or mental disintegration has ensued, the patient is completely insightless [einsichtslos] about his disease state' (p102).

1.3 History of the concept

The history of the concept of insight is illuminating, particularly in relation to the evolution of the notions of reason, consciousness and self-knowledge. In this section, only the psychiatric aspects will be examined. As mentioned earlier, because of the special nature of the behaviours corresponding to insight (i.e.,

they have to be accessed via the concepts), their history and that of the concepts, will be dealt with together.

French Views

A major debate specifically concerned with awareness of mental illness ('la discussion sur les aliénés avec conscience de leur état', SMP, 1870) was held by the Société Médico-Psychologique in 1869/1870, and again to a lesser extent, in 1875. These discussions were held in the context of medico-legal concerns in relation to determining responsibility for criminal and civil acts. There had been recognition many years earlier that some insane patients retained awareness of their pathological state. The Belgian alienist Guislain (1852), for example, observed how some patients, particularly at the beginning of their illness, would tell others that they felt unwell, ill or that their illness was at the point of exacerbation. In his clinical descriptions of mental illnesses Guislain further pointed out that 'awareness could remain intact and the patient is able to say to himself: I am mad' (Guislain, 1852, p62). Similarly, Delasiauve (1866) had commented on the presence of awareness in some insane patients and had specifically designated the term 'pseudo-monomanie' for patients with monomania who had awareness of their morbid condition. Falret (1866) in his study on 'folie raisonnante' likewise pointed out that some patients with delusions and hallucinations knew that they were ill. Many insane patients, he observed, 'have perfect awareness of their states, which is in great conflict with their ill behaviours, ... with the delusional ideas imposed on them' (Falret, 1866, p387). On the basis of this observation, Falret argued against allowing loss of awareness to be a criterion distinguishing between reason and insanity. It was thus accepted in the debates that followed, that some patients with mental illness had awareness of their conditions. Discussion therefore focused firstly, on the significance of such awareness, particularly in the area of legal

responsibility, and secondly, on attempts at defining the criteria and limits of insanity itself.

Concerning the question of legal responsibility, most alienists (Delasiauve, 1866, 1870; Falret, 1866, 1870; Morel, 1870) argued that patients could have awareness of their mental illness and nevertheless be powerless to prevent the behaviours that arose as the result of their madness, and thus, could not be held legally responsible for their acts. Morel (1870), emphasising the importance of distinguishing between reason and awareness of illness, observed that some patients could continue to reason even when deluded but still remained unaware of their illness. Other patients, in contrast, might have poor ability to reason, but were nevertheless aware of their mental illness ('aliénés irréponsables mais non des aliénés inconscients' [sic], p116). On the other hand, Fournet (1870) argued strongly that awareness of illness on the part of the patient implied some degree of reason. This in turn implied partial responsibility for acts, the degree of responsibility being proportionate to the amount of reason held. Fournet's arguments, however, based on the ability of the soul to resist 'insane' impulses, were not generally upheld.

In regard to the other domain in which awareness of illness was discussed, namely, the nature of mental illness itself, the debate focused on a variety of issues. For example, it became clear that terms such as 'intelligence', 'reason', 'judgement', 'understanding', etc. first needed to be clarified in the context of both brain physiology and mental or psychological processes (SMP, 1870). The question of whether patients with awareness into their illness could rightly be called insane, was also raised. Billod (1870) made some interesting observations. First, he reported that awareness was more common in patients whose madness followed alcohol excesses and that if these were excluded, women showed more awareness into their insanity than men. He also presented data showing that of 378 men admitted to the asylum in that year, 61

showed awareness of their mental illness and in 53 of these patients, their mental illness followed alcohol excesses. Of the 61 patients with awareness of their mental illness, 49 had complete awareness and 12 showed incomplete awareness. Similarly, of 350 women patients admitted in the same year, 19 showed awareness of their condition and in 5 of these patients, their mental illness followed alcohol excesses. Twelve of the 19 patients with awareness of their mental illness, showed complete awareness and 7 had incomplete awareness. Thus, if patients with mental illness subsequent to alcohol abuse were excluded, a greater proportion of female patients compared to male patients showed awareness of their mental illness (14 females from 350 admissions: 6 males from 378 admissions). Second, Billod distinguished between two types of awareness shown by insane patients. The first group, he noted, were those who were aware of being insane but who nevertheless believed in the reality of their delusions. Billod held that this contradiction evident between their awareness and their delusional beliefs, signified a lesion of judgement. Consequently, this group of patients were to be considered as truly insane. The second group, Billod labelled as 'pseudo-insane' (pseudo-aliénés). Again, patients in this group showed awareness of being insane, but in contrast to the first group, they also recognised the falseness or unreality of their morbid experiences (this antedates David's (1990) notion of 'relabelling' psychotic symptoms as pathological - see chapter 3), even though they remained tormented/distressed by them. Because their judgement was thus relatively preserved, Billod argued that these patients were not truly insane.

One of the problems in examining the concept of awareness or insight in 19th century French psychiatry is that the term 'conscience' refers to two rather different concepts. Prosper Despine (1875) pointed out that this was a source of confusion since psychologists and philosophers tended to use the concepts interchangeably. He suggested that the term 'conscience morale' should be used to refer to the English equivalent of 'conscience' (i.e. knowledge of right

and wrong, good and bad), whilst the term 'conscience personelle' should refer to the English term 'consciousness' (he further translated this as 'conscienciosité [p14]). For Despine, 'conscience personelle' meant knowledge of one's mental faculties, i.e. knowledge of what is perceived, remembered, reflected, felt, feared etc. and he did not separate this from such activities themselves. Thus, he stated that conscience personelle 'is not a special faculty ... doing and knowing that one is doing, is the same thing' (Despine, 1875, p14). This knowledge however does not include further knowledge and judgements concerning the nature and cause of mental pathology. In fact, the concept of insight in this wider sense is not really possible for Despine because of his conception of the psychology of madness (folie). Firstly, he links this awareness of thoughts/feelings intrinsically to the intellectual faculties themselves. Secondly, he views madness as a disturbance of the moral faculties resulting specifically in (moral) blindness to overwhelming passions. The intellectual faculties on the other hand may be weakened, but continue to work, albeit under the influence of the abnormal passions. He explicitly disagrees with Victor Cousin whom he cites as stating '...frequently the passions, removing our liberty, remove at the same time the consciousness of our actions and ourselves. Thus to use common parlance, one doesn't know what one does' (Despine, 1875, p266). Instead, Despine argues that 'man always has conscience personelle of acts that he carries out, even when blinded by passion, he always knows what he is doing and can, subsequently recall it' (Despine, 1875, p266-267). On the other hand, knowledge of the mental pathology itself is not possible, 'the one afflicted by madness cannot judge it as madness because it is his own blindness that constitutes it' (Despine, 1875, p271).

It seems clear therefore that, in contrast to the earlier debates, insight as a composite concept of self-awareness and judgements concerning mental illness did not exist for Despine. He viewed knowledge of self and the

knowledge of the nature and effects of madness as separate and distinct processes subserved by different types of mental faculties. Whilst the former was preserved during madness as a function of the (relatively) intact intellectual faculties, the latter was impossible on account of the impaired moral faculties.

In a classical paper on 'Conscience et Aliénation mentale', Henri Dagonet (1881) directly addressed the concept of consciousness or awareness (conscience) in relation to mental illness. He believed that in order to better comprehend mental illness and thus any relationship to anatomical change, it was essential to examine the mental symptoms in themselves. Foremost among these, he argued, should be the study of anomalies of consciousness. Dagonet's concept of 'conscience' was broad, and more akin to the notion of insight as used in current studies in clinical psychiatry (at least as theoretically defined) than to the notion of awareness as used in the earlier studies or in the studies of insight in neurological states (see chapters 3 & 4). He based his concept of consciousness on the ideas of Littré and Despine. The former had defined 'consciousness' as 'the immediate, constant, intimate (intime) *feeling* of the activity of the self, that is within each phenomenon of moral and intellectual life' (Dagonet, 1881, p369, my emphasis). Despine, as described above, had defined consciousness as 'the *knowledge* held by the psyche of its operations, its thoughts...(Dagonet, 1881, p369, my emphasis). Dagonet himself defined consciousness as 'the intimate (intime) knowledge of ourselves, or the moral and intellectual processes going on within us' (Dagonet, 1881, p370). Elaborating on this further, he conceived of consciousness as 'capturing all the phenomena of our internal life and committing them to memory'. This knowledge included the 'feeling of totality of the person (le sentiment de la personnalité) which was subject to the transformations experienced by the latter under the influence of illness' (Dagonet, 1881, p370). In other words, the concept he described was not simply an awareness of a particular function or activity (nor was it equivalent to the current meaning of consciousness), but

suggested also a deeper notion of self-understanding and knowledge. 'In the (healthy) physiological state, man has consciousness of himself. He knows and understands what is going on in him' (Dagonet, 1881, p374). At the same time, this consciousness was as vulnerable to pathology or disease as the rest of the psyche.

Dividing up pathological states into those where consciousness was lost/disturbed and those where it was preserved, Dagonet observed that in relation to mental disorders, there existed a wide range of anomalies of consciousness. In most cases of the various mental illnesses the disorders of consciousness were related to the disorders affecting other faculties. Thus, the manic patient, for example, though generally able to subsequently recall his acts within an illness episode, would lose consciousness (i.e. insight) during the episode itself. This was evident on account of his inability to fix his attention, of his incoherent speech and of the lack of connections between his ideas. Similarly, in most cases of hallucinated patients, the hallucination 'removes the consciousness of self from the individual and renders him passive to its force...such that he will commit all sorts of unreasonable actions under its influence' (Dagonet, 1881, p392). Nevertheless, Dagonet pointed out, there are other cases where patients appear to retain awareness of the hallucination as an abnormal phenomenon and search for explanations. Likewise, with other mental illnesses, awareness of these can be absent, modified or retained. In the latter case, patients may have full knowledge of themselves, may be able to analyse all their (new) experiences and at the same time be unable to understand their passivity in the face of the illness.

Interestingly, Dagonet also identified patients who appeared to show what he termed 'double awareness' (double conscience). Such patients might exhibit impulsive and violent behaviour and/or be dominated by fears, hallucinations and delusions and yet, they have 'intimate knowledge of what is happening to

them. They judge correctly, and feel that their will is insufficient to resist against the terrible acts into which they are pushed' (Dagonet, 1881, p21). These patients would thus ask for help or admission to the mental hospital. Dagonet viewed such double awareness as a state of splitting of the psyche, whereby one state of awareness was experiencing the bizarre phenomena and the other state of awareness was judging this in a correct manner. The resultant combination of experiences gave rise to perplexity and confusion. He gave an example of a patient suffering from persecutory delusions, believing that the whole world was concerned with him, that people were repeating what he was saying and thinking and making obscene gestures at him. At the same time the patient could analyse and study his abnormal experiences and make a correct judgement: 'he knows that the impressions he is experiencing are false interpretations' (Dagonet, 1881, p21).

Dagonet believed that the awareness of illness shown by some patients could be explained on the basis of Luy's hypothesis of pathological asymmetry of the cerebral hemispheres. Thus he cited, 'the coexistence of lucidity and delusional illness [délire] can be rationally explained by the integrity of one cerebral hemisphere and pathological hypertrophy of the other' (Dagonet, 1881, p20). He claimed further support for this hypothesis by the autopsy result on one of his mentally ill patients who had manifested clinically 2 distinct states of awareness. At post mortem, there was apparently considerable difference between the 2 hemispheres suggesting that each corresponded to the different mental states.

Finally, Dagonet devoted a small section to the medico-legal implications of his observations. He stated that from the point of view of allocating responsibility (for criminal acts), it was not sufficient for patients to have perfect knowledge of their selves as was the case in some disorders, but that one had to take into account all the symptoms characterising the patient's illness. In other words, he

emphasised, as had the alienists in the debates 10 years earlier that patients could retain self-awareness, but nevertheless be 'forced' into unreasonable acts through the influence of delusional ideas. Specifically therefore, Dagonet dissociated the notion of awareness of illness from that of legal responsibility: 'awareness should not be considered as a thermometer measuring degree of responsibility...more important are the pathological phenomena characterising the mental illness. The severity of these should be determined in order to ascertain the degree of resistance necessary for the patient to overcome the dominating impulses' (Dagonet, 1881, p32).

Seven years later, in a book examining the nature of reason in insanity and the implications for legal responsibility, Victor Parant (1888) analysed the concept of awareness of self in mental illness (conscience de soi). Following Falret and Morel, he made it clear that awareness should not be confused with reason and defined the former as a 'state [in mental illness] in which the patient can take account of his impressions, his actions, his internal experiences and their resultant effects.' In other words, awareness, 'implies not just knowledge of the mental state, but also the capacity, in varying degrees, to judge this' (Parant, 1888, p174). In contrast to Despine, he disagreed with Spurzheim's view, translated by Baillarger as 'madness is a misfortune which is unaware of itself' (Parant, 1888, p175) and concurred with Dagonet that patients could show a range of awareness and judgements with respect to the mental illness. Pointing out also that this varied according to the stage of the illness (i.e. whether early on in the illness, during the episode, or after recovery), Parant (1888, p188-218) classified mentally ill patients (during an episode of illness) into 5 groups on the basis of different types of awareness:

1) those who were aware of their acts and who could judge if these were good or bad, but who were unaware of their morbid state (this is similar to Despine's notion of awareness);

2) those who were aware that they were in an abnormal state but who did not understand or would not admit that this state was insanity (e.g. patients recognising the abnormality of their experienced phenomena but making delusional interpretations);

3) those who were aware that their experiences/behaviours/perceptions were the result of insanity but who nevertheless behaved as if they did not realise this, i.e. not fully accepting that they had a mental illness (e.g. patients with hallucinations and persecutory delusions, convinced by the reality of their delusional illness and yet, at the same time, believing that they were ill);

4) those who were aware of their morbid states and understood that these were due to insanity, but who were powerless to do anything about it;

5) those who were aware of their morbid states and understood that these were due to insanity, but who committed or were pushed into doing serious, dangerous acts.

The concept of awareness or insight that Parant held thus incorporated both the awareness of thoughts, perceptions and actions together with the judgement of these as being morbid or the result of mental illness. He emphasised that whatever form the awareness took during the mental illness, i.e. whichever category patients fell into, the presence of awareness implied a persistence of the faculty of judgement. He further emphasised the dissociation between such judgement and the manifest behaviours (particularly with respect to categories 3), 4), and 5)). Patients 'are like helpless spectators of the breaking down of what is most precious in themselves, that is their freedom as well as their intellectual faculties' (Parant, 1888, p223). Like Dagonet, he thus

stated that preservation of awareness did not entail the preservation of free will and hence did not entail legal responsibility for criminal acts.

British Views

In 19th century England, the concept of consciousness in mental illness was likewise a subject of debate. Interest, however, focused predominantly on this as the notion of awareness of mental operations and in this context, discussions were concerned with examining the nature of conscious and unconscious mental processes from the physiological and philosophical perspectives (Davies, 1873; Ireland, 1875). The wider concept of awareness of or insight into the mental illness and the effects of this on mental faculties was not in itself an important issue for discussion. Instead, occasional reference to this notion can be found in the observations put forward by the alienists in relation to their descriptions of the various forms of insanities. Prichard (1835), for example, concurring with Georget whom he cited, commented that insane persons were fully convinced of their perfect sanity, ' yet, as the same author observes [Georget (1795-1828)], there are some patients who are well aware of the disorder of their thoughts or of their affections, and who are deeply affected at not having sufficient strength of will to repress it' (Prichard, 1835, p121).

Some years later, Maudsley (1895) expressed considerable scepticism towards the importance and role placed on consciousness in relation to mental function. He stated: 'it has been very difficult to persuade speculative psychologists who elaborate webs of philosophy out of their own consciousnesses that consciousness has nothing to do with the actual work of mental function; that it is the adjunct not the energy at work; not the agent in the process, but the light which lightens a small part of it ... we may put consciousness aside then when we are considering the nature of the mechanism and the manner of its work...'

(Maudsley, 1895, p8). He reiterated this several years later: 'consciousness is the dependent phenomenon or so-called epiphenomenon...' (Maudsley, 1916, p7). Maudsley's conception of insanity precluded the possibility of insight or proper judgement concerning the nature of the mental derangement on the part of the patient. The insane patient, whose mental functions were deranged, became alienated from himself, and, 'he is now so self-regarding a self as to be incapable of right regard to the notself...' (Maudsley, 1895, p1). Whilst clinically the line between sanity and insanity could not be well demarcated (Maudsley, 1885), in functional terms, Maudsley drew a strict line between the sane and the insane aspects of the mind, with no real communication or exchange between them. Thus, in the same way that the sane man was incapable of judging precisely the behaviours and experiences of an insane man (and hence carrying implications for determining legal responsibility) (Maudsley, 1885), then similarly, patients with partial insanity could not judge with their sane mental functions the phenomena produced by their insane mental functions: '...each self thinks its own *thinks* or *things* - that is, thinks its own world; the true self, or what remains of it, perceives the world as it looks to sane persons, and the morbid self or double perceives it as a strange and hostile world' (Maudsley, 1895, p304). In other words, antedating Lewis (1934), Maudsley did not believe it was possible for an insane mind to make a rational judgement concerning its derangement.

The question of the role and state of consciousness in insanity continued troubling writers well into the 20th century. For example, Claye Shaw (1909), echoing many of Maudsley's views on consciousness, nevertheless placed greater importance on the notion in relation to mental illness, particularly again with respect to determining legal responsibility. He suggested that the poor recall of events shown by patients with acute mental illness was due to altered consciousness at the time. Such changes in consciousness often may be subtle and difficult to discern because 'there are in reality as many forms of

consciousness as there are different mental states' (Shaw, 1909, p408). Linking consciousness to emotional tone, however, he went on to postulate that one way of recognising altered consciousness in mental illness was by the dissonance or incongruence between patients' thoughts and their apparent emotional state: 'there is evidence that both in dream states and in insanity the emotional side of the idea may be wanting, and this must have great effect on both memory and consciousness ... I have over and over again noticed that people with delusions of a very depressed type do not show the emotional tone which should co-exist with the delusions' (Shaw, 1909, p406-407). Once again, the implication behind Shaw's views is that the disordered or deranged mind, unable to attend to either internal or external events, and hence unable to subsequently recall them, is unlikely to be capable of forming 'correct' or sane judgements concerning the nature of morbid pathology.

German Views

The concept of insight in terms of its nature, its diagnostic and predictive significance, did not seem to interest Kraepelin or Bleuler a great deal. Kraepelin referred to the notion under 'judgement': 'What always surprises the observer anew is the quiet complacency with which the most nonsensical ideas can be uttered by them and the most incomprehensive actions carried out' (Kraepelin, 1919, p25). He observed that some patients showed awareness of the morbidity of their state early in the disease, but that this left them as the disease progressed: 'patients often have a distinct feeling of the profound change which has taken place in them. They complain that they are "dark in the head", not free, often in confusion, no longer clear, and that they have "cloud thoughts" ... understanding of the disease disappears fairly rapidly as the malady progresses' (Kraepelin, 1919, p25-26). Beyond subsequently commenting that 'a certain insight into their diseased state is frequently present' in patients with the catatonic form of dementia praecox (Kraepelin, 1919, p150),

and that patients with manic-depressive psychosis had 'more tendency to, and ability for, the *observation of self*, to painful dissection of their psychic state' in contrast to patients with dementia praecox, (Kraepelin, 1919, p264), Kraepelin did not further elaborate on the concept.

It was Karl Jaspers who, using his 'phenomenological' approach to psychopathology, focused more specifically on the concept of insight in relation to mental illness. He wrote: 'Patients' self-observation is one of the most important sources of knowledge in regard to morbid psychic life; so is their attentiveness to their abnormal experience and the elaboration of their observations in the form of a psychological judgement so that they can communicate to us something of their inner life' (Jaspers, 1948, p350). Jaspers observed that in the early stages of their illness patients became perplexed, this being an understandable reaction to the new experiences they were undergoing. As the illness progressed, the patients tried to make sense of their experiences, for example by elaborating delusional systems. Thereafter, Jaspers described how, when the illness produced changes in personality, a patient's attitude to the illness became less understandable to others as he/she could appear indifferent or passive to the most frightening delusions.

Jaspers also observed that while transient insight may occur during acute psychoses, there was no lasting or complete insight. In fact, he stated that where insight ('Einsicht') persisted, the patient was more likely to be suffering from a personality disorder than a psychosis. In patients who recovered from the psychotic state, Jaspers made a distinction between psychoses such as mania and alcoholic hallucinosis where the patients were able to look back on their experiences with 'complete' insight, and a psychosis such as schizophrenia where they did not show full insight. He reported the latter patients as being unable to talk freely about the contents of their experiences, becoming overtly affected when pressed to do so, and occasionally maintaining

some features of their illnesses. He further described patients with chronic psychotic states who, from their verbal contents, often appeared to have full insight, yet in fact such verbal contents would turn out to be learnt phrases and meaningless to the patients themselves.

Jaspers' concept of insight, partly based on clinical observation, referred to the patients' ability to judge what was happening to them during the development of psychosis, and to the reasons why it was happening. Thus, he made a distinction between awareness of illness ('Krankheitsbewußtsein'), that is experiences of feeling ill or changed, and insight proper ('Krankheitseinsicht'), where a correct estimate could be made of the type and severity of the illness. These judgements, however, depended on the intelligence and education of the individual; indeed, because judgements of this nature are inherently a part of the personality make-up, in the case of patients with intelligence below a certain level (e.g. idiocy), it would be more appropriate to think of loss of personality rather than loss of awareness as the feature in their lack of knowledge of themselves.

Jaspers was aware of the difficulty involved in theorising about patients' insight, and of the extent to which an outsider can hope to understand patients' attitudes to their illness. He formulated this by stating that it was easier to assess patients' objective knowledge, that is their ability to understand and apply medical knowledge to themselves, than their comprehending appropriation ('verstehendes Aneignen') of it. This latter function, Jaspers claimed, is intrinsically linked with the patients' selves, and hence cannot be divorced from knowledge of self-existence itself.

The aftermath

During the *inter bellum* period the currency of insight as a concept was established. Insight was the subject of debate, primarily in the area of Gestalt psychology (chapter 2), where questions being asked concerned both its meaning and empirical application in terms of experimental elicitation (Bulbrook, 1932). George Hartmann (1931), the German psychologist, expressed this as follows: 'terminological difficulties are a notorious source of confused thinking ... the notion of insight as elaborated by the Gestalt psychologists during the last decade is a special case in point ... both precision and uniformity of meaning are absent' (Hartmann, 1931, p242). He went on to identify 3 main meanings of insight: '(1) insight as general comprehension ... (equivalent to an intuitive form of knowledge) ... (2) insight as a personality trait ... and (3) insight as configurational learning' (Hartmann, 1931, p243). Of particular relevance here was his second meaning which he held to refer to awareness of one's state: 'Psychiatrists have long sought to discriminate between the functional disorders in psychotic and neurotic cases on the basis of awareness of one's condition. The sufferer from a neurosis is maladjusted and knows it; the frankly insane person is said to be relatively oblivious to his abnormality. The Allports have modified this view in their treatment of the social phases of character to designate the ability of a person to appraise his individual resources in accordance with the judgements of his fellows. Insight in this case has fundamentally an egocentric reference' (Hartmann, 1931, p243).

In 1932, R. M. Ogden replied to Hartmann and criticised his introspective leanings. He also called into question the plausibility of trying to use insight as 'a clear and simple idea', for questions about insight could not be answered in general. In a claim, that must still apply to current empirical work on insight (see chapter 3), Ogden wrote: 'the point is that such questions [about insight and its experimental applications] cannot properly be asked outside the framework of a definite set of postulates; and when they are asked the framework will suggest most of the answers as a necessary consequence of the postulates' (Ogden,

1932, p356). The same year, Hartmann (1932) responded and defended his introspective and experiential views on insight. These exchanges were important to the views expressed 2 years later by Lewis (1934). His classic paper on insight in relation to mental illness has in turn been important to the development of current models and empirical studies on insight and as such, will be examined in chapter 3.

Lastly, in the exploration of the concept of insight, it is of interest to mention Conrad's work in this area. Conrad (1958) carried out long-term observations on schizophrenic patients and described the development and progression of the psychotic state. Although he did not use the term, his conceptualisation of the awareness of change in the self and the environment due to mental illness is related to what Jaspers called 'insight'.

Conrad named the early stage of the schizophrenic illness the 'trema'; during this stage patients found it difficult to express their feelings and experiences; some would talk about fear, tension, anxiety and anticipation, while others would describe feelings of guilt and helplessness. Conrad believed that the common theme was a feeling of oppression, an awareness that something was not right, and a sense of restriction of one's freedom. During the next stage of the illness, the 'apophany', patients attributed meaning to feelings and experiences; for example, when in the state of 'anastrophe' patients believed themselves to be the centre of the world.

Conrad described further stages during which destructive processes were followed by partial resolution as residual schizophrenic effects persisted, and postulated that schizophrenia was an illness affecting the higher mental functions which differentiate humans from animals. Thus, it affected the whole self-concept and, in particular, the ability of the individual to effect the normal

transition from looking at oneself from *within* to looking at oneself from the *outside*, by the eyes of the world.

1.4 Summary

The conceptualisation of insight into mental illness and hence its observation as a behaviour or manifestation of a patient's mental state appears to emerge in the middle of the 19th century. Before that, there is very little on insightlessness in the clinical literature. This is likely to have been due to the fact that questions concerning insight and awareness of mental illness were meaningless during a period in which insanity was specifically defined in terms of the presence of delusions. Subsequently, in the contexts of an emerging faculty psychology and the changing views on the causes of insanity, there developed concepts such as partial, emotional, and volitional insanities. These led during the second half of the 19th century to the possibility of evaluating patients' awareness and attitudes vis-à-vis their insanity.

Important also to the development of the concept of insight has been the formation and elaboration of concepts such as consciousness, introspection, the self and the notion of 'Verstehen'.

The French and German psychiatric traditions have handled the problem of insight differently. The absence of a single French word to refer to the mental states and behaviours captured by the German term 'Einsicht' has meant that the phenomenon has been referred to by paraphrase which has included reference to the wider notion of conscience. This has, in general, kept French ideas broader. The availability of a specific term in English and German, on the other hand, is likely to promote a view of insight as a circumscribed phenomenon with implications for an independent ontology. Such differences in perspective are in turn likely to influence the direction of future research.

Chapter 2

Insight in Psychology: Gestalt and Psychodynamic theory

Within psychological literature, the concept of insight has been a source of interest from a number of perspectives. As in other disciplines, the meaning of the term 'insight', and approaches taken to study this, have been variable, serving to emphasise perhaps the complexity of this concept. Some of the neuro-cognitive psychological approaches to the study of insight or awareness are examined in chapters 4 and 5 (in relation to neurological states and dementia). This chapter deals with a brief review of the concept of insight as understood in Gestalt psychology and the subsequent Gestalt-influenced cognitive psychology, before concentrating in more detail on insight in relation to psychodynamic theory.

2.1 Gestalt Psychology

Gestalt psychology was one of the branches of psychology that developed at the beginning of the 20th century, predominantly through the work of the German psychologists, Wertheimer, Köhler, Koffka and Duncker. The notion of 'insight' in this area has had a very specific meaning which is quite different to the usage of the term 'insight' in general psychiatry (chapter 3), neurological states (chapter 4) and the dementias (chapter 5). In some ways, however, the meaning of insight in Gestalt psychology is perhaps closer to the sense in which 'insight' is used in lay terminology.

Köhler (1931/1927) originally used the term 'insight' to refer to intelligent behaviour as manifested in his experiments with chimpanzees. Specifically, this related to "the sudden occurrence of a perfectly clear and definite solution" (Köhler, 1931, p241) when the apes were faced with particular tasks. On the

basis of his experiments, Köhler distinguished between behaviours which led to solutions of the tasks by chance or trial and error learning, and those where genuine solutions occurred, i.e. were solved by 'insight'. In line with Gestalt theory, Köhler went on to say that in the former behaviour, "the structure of the situation in itself has no power whatever directly to determine conduct appropriate to it", whereas in the latter behaviour, the "process as a whole corresponds to the structure of the situation, to the relation of its parts to one another" (Köhler, 1931, p189). In other words, 'insight', as determined by the particular behaviour in the chimpanzees, characterised by a sudden, rapid, smooth and directed process through which the objective is attained, is viewed as intelligent thought or solution-solving process. This, according to Gestalt theory, results from the structural reorganisation of the particular situation through the 'understanding' of the functional relationships between its relevant and constituent parts. Thus, a criterion of insight is "the appearance of a complete solution with reference to the whole lay-out of the field" (Köhler, 1931, p190). Furthermore, again in line with Gestalt theory, this reorganisation is a perceptual process and hence, "insight of the chimpanzee shows itself to be principally determined by his optical apprehension of the situation; at times he even starts solving problems from a too visual point of view, and in many cases in which the chimpanzee stops acting with insight, it may have been simply that the structure of the situation was too much for his visual grasp" (Köhler, 1931, p267). According to Koffka (1963/1935), insight here is offered as a description, or "a fact containing a new problem" and not as an explanation in itself. However, Köhler does attempt to provide some explanation based on association theory, proposing that it is the understanding of the relationship between things (and hence the structure of the whole) that is the crucial element, this being the "interconnexion based on the properties of these things themselves".

Whilst others have criticised this interpretation of the animals' behaviour as 'insight' (see Koffka, 1952/1928 for review), this concept of insight, as developed by Gestalt psychology, has been influential in this area until the present time. Thus, although Gestalt psychology itself, in relation to this topic has largely been superseded by more 'cognitive' approaches, the original notion of insight has persisted and has been applied to human behaviour. Current work in this area has tended to focus more on the possible cognitive processes preceding and possibly underlying 'insight' as a phenomenon observed in humans (Sternberg & Davidson, 1995). A review of the recent research raises a number of issues.

First, it appears that within the constraints of a fairly narrow and specific concept of insight there are nevertheless (as is the case in other disciplines) numerous differences concerning the actual definition of insight and its underlying mechanisms. Most commonly, the currently held meaning of insight involves the "sudden, unexpected solution to a problem" (Schooler et al., 1995), reflecting very much the view held by the early Gestalt psychologists (Köhler, 1931; Hartmann, 1931; Hutchinson, 1941). Other definitions however abound. Some writers, for example, stress that insight is a particular state of mind such as a "knowledge state" (Dominowski & Dallob, 1995), or "subjective experience of correctness" (Gruber, 1995), or "integral part of human intellect" (Seifert et al., 1995). Others however emphasise that insight is not a state, but a process (Davidson, 1995; Csikszentmihalyi & Sawyer, 1995; Ippolito & Tweney, 1995). As a 'process', insight has also been viewed in different ways, e.g. a fairly narrow meaning of insight as a "process by which a problem solver suddenly moves from a state of not knowing how to solve a problem to a state of knowing how to solve it" has been put forward by Mayer (1995, p3). A broader definition has been offered by Finke (1995, p255) as an "essential process by which we come to make surprising discoveries and realisations, both about real-world issues and problems and about ourselves". Smith (1995, p232) in fact,

distinguishes between (1) insight, as an understanding (of a mechanism, an analogy or a reconceptualization) and (2) an insight experience, as a "sudden emergence of an idea into conscious awareness, the 'Aha' experience". Some further confusion results from the fact that definitions often incorporate (to different extents) both 'phenomenological' features and possible underlying mechanisms. Thus, Gick & Lockhart (1995) stress the affective component of insight, i.e. they distinguish the feeling of surprise and suddenness (ranging from delight to chagrin) from the cognitive components of insight. Others, e.g. Dominowski & Dallob (1995), focus on 'restructuring' and changing perception as the main definitional criteria. This type of problem is common also to the definitions of insight/awareness in relation to neurological states (see chapter 4). It would however be useful, as Schooler et al. (1995) point out, to distinguish between the event of insight and the explanation of insight.

Debate also continues on whether 'insight' represents a special state or process (Dominowski & Dallob, 1995; Metcalfe, 1986) or whether in fact it is unnecessary to consider it as a special construct (Gick & Lockhart, 1995; Perkins, 1995; Weisberg, 1995). Weisberg (1992, 1995), in particular, has argued against insight as a special psychological process, focusing instead on classifying the types of problems that may or may not require 'insight' in order to be solved.

Second, research on insight in cognitive psychology has concentrated predominantly on experiments where individuals are given different types of problems or tasks to solve. (Some 'naturalistic' studies have also been undertaken in terms of observing how scientists work, e.g. Dunbar (1995).) Thus, as in Köhler's experiments, insight is assessed as a behaviour occurring in 'normal' individuals in relation to particular tasks (though in these situations, subjective evaluations are also assessed). This approach to studying insight clearly contrasts very greatly to the approaches taken in psychiatry, where

insight has to be explored in relation to subjective experiences which are generally not ascertainable in an objective sense. On the other hand, insight as a task-dependent behaviour, has also been one of the approaches taken in the study of insight in relation to various neuropsychological syndromes, such as the amnesic syndrome (see chapter 4). This particular issue (to be discussed in section II), illustrates the singular interdependency between conceptualisations of insight and the specific environments (i.e. 'normal' situations v mental/physical symptoms v specific deficits etc.) in which insight is elicited. In other words, the concept of insight appears to be as much determined, in terms of meaning, definitional criteria, refinement and specification, by the assessment itself (and the object of assessment) as is the assessment on an *a priori* notion of insight.

Third, a variety of different stages have been described in the process of attaining insight, and likewise, a range of different underlying mechanisms have been proposed. In general, such stages and mechanisms have been couched in information processing terms and, most commonly, in variations on the phases suggested by Wallas (1926) (cited in Seifert et al., 1995) and Hutchinson (1941). Such stages can be summarised as follows:

(1) a mental preparation stage (Simonton, 1995, distinguishes between short and long term), where the problem or situation is first confronted and where perhaps unsuccessful attempts at solving take place;

(2) most researchers also propose a second stage of incubation (Csikszentmihalyi & Sawyer, 1995; Seifert et al, 1995), where the particular problem is put aside temporarily. A number of mechanisms have been postulated as underlying this stage, including, (a) unconscious processing (e.g. Seifert et al., 1995; Smith, 1995), and, (b) random or fortuitous interaction with external/social events serving to trigger or precipitate further processing, which

eventually leads to restructuring of the problem (Csikszentmihalyi & Sawyer, 1995; Seifert et al., 1995; Simonton, 1995). Interestingly, Perkins (1995) argues against the need for an 'incubation' phase and unconscious mechanisms in particular, proposing instead mechanisms involving searching through potential "possibility" and "klondike" spaces.

(3) the third stage put forward is the illumination or flash of insight itself, when unexpectedly/suddenly, the solution is solved, not preceded by the 'feeling of knowing' characteristic of non-insight solution solving (see Metcalfe, 1986 for review of experimental evidence). It is of interest to note that this is in direct contrast to experimental methods used in neuropsychological studies of insight in amnesic syndromes. In the latter studies, the notion of 'feeling of knowing' (also termed as 'metacognition') has been used as an indication of insight or awareness (Shimamura & Squire, 1986; Shimamura, 1994).

(4) lastly, a fourth stage of verification, completes the process, and is the stage where details of the problem-solution are worked out (Seifert et al., 1995).

The actual solution or 'insight' is viewed generally as representing a restructuring of the particular problem, and again, a range of possible psychological processes have been suggested, whereby such restructuring might take place. For example, Duncker (1945) describes this as a reformulation of the initial problem. A similar conceptualisation of "discovering effective problem representation" has recently been proposed by Kaplan & Simon (1990). In a similar vein to Duncker, the Russian psychologist Rubinstejn (1960/1958) argued that in order for reformulation of the problem to take place, there has to be a preceding analysis of the problem-solving situation. Davidson & Sternberg (1986) suggest a 3-stage process consisting of: (i) selective encoding, (ii) selective combination and (iii) selective comparison. They describe a set of experiments with problems designed to test such processing.

Other suggestions involving methods of restructuring have included: removing mental blocks (Duncker, 1945), restructuring by analogue (Gick & Holyoak, 1980, 1983; Mayer, 1995), reorganisation of the elements of past experience (Ellen & Pate, 1986), and by the filling in of a particular schema/gap (Mayer, 1995). An interesting, more integrative and less mechanistic model is proposed by Csikszentmihalyi & Sawyer (1995). They emphasise that although 'moments' of insight involve intrapsychic processes, they fundamentally occur in the context of a social/environmental milieu and hence the attainment of insight is a social process. They formulate a 3-level model involving a combination of serial psychological processing occurring at a conscious level, and parallel distributed processing at a subconscious level. Information from the different domains is viewed simultaneously and thus, connections between disparate bits of information can be made. In this way the authors stress that all stages in the model are heavily dependent on social interaction.

In summary, the concept of insight in Gestalt psychology is viewed in a very specific sense. Bound up in the theory of perception that is central to Gestalt theory, insight results from the reorganisation or restructuring of a particular situation/problem, based on some form of perceptual shift ('things falling into place'). With the development of cognitive approaches, the perceptual analogy has largely been replaced with information-processing-like models, though the 'behavioural' aspect of the Gestalt notion remains. Insight has been studied both as an 'intelligent behaviour', by the solving of specific tasks or problems and as a 'creative process' through retrospective and prospective research into scientific methods (Dunbar, 1995).

In contrast to the broader and often vague meanings of insight held in relation to mental illness (see next chapter), the specificity of the concept of insight in Gestalt/cognitive psychology is striking and manifest in several ways. Thus, firstly, the experience of insight (whether conceptualised as a state or process)

is characterised by certain features, namely, suddenness, spontaneity, unexpectedness and satisfaction (Seifert et al., 1995). In other words, there is the sense of 'enlightenment' or 'revelation' that can be observed both in behavioural (the rapid solving of a task) and in subjective (the 'Aha' experience) terms. Secondly, the 'object' of insight is likewise considered in specific terms, namely, as a particular problem or task. Hence, insight has to do with problem-solving. Furthermore, the particular problem concerned is also specified and generally, such problems are divided into insight-problems and non-insight problems (Weisberg & Alba, 1982; Metcalfe, 1986; Weisberg, 1992, 1995; Mayer, 1995). The fact that some insight-problems can be solved by non-insight means, and vice versa (Davidson, 1995), together with the fact that the decision as to whether problems are insight-problems or not is dependent on the way in which they are solved, makes this particular issue somewhat tautological. Thirdly, some specificity is also implied in relation to the individual with insight. Thus, linked more directly with intelligence (e.g. Davidson, 1995), insight is typically viewed as the 'property' or feature of highly intelligent or creative beings, borne out by the extensive research into scientists and their methods (Dunbar, 1995). Some writers (Isaak & Just, 1995) do make a point of stating that "insight can be experienced by lay and professional people" but nevertheless, the general point is that insight belongs to the domain of intelligence.

2.2 Psychodynamic theory

In contrast to the situation in general psychiatry, the concept of insight has been very much central to psychoanalytic theory, both as an integral element/component of psychoanalytic psychotherapy and subsequently as a focus of attention in its own right. Thus, in the former case, without being invoked as such, insight, in the sense of attaining a 'deeper' self-knowledge, has formed the basis to psychoanalytic theory. 'Deeper' here refers to the

tapping of unconscious knowledge, this being thought to underlie the patient's psychopathology. As Freud (1973a, p321) stated, "our therapy works by transforming what is unconscious into what is conscious". Freud used the term 'insight', or 'Einsicht/Einblick' predominantly to denote knowledge or awareness of being ill (A. Freud, 1981). According to A. Freud, there were only two instances where Freud used the term 'insight' in the deeper sense of revelation, as in the much quoted line from the 1931 preface to the 3rd English edition of *The Interpretation of Dreams*: "Insight such as this comes to one's lot but once in a lifetime" (S. Freud, 1900, p xxxii). Nevertheless, the concept of insight as a deep self-understanding is implied in both the aim ("where id was there ego shall be" (Freud, 1973b, p112)) and in the treatment ("understanding and cure almost coincide, that a traversible road leads from one to the other" (Freud, 1973b, p180)) through the psychoanalytic approach. It was in fact in the early 1950s that the term 'insight' really started being applied specifically to this concept and since then, it has continued to be the source of much debate. In this regard, two main areas will be examined in this section. Firstly, the concept of insight itself will be reviewed, as again, numerous definitions and underlying processes have been suggested within the psychodynamic literature resulting in conflicting views concerning its nature. Secondly, the role of insight in psychoanalytic therapy will be discussed as this likewise has been a source of mixed views.

2.2.1 Concept of insight

In psychodynamic approaches, it was recognised early on that the term 'insight' was confusing and that there were inconsistencies in the way it was used (Strachey, 1934; Zilboorg, 1952; Roback, 1974; Scharfman, 1981). As in other disciplines, numerous definitions of insight have been offered, e.g. more than self-awareness or introspection but requires tolerance of anxiety and delay of impulse (Sargent, 1953), as a first awareness of oneself or of the world as it

affects oneself (Myerson, 1960), as an ability to see and move freely through the inner world that contains both changing and stable representations of the self and of other environmental objects (Shengold, 1981), as knowledge helping the patient explain his symptoms or problems (Glucksman, 1993) etc. Similarly, a number of analyses of the concept of insight have been proposed, both from a descriptive perspective and from the point of delineating possible constituent processes. Such work has yielded a range of different distinctions with consequent variable definitional criteria which remain confusing to the present day (Elliott et al., 1994). For example, Reid & Finesinger (1952) define insight as "a cognitive act by which we grasp the significance of some pattern of relations.....a problem-solving, knowledge-yielding process" (in this sense, their definition is close to the Gestalt notion). They analysed the concept of insight on the basis of the type of relations that are understood and went on to distinguish the following types:

(1) neutral insight, where the patient grasped the relationship between events on the basis of "plausible sounding patterns of words" (i.e. some sort of logical sense between meanings);

(2) emotional insight, which was further divided into two forms. In the first form, the patient grasped the relation between terms, one of which was an emotion. In the second form, whilst understanding might involve an emotion as part of the relevant relationship, there was in addition a cognitively mediated emotional response (i.e. an emotion was released through the cognitive act);

(3) dynamic insight, where the knowledge related to unconscious processes as representing one or more terms in the significant relationship. The authors used this term 'dynamic' in the "systematic Freudian sense of penetrating the repressive barrier and making the ego aware of certain hypercathected wishes that were previously unconscious" (Reid & Finesinger, 1952, p731). The

authors also suggested that of the types of insight described, it was the attainment of 'dynamic insight' that produced the most lasting and therapeutic benefit.

Whilst agreeing that 'insight' had to involve the patient's understanding of his unconscious mental processes in order to achieve therapeutic benefit, Richfield (1954), pointed out that recognition of such unconscious processes on the part of the patient did not necessarily lead to a change in the 'neurotic' behaviour. He proposed that it was not the content of the knowledge that was essential to the therapeutic effect of insight, but the form in which this knowledge was experienced. Thus, on the basis of Bertrand Russell's classification of knowledge, Richfield distinguished between insight gained by description and insight gained by acquaintance. When patients attained descriptive insight, they became aware of the 'truths' about themselves by acknowledging the words of the analyst. When, however, they attained ostensive insight, they became 'personally acquainted' with the 'truths', for example, through transference when the particular emotions were brought directly in their awareness. In a similar vein, Bibring (1954) distinguished between insight through clarification and insight through interpretation, and likewise, Kris (1956) conceptualised insight in terms of both experiential and reflective forms.

In general agreement that becoming 'aware' ('intellectually/experientially') of unconscious mental processes was a prerequisite of psychodynamic insight, subsequent writers elaborated on this idea, attempting to describe and delineate further the possible mechanisms and effects which could help to define insight more clearly. Blum (1979, p51), for example, states specifically that insight ('analytic') "does more than make conscious; it establishes causes, meanings, and connections". He goes on to suggest that this is achieved by the process of 'working through' with the analyst, overcoming the patient's resistances (primarily through transference and interpretation) and leading to

"structural change" in the patient. (A few authors dispute this particular view, e.g. Cautela (1965), holding instead that it is the structural change which promotes insight rather than vice versa. However, most writers seem to hold the latter view.) The use of the terms 'structural change' and in a similar manner, 'restructuring' and 'reconstruction', suggests again a similarity to the Gestalt notion of insight as involving a restructuring of a particular problem. However, restructuring and reconstructing in the psychoanalytic literature have a much broader and deeper connotation in terms of both referents and consequences. Firstly, in psychoanalytic theory the structural change in relation to insight refers to personality change, and this is how Blum (1979) uses the concept, i.e. insight results in "adaptive and intrapsychic change". Secondly, 'reconstruction' or 'restructuring' also refers to the putative process of insight development (Sternbach, 1989; Blum, 1992). This particular use emphasises the active nature of insight attainment (Sternbach, 1989), with events/experiences in the past and in the present being perceived differently and 're-structured' according to the 'working through' process (via interpretation, transference, clarification etc.). In this sense, the reconstruction or insight development is viewed very much as a creative process. In fact, as pointed out by A. Freud (1981), there are contrasting opinions concerning this actual process of insight development. On the one hand, this is considered by some as a 'restoration' or 'rediscovery' of insight, i.e. by the overcoming of defence mechanisms, the knowledge that is already there, albeit repressed, will be restored (e.g. H. Hartmann, 1939, cited in Abrams, 1981). On the other hand, most authors (Abrams, 1981; Sternbach, 1989; Blum, 1992), including A. Freud (1981), view the insight process as an act of creation, i.e. as restructuring inner experiences in a completely 'new' way. Abrams (1981, p261) states this very clearly: "Insight-producing activity entails taking things apart and putting them together differently. It is the highly specialized expression of fundamental differentiating and integrating capacities, the operation of a relatively intact higher level of mental organization. The new assemblage of drive and defence,

desexualized and/or restructured, is an entirely different product from what has preceded it".

The essential point however is that structural change, as both a process and consequence of insight, in contrast to the Gestalt notion, is very much interactive and bi-directional. Thus, not only are the inner experiences viewed as being reconceptualized or restructured by the patient (together with the analyst), but such restructuring, becoming assimilated/integrated within the intrapsychic processes, in turn, affects the way the patient perceives and structures future experiences.

So far therefore, psychodynamic insight is in the main viewed as an active, creative process of self-knowledge, mediated by reconstruction or by uncovering of inner experiences, generally through the awareness and understanding of unconscious mental processes. Most writers in this field seem to agree that it is an on-going or long term process (Kennedy, 1979; A. Freud, 1981; Abrams, 1981, Shengold, 1981, Blum, 1992). Some, such as Blum (1979) suggest even that it applies to the entire life of the patient, and only a few (Olmos-de Paz, 1990; Elliott et al., 1994) talk about insight as an 'immediate' or sudden event as used in the Gestalt sense. Part of the problem here, is that the distinction between insight as a process and 'working-through' is not clear. Olmos-de Paz (1990) does specifically distinguish between the two, describing insight as a creative process occurring at a 'given moment' but achieved by the slow process of working through. She argues, however, that the two processes are inseparable. Rhee (1990) on the other hand makes a distinction between insight as a 'sudden enlightenment' and working through as 'gradual enlightenment'. Pollock (1981) in a like vein also distinguishes between two 'types' of insight, namely:

(1) inductive insight, corresponding to the more 'sudden' phenomenon, defined as "discovery of meaning" and derived from "transference repetition in psychoanalysis";

(2) reconstructive insight, which seems to correspond more to 'working through' and is defined as "deductive understanding arrived at by reconstruction" and involving the "determination of cause and effect or antecedent-consequent linkages".

The nature of the psychoanalytic process itself has precluded the use of large scale empirical studies. Conceptualisations of insight have tended to be couched in terms which are consequently subjective, involving individualised assessments of the patient-analyst interaction that generalise from the single, 'in-depth' case studies. Hence, insight is frequently discussed in metaphorical and personally interpretative terms, such as, a journey (Shengold, 1981), a bridging of different levels of the mind (Scharfman, 1981), a capacity to be familiar with different mental states (Segal, 1991), ideational representation of the change in ego formation (Wallerstein, 1983), a sense of congruence, mutuality and unity recollected from early mother-child experiences (Mangham, 1981), and so on. There have also been some attempts at suggesting both empirical/objective elements to insight and comprehensive theoretical models. For example, Abrams (1981) proposed a number of empirical components to 'insight-producing activity' which he identified on the basis of two case reports (one adult and one child) and which were common to varying extents to both. These components he listed as: (1) attention, initially diffuse but becoming more focused, (2) distinct emotional tone, appropriate to the ideas, (3) recognition of link between different components, e.g., dreams or memories, (4) free movements within time periods, due to awareness of the meaningful relationship between past and present, (5) a sense of inner unity within the

patient, and (6) at moment of 'discovery', a recognition that something new has happened.

More recently Elliott et al. (1994), examining insight empirically, described a 5-stage model of insight based on identification of some common factors around the experiencing of an 'insight-event'. To do this, they compared 2 groups of patients undergoing psychotherapies, 3 patients receiving cognitive-behavioural therapy and 3 patients having psychodynamic-interpersonal psychotherapy. Taping and transcribing the relevant sessions, they used 'Comprehensive Process Analysis' ("a systematic, interpretative, qualitative research procedure for analyzing significant events") to demarcate characteristic features and contexts surrounding identified 'insight-events'. Such insight-events were defined as the patients' realising something new about themselves. This is an interesting study and one of the few empirical attempts made in this difficult area. The authors' conceptualisation of insight in this case was somewhat different from the approaches used by the foregoing authors, and bore more similarity with the Gestalt notion of insight. They suggested that 4 elements constituting insight were: (1) metaphysical vision (seeing something with 'figurative eyes'), (2) identification of connections, (3) suddenness ('click') and, (4) newness (sense of discovery). Their operationalised definition of an 'insight-event' was therefore based on this 'sudden understanding' concept. This makes sense from a practical viewpoint, though clearly, insight here is considered in a relatively narrow way. It would be difficult to argue that the same type and 'quality' of 'insight' was captured in each case. Based on their discourse analysis of such events, they went on to propose a model of insight involving 5 stages, namely: (1) contextual priming, (2) novel information, (3) initial distantiated processing, (4) 'insight', and (5) elaboration. This again resembles the Gestalt-based cognitive work discussed earlier.

A different theoretical model of insight is offered by Lindén (1984,1985) who, in line with Reid & Finesinger (1952) views insight as a cognitive act, but stresses the need for an adequate theory of cognition as a necessary basis for her model. For this purpose, she uses the framework of Nilson's genetic-hierarchical system which itself is based on an integration of Freud's and Piaget's developmental theories. Hence, using a developmental approach (see also Kennedy, 1979), she classifies insight by means of levels of capacities in different 'cognitive' domains, these being, sensori-motor, perceptual and conceptual levels. This results in an interesting and broad framework, which helps to describe different levels or types of insight in relation to patients' development, though again, insight is conceptualised in a highly individual interpretative style. Interestingly, in relation to the particular stimuli that 'trigger' the cognitive activities, Lindén makes a distinction between 'insight', where the stimuli are internal, and 'outsight', where the cognitive activities relate to external object stimuli.

Using another theoretical approach, Watt (1990) tries to link the process of psychoanalytic insight with neurological and neuropsychological models of brain functioning in order to provide an integrative and explanatory framework for the concept of insight. Specifically, he suggests that insight in patients occurs as a result of increased and changed "dialogue" between the left and right hemispheres, this being promoted by the psychoanalytic process itself. By this "dialogue", Watt means increased communication between each hemisphere so that there is a mutual integration of each other's specialised function. Thus, the right hemisphere (viewed as the affective-configurational representational system), loses some of its "highly polarized character, activating power and distorting impact" through increased 'dialogue' with the left hemisphere (viewed as the lexical-semantic representational system). This in turn "expands its constricted and narrowly rigid base to include much more sensitivity to needs, aggression and their vital relationship". Such increased

communication is seen as being promoted by the therapist's input in terms of his/her clarification and interpretation. This hypothesis is interesting and novel, but does lack justification on both theoretical and empirical grounds, as well as needing essential clarification of terms such as 'dialogue'.

2.2.2 Role of insight in therapy

Closely linked to the conceptual debate of insight is the other main area giving rise to mixed views, namely, the role or significance of insight within psychoanalytic psychotherapy. How important is the attainment of 'insight' in the treatment/cure of the patient? Fisher & Greenberg (1977) pointed out how Freud's own concept of insight in relation to therapy and cure changed. While initially Freud maintained the existence of a direct relationship between the attainment of insight (albeit not in these terms) and behavioural change/cure, he later acknowledged the equal importance of time, 'working through' and 'inner resistances':

> "The pathological factor is not his [the patient's] ignorance in itself, but the root of his ignorance in his inner resistances....Informing the patient of what he does not know because he has repressed it is only one of the necessary preliminaries to the treatment...(Freud, 1910, p225-226)".

Since then, there have been disparate views on the relationship between insight and cure. Blum (1979) maintained that the goal of analysis was the attainment of insight, achieved mainly through interpretation: "analytic 'cure' is primarily effected through insight and not through empathy, acceptance, tolerance etc." (p47). He further stated strongly, "Insight is a *sine qua non* of the psychoanalytic process and is a condition, catalyst, and consequence of the psychoanalytic process" (p66). More recently, Blum (1992) reiterated these views, stating that in spite of the ambiguities of definition of the concept, insight remains the "unique critical agent of psychic change in clinical psychoanalysis" (p257). There have been a few who have shared such views, e.g. Loewenstein,

(1956), Segal (1991) and Etchegoyen (1993). The latter author, though stressing that a good relationship between the patient and analyst was a necessary condition of cure, stated that "Insight is the sufficient condition". Most writers in this area however, whilst acknowledging the importance of gaining insight, believe that other factors are also, equally if not more, important in achieving 'cure' or therapeutic change (Roback, 1974). As many have pointed out, patients can gain insight with no therapeutic improvement and, likewise, patients can improve without gaining insight (Wallerstein, 1983). Alexander & French (1946) stated that insight was not central to change but that the crucial factor was a "corrective emotional experience". Valenstein (1981) suggested that rather than having a direct curative effect, insight was important in cure through its indirect effect, i.e. gaining insight would lead to "restoration of ego function" which in turn would lead to cure. Fischer (1983) pointed out that there were some patients who did not have the capacity to understand symbolic representation via interpretation/transference etc., and hence were unable to make use of an insight-oriented approach. He suggested that in these patients, cure could be achieved by means of 'paradoxical intervention', which specifically avoided the promotion of insight through confrontation and subsequent clarification and interpretation of behaviour. Some authors have stressed the importance of direct experience as a means of achieving cure or structural change; rather than insight (Lehmkuhl, 1989; Sampson, 1991; De Jonghe et al. 1992). Still others emphasise the importance of a combination of insight and other factors in the curative process, such as experience and supportive environment (De Jonghe et al, 1992), the relationship with the analyst, both as a real relationship and through transference, empathy and self-analytic capacity (Glucksman, 1993), and interaction of insight with 'working through', active action (behavioural) techniques (Frank, 1993).

There have been a few empirical studies examining the relationship between insight and therapeutic outcome in the psychodynamic literature. Most of these

have involved the comparison of outcomes between insight-oriented psychotherapies and various forms of non-insight-oriented psychotherapies. For example, Coons (1957) examined differences in 3 groups of 'mostly schizophrenic' hospital in-patients. One group, the 'interaction group', was given treatment along 'interaction' lines, i.e. focus was on inter-patient verbal communication with no reference to psychological problems or personal difficulties. Another group, the 'insight group', was given treatment using directed discussion of psychological disturbance (including looking at aetiological factors, manifestation of illness and personal difficulties). This group was discouraged from inter-patient communication and the focus was on therapist-patient interaction. The last group was a 'control group' who received no formally specified treatment. The results of this study indicated that the 'interaction' group showed the greatest improvement, and Coons concluded that inter-personal interaction could cause therapeutic change and that insight was not necessary for such change. However, there are a number of problems with this study. For example, it is not clear whether the patients receiving 'insight treatment' actually attained insight, and if they did, how this was assessed or measured. Nor is it clear what sort of insight was being promoted. It is also questionable whether the Rorschach, used as an indicator of therapeutic change, was a valid measure of improvement. Similar problems occur in other studies. Paul (1967) compared outcomes between patients (selected from volunteer undergraduates wanting help with interpersonal performance anxiety) receiving insight-oriented psychotherapy and those receiving individual systematic desensitisation (and control groups). He found that in comparison with the other treatments, systematic desensitisation led to a more significant and lasting reduction in maladaptive anxiety. Again however, whether and how insight was attained and measured was not specified, and some might argue that psychoanalytic insight is unlikely to be achieved in the 5-session treatment. Hartlage (1970), comparing outcomes between chronic schizophrenic patients receiving 7 sessions of 'reinforcement therapy' (i.e.

adaptive behaviour reinforced by coffee, smiles, various rewards) with those receiving 7 sessions of 'traditional therapy' (i.e. therapy promoting insight - interpretative statements, fostering of transference), found that significant improvement (assessed using the hospital adjustment scale) occurred in the patients receiving reinforcement therapy. Once again however, similar problems arise with respect to the following issues: whether 'insight' was attained in the relevant group; what sort of insight this was; how was this measured etc. In addition, the 'therapists' in this study were student nurses who received brief training (5 hours) in both therapies, and hence, it is questionable whether 'insight' in the sense of deep understanding could be promoted under these conditions. Roback (1971, 1974), reviewing these and other studies, also reiterates their methodological limitations and makes a number of conclusions. These are still valid today, namely: (1) the need to define the concept of insight in empirical studies, (2) the need to employ measures of the degree of insight produced, (3) the need to report on the specific operations of the therapists involved in bringing about the development of insight, and (4) the need for there to be validating material showing that 'insight' has been developed. That these issues remain valid even now, is borne out by some of the more recent empirical studies. Thus, Gedo & Schaffer (1989), examining the relationship between a specified form of insight, namely, 'transference insight', found a very poor inter-rater agreement on the insight ratings, suggesting that in spite of selection of a particular type of insight, the concept still needed further clarification. In a different type of study Bogetto & Ladu (1989), comparing outcomes between a group of patients receiving psychoanalytic psychotherapy (insight-oriented) and a group of patients receiving psychopharmacological therapy, found that both groups improved symptomatically. The first group, in addition, exhibited greater insight into their problems. However, the concept of insight was left unclear and likewise, how this was evaluated was not specified. Similar difficulties have beset other studies examining, for example, psychological-mindedness and benefit from insight-oriented group therapy

(Abramowitz & Abramowitz, 1974), or assessment of suitability for insight-oriented psychotherapy (Persson & Alström, 1983, 1984). In the former study, however (Abramowitz & Abramowitz, 1974), the authors focused on validating, in several ways (including external judgements of taped sections), the operations used by the therapists, i.e. whether they fulfilled the aim of each therapy.

There have been few actual measures of insight produced in this field (c.f. other disciplines, see next chapters), presumably because of the specific difficulties in attempting to 'measure' the concept of a 'deep' understanding and the complicated levels of conceptualisations. One specific measure, the 'Insight Test', was developed as a projective test by Sargent (1953). This consisted of a series of items describing a number of different problem situations. The subject had to respond by saying what the leading character in each situation did and why and how he/she felt about it. The subject's responses were viewed as an 'ability to "see into" the motives, actions and feelings of others' (Sargent, 1953, p17). In spite of its title, the author explicitly stated that the test was not designed to assess self-understanding, but was intended to delineate 'the self-concept, the individual defense structure, and the preferred modes of emotional problem solving' (p ix). In other words, it was a test developed to explore the personality of the subject, including in this context, the individual's 'potential for insight'. Interestingly, a test developed along similar lines but purporting to measure 'insight' was constructed by Tolor & Reznikoff (1960). Their test consisted of 27 hypothetical situations, depicting the use of common defence mechanisms, and they applied this to college students and psychiatric patients, where they found it correlated with intelligence. However, whether this was a valid measure of insight is debatable, as they assumed that the ability to appreciate motivation in other subjects was equivalent to self-understanding. This test was also used in a study by Roback & Abramowitz (1979), who found that the schizophrenic patients scoring higher on it, were rated by hospital staff

as better adjusted behaviourally though more distressed subjectively. Interestingly, the use of 'vignettes', involving patients making judgements on the hypothetical behaviour of others, has recently also been taken as a measure of insight in general psychiatry (McEvoy et al., 1993a).

The role of insight in psychoanalytic psychotherapy thus remains blurred and clearly this must in part be related to the difficulties and variability in the conceptualisation of insight itself. Some have argued that the role of insight in therapeutic cure is dependent on the 'correctness' and depth to which it is attained. For example, Segal (1991) says that "In order to have therapeutic value, insight has to be correct and sufficiently deep. It has to reach the deep levels of unconsciousness.....the more one reaches the deep layers of unconsciousness, the greater and more stable will be the therapeutic effect..." (p366, my translation). This raises interesting and important issues. For example, what does 'correctness' mean? Can one have false insight? In a slightly different vein, Blum (1979, 1992) stresses the importance of correct interpretations for the attainment of insight, whereas Reid & Finesinger (1952) speculate that perhaps the 'truth' is not so essential for the interpretations. They suggest that it may be the relevance of the truth, i.e. the belief which can be stimulated through dynamic insight in order for a particular conflict to be resolved. Clearly it would be very difficult to verify the truth-value of a psychoanalytic interpretation. This presents different types of problems for the notion of insight in psychoanalysis compared, for example, with insight as conceived in relation to neurological states (chapter 4) or even in relation to general psychiatry (chapter 3). Such concerns, however, belong more in the realm of philosophical debate and are beyond the scope of this chapter. Nonetheless it is of interest to raise and consider these issues.

Another interesting and final point to be mentioned here is that within the psychoanalytic literature, there seems to be almost exclusive focus on insight in

the patient. This is particularly surprising in view of the emphasis in psychoanalysis on the interactive process between patient and analyst, specifically with reference to transference and countertransference. In this situation, comments such as the analyst giving insight (Sternbach, 1989) or offering insight (Steiner, 1994) would seem to make little sense in the psychoanalytic concept of the term. Whilst work has been carried out in exploring the qualities that may be important in the analyst (and in the analytic interaction) in promoting the development of insight in the patient (Segal, 1991; Levine, 1994), the term 'insight' as applied to the analyst has rarely been addressed in a like manner. Nor has there been much interest shown in any possible interactive effects between the types of 'knowledge' gained by the patients and their analysts in relation to themselves and to each other. Yet this might be of relevance, particularly when exploring the issue of 'true' interpretations. Pollock (1981) does in fact discuss insight in the analyst (as opposed to the patient) in regard to patients with senile dementia. He suggests that there may be psychic meaning in the content of their repetitive reminiscences and that some of the 'gaps' in their memory may be analogous to Freudian slips of memory. Pollock (1981) points out that without necessarily intervening in a psychodynamic sense, the analyst can gain insight into the psychological organisation of the patient's mind. But in this case the concept of insight in the analyst must be different from the concept of insight in the patient. Insight here refers to the analyst's understanding or knowledge of experiences, motivations and connections that might be going on in somebody else. This has to be a different type of knowledge or judgement from the sort of knowledge or judgement that is made or 'experienced' in relation to oneself.

Chapter 3

Insight in clinical psychiatry

Until relatively recently, there has been little interest shown into research on insight in general psychiatry. Aubrey Lewis (1934) was one of the first to offer some exploration of the concept of insight in relation to clinical psychiatry. Pointing out that confusion existed because of the different meanings given to 'insight' within and outwith psychiatry, he offered his own definition of insight as "a correct attitude to a morbid change in oneself". He then proceeded to examine in turn the meaning of the individual terms within this definition. Lewis raised some interesting points. First of all, like Jaspers (though not referring to him), he distinguished between awareness of change and judgement of change, both being necessary components of insight. Thus, in order to have an 'attitude' to the change in oneself, the patient must first become aware of the change, before secondarily, forming a judgement of this. Lewis went on to suggest that the awareness itself could be further subdivided into awareness based on primary or immediate perceptions (e.g. becoming aware of feeling different and unpleasant in depersonalisation, i.e. the feeling that there is a change), and awareness based on secondary data (e.g. becoming aware of a change in capacity to function or on the effect on others, i.e. the feeling that there must be a change). In other words, without stating this explicitly, Lewis was implying that the core structure of insight was constituted from different levels or types of awareness. The final judgement referred to the patient's attribution of the particular change i.e. whether the patient believed that this was due to illness or to some other factor e.g. satanic possession etc. Secondly, Lewis emphasised that the patient's data were different from those judged by the outsider and that it was always with a 'disordered mind' that the patient contemplated him/herself. Therefore, it would be impossible for him/her to attain complete insight, insofar as the definition of insight related to the

attitude of a non-affected individual. Consequently, rather than relating the concept of insight to the personality of the individual as Jaspers did, Lewis made a direct and inherent connection with the psychopathology of the disorder itself.

Whilst Lewis discusses in some detail issues around and relating to his definition of insight, such as attitude, health and normality, he leaves unclear the concept of insight as a whole. In other words, despite his reference to degrees of awareness, he does not explore the possible structure of insight, its relationship to different disorders or possible means of clinical assessment. Furthermore, although Lewis defines the various individual terms within his definition of insight, he provides no theoretical basis to the concept itself or to the distinctions made in its constituents. It is curious, for example, why he uses the term 'attitude' by which he seems to mean judgement. Yet, 'attitude' implies a personal opinion or feeling about what is happening, irrespective of what the patient 'knows' or 'judges' to be the case. Thus, theoretically at least, an argument could be made for the distinction not only between awareness and judgement, but also between the judgement of something and the feelings or attitudes held about this. Neither is discussed the issue of possible empirical application of his definition of insight.

Similarly, until fairly recently, there has been little interest shown in the exploration of insight empirically in clinical psychiatry. In the last decade, however, there has been a progressive increase in the work carried out in this area. The focus of studies is aimed predominantly at examining correlations between 'levels' of insight and variables such as prognosis (McEvoy et al, 1989a; Amador et al, 1993), treatment compliance (Lin et al, 1979; Bartkó et al, 1988), and severity of psychopathology (McEvoy et al, 1989b; David et al, 1992; Amador et al, 1993; Amador et al, 1994; Michalakeas et al, 1994; Vaz et al, 1994). More recently a number of studies have examined the relationship

between insight and neuropsychological impairment (McEvoy et al, 1993b; Young et al, 1993; Cuesta & Peralta, 1994; Lysaker et al, 1994; Ghaemi et al, 1996) and Magnetic Resonance Imaging (Takai et al, 1992). Such studies have yielded, as will be shown below, somewhat mixed and inconsistent results. Consequently, the relationship between insight and these variables remains unclear. In addition, a number of interesting and different 'insight' instruments have been developed (e.g., David et al, 1992; Amador et al, 1993; Birchwood et al, 1994), suggesting that perhaps different aspects of insight are being captured or that different concepts of insight are held. These all serve to emphasise the complexity of the notion of insight, the difficulty in translating a theoretical concept to an empirical approach and the need for further theoretical exploration. The next section examines the different definitions of insight employed in empirical work and some of the approaches taken to assess insight. The results of the studies are then summarised and lastly, some of the issues that are raised here will be discussed.

3.1 Definitions of insight and methods of assessment

Probably the most striking issue emerging from the empirical work on insight is the lack of a consistent definition of insight and means by which it is assessed. This makes it difficult to draw valid conclusions and meaningful comparisons between the studies. In general, methods in this area can be divided into those involving, a) categorical and b) continuous approaches.

a) categorical approaches to studying insight

Most of the earlier studies carried out in relation to insight employ rather vague, non-specific albeit narrow definitions of 'insight' which are then 'converted' into categorical descriptions of insight. Eskey (1958) defined insight as "verbalized awareness on the part of the patient that impairment of intellectual functioning

existed". Subsequently, he categorised patients into those with insight, those with partial insight and those with no insight. However, the basis on which these distinctions were made was not specified. A simpler categorisation was used by Van Putten et al. (1976), who divided patients into those with and those without insight. These authors used another definition of insight according to which the patient "acknowledges some awareness of emotional illness". In neither of these studies, however, was the conceptualisation of insight made clear in the sense that there was little explanation of what awareness meant or how it was determined. Likewise, the reasons for focusing on intellectual or emotional functioning were not discussed. In a study reported by Lin et al. (1979), insight was defined as "recognition of existence of problems and the need for medical intervention". This time a structured approach was used to assess insight. Insight was scored as present if the patients answered in the affirmative to the questions whether they thought they had to be in hospital or had to see a doctor or see a psychiatrist. As was the case in the previous studies, insight here was regarded as an all-or-none concept, being either present or absent. The reasons underlying patient responses, however, were not examined, so that positive answers to the questions were assumed to reflect the patients' recognition of their problems. It goes without saying that patients might respond positively to such questions on the basis of, say, delusional ideas or motivational factors and not because they 'recognised' the existence of problems. Thus, although this form of assessment is structured and reliable, its validity might be questionable. A similar concept of insight as an all-or-none phenomenon was used by Heinrichs et al. (1985), who defined insight as "a patient's ability, during the early phase of a decompensation, to recognize that he or she is beginning to suffer a relapse of his or her psychotic illness". Patients were categorised as insightful or non-insightful on the basis of descriptions in case notes. Although some of the judgements were then validated by discussion with the responsible clinicians, the criteria for the categorisations were not defined. The subjective nature of such judgements (in

addition to the variable accuracy of case note descriptions) calls into question the validity and reliability of such a method. Bartkó et al. (1988), on the other hand, defined lack of insight as "the patient fails to acknowledge his/her emotional state and behaviour assessed as pathological by the physician and does not perceive the necessity of treatment". This is a more composite definition that incorporates some of the elements from previous definitions. It includes a recognition and need for treatment, but it implies, in addition, a relative judgement, i.e. a comparison of attitude between patient and clinician. However, the authors do not elaborate on this and categorise patients into four degrees of severity of lack of insight without defining the boundaries between these distinctions.

Recent studies, involving categorical approaches to insight assessment, have tended to use structured schedules such as item 104 in the Present State Examination (PSE) (Takai et al, 1992) or a similar item on the Manual for the Assessment and Documentation of Psychopathology (1982) (AMDP). For example, Cuesta & Peralta (1994) rely on a combination of 3 AMDP items, namely, lack of feeling ill, lack of insight and uncooperativeness, these three being considered as a global index of insight. However, the authors do not actually explain or discuss what they mean by insight itself. Because scores are involved in the rating of both PSE (Wing et al., 1974) and AMDP items, the impression is given that insight is scored along a continuum. In fact, however, the scores represent categorical descriptions of 'insight' as present, partially present or absent, and little clarification or specification is provided concerning these divisions.

In addition to studies referring specifically to insight, there have been other studies exploring conceptually similar issues in which categorical approaches have been involved. Thus, on the basis of direct questions examining the views patients held about their illness, hospitalisation and treatment, but without

specifically using the term 'insight', Whitman & Duffy (1961) categorised patients into two groups. These consisted of, a) patients expressing a functional reason and b) patients expressing a non-functional reason underlying their condition. This categorisation in turn was determined by whether the patients viewed their illness as caused by psychological factors or organic factors, respectively. Small et al. (1964, 1965), using direct questions, examined attitudes of patients towards their hospitalisation and treatment. The patients were subsequently categorised according to more positive or negative responses to the questions in relation to predetermined objectives. These attitudes covered four main areas, namely, (1) comprehension of being in hospital, (2) acceptance of being in hospital, (3) motivation and (4) apperception. Patients were then further categorised with respect to each of these areas, i.e. whether they were accurate or not accurate in their comprehension, whether they accepted or did not accept hospital admission, whether they believed or not that there was a goal in their treatment, and whether they believed that they had or that they did not have a problem. Similarly, examining attitudes rather than insight, Soskis & Bowers (1969) devised a set of statements based on Mayer-Gross' classification of patients' reactions to psychoses, and designed to categorise patients into those with positive and those with negative attitudes to their illness. Interestingly, Soskis & Bowers included statements concerning attitudes towards insight, where insight, though not defined specifically, referred to some understanding of illness. In other words, in contrast to the previous authors, they distinguished here between attitudes to what is happening to the patients and insight or understanding of this.

This point further illustrates the often unacknowledged differences in the meanings of terms used to refer to similar notions. For example, the notion of insight held by these authors contrasts with the meaning of insight held by, e.g. Lewis (1934), who defined insight as an attitude. Another related notion is the

term 'disease consciousness' which was used by Dittman & Schüttler (1990) to refer to awareness of the existence of psychotic behaviour. Whilst acknowledging degrees of awareness, these authors nevertheless categorised patients into those with disease-consciousness and those without disease-consciousness, consequently implying an all-or-none concept. In addition, the determining criteria for this division were not specified.

b) continuous approaches to studying insight

More recently, the other main approach to studying insight empirically has involved the conceptualisation of insight as a continuous process rather than the all-or-none concept described above. In other words, attempts have been made to assess insight in a graded manner with structured schedules based on either a unitary concept (e.g. McEvoy et al., 1989a,b,c) or on multidimensional models (e.g. David 1990; Amador et al., 1993). Again, researchers using this approach have employed a range of different definitions and methods of assessing 'insight'. McEvoy et al. (1989a,b), who were probably the first to develop a standardised questionnaire to assess insight as a continuous process, defined it in terms of a correlation between the judgements made by patients and by clinicians. They state, "patients with insight judge some of their perceptual experiences, cognitive processes, emotions, or behaviors to be pathological in a manner that is congruent with the judgement of involved mental health professionals, and that these patients believe that they need mental health treatment, at times including hospitalization and pharmacotherapy" (McEvoy et al., 1989b, p43). Their 'Insight and Treatment Attitude Questionnaire' (ITAQ), validated against taped open interviews, was based on questions relating to patients' attitudes towards admission, medication and the need for follow-up. Thus, it reflected well the authors' definition of insight in the sense that insight was scored on the basis of a relative judgement rather than an absolute or individual judgement in terms of

the patients' awareness of what was happening. However, the items on the questionnaire did not specifically address the individual components of the patients' disorder, i.e. the 'perceptual experiences, cognitive processes, emotions or behaviors', focusing instead on judgement of the experience as a whole.

In a different vein, Greenfeld et al. (1989) carried out an exploratory study of patients' views concerning their experiences. On the basis of patients' descriptions they proposed a multidimensional model of insight with dimensions relating to: (1) views about symptoms, (2) views about existence of an illness, (3) speculations about aetiology, (4) views about vulnerability to recurrence and (5) opinions about the value of treatment. In other words, they offered a broader concept of insight aimed at a more qualitative assessment. With the aim of operationalizing and standardising the assessment of insight in psychotic patients, both David (1990) and Amador et al. (1991, 1993) have also proposed multidimensional models for 'insight'. David (1990) suggested that insight is composed of three distinct, overlapping dimensions, namely: (1) recognition that one has a mental illness, (2) compliance with treatment and (3) the ability to relabel psychotic events (delusions and hallucinations) as pathological. Thus the structure of insight is seen as consisting of interacting components, though the theoretical derivation of the dimensions and their relationship to one another, are not discussed, and would have been interesting to explore. It would appear for example, that dimensions (1) and (3) are equivalent to the secondary components of both Jaspers' (1948) and Lewis' (1934) definitions of insight, namely the attribution of the pathological process to a mental illness. In David's definition, this pathological process is subdivided into a) the process as a whole (involving all symptoms) and b) particular symptoms (delusions and hallucinations) only. This subdivision is important and implies the possibility of there being differential insight or awareness in relation to different symptoms. Once again it would have been useful to examine this further as well as to

discuss the selection of the particular symptoms (delusions and hallucinations). The dimension relating to treatment compliance (2) seems to be derived from evidence based on previous empirical studies indicating that (psychotic) patients with 'insight' are more likely to accept treatment than those without 'insight'. However, as indicated already, such studies use variable definitions of insight and it is questionable whether in fact the same notion of 'insight' is being accessed in all cases. Moreover, at a theoretical level, it may not follow that compliance with treatment has a necessary relationship with the dimensions of awareness and judgements and hence form an integral structural constituent of insight. For example, patients might be aware of having a mental illness, they might be able to judge their symptoms as pathological, but nevertheless, show non-compliance with treatment on grounds of reasons unrelated to the self-assessment of their experiences. They might believe, for example, that treatments are ineffective or perhaps too distressing. Similarly, patients showing little apparent awareness of having a mental illness or judgement concerning the nature of their symptoms, may yet be compliant with treatment, on the basis of unrelated reasons. For example, they might accept treatment as a means of achieving quicker hospital discharge or even because of delusional reasons. In other words, it might be argued that compliance with treatment is a dimension whose link with insight may be tenuous and perhaps associative rather than constitutive. This is an area which merits further exploration.

Amador et al. (1991) also propose a dimensional approach to insight, their dimensions being based on observations of the variety of ways in which 'insight' and related terms are used within the psychiatric literature. One problem arising here is that Amador et al. present slightly different multidimensional models in relation to their theoretical and empirical work and this results in some confusion. It seems that in the foremost (Amador et al. 1991), insight is presented as a multidimensional construct comprising of (1) awareness of the signs, symptoms and consequence of illness, (2) general attribution about

illness and specific attribution about symptoms and their consequences, (3) self-concept formation, and (4) psychological defensiveness. Clearly, this is a very broad and comprehensive conceptualisation of insight and suggestive of interesting approaches to assessing the different components of insight. In their review, however, Amador & Strauss (1993) distinguish only 2 main component dimensions to insight, namely, "awareness of illness" and "attribution regarding the illness". Their scale to assess insight (Scale to Assess Unawareness of Mental Disorder [SUMD]) (Amador et al. 1993) on the other hand, appears to be based on somewhat different dimensions, i.e. awareness of illness (general and particular symptoms), attribution regarding illness and symptoms, achieved effects of medication and awareness of the social consequences of having a mental disorder. Both current and retrospective views are assessed in relation to these dimensions. And, in their impressive study examining insight in 412 patients (mainly schizophrenic and schizoaffective, see below), Amador et al. (1994) use an abridged version of their scale. This scale appears to be based on yet different dimensions, since the dimensions related to retrospective awareness and attribution regarding illness/symptoms as well as those relating to some of the individual symptom items have been specifically removed. Thus, for unclear reasons, it seems that different dimensions of insight are being selected and emphasised in these papers, which again suggests that different aspects of insight are being assessed, but which results in some ambiguity concerning the concept of insight as a whole.

3.2 Results of correlational studies

Not surprisingly, in view of the different definitions of insight used and the different methods of evaluating insight, empirical studies have yielded very mixed and variable results (e.g. Amador et al, 1991; Amador & Strauss, 1993). The relationship between insight and other variables studied (e.g. prognosis, severity of psychopathology, treatment compliance etc.) therefore remains

unclear. Thus, to summarise briefly, some studies have suggested that insight is not related to prognosis (e.g. Eskey, 1958; Van Putten et al., 1976) while others suggest that increased insight relates to better outcome (e.g. Small et al., 1965; McGlashan & Carpenter, 1981; Heinrichs et al., 1985). Still others indicate a more complicated relationship between insight and outcome. For example, Roback & Abramowitz (1979) showed in their study that whilst increased insight was related to improved behavioural adjustment, it was at the same time related to increased subjective distress.

The relationship between levels of insight and severity of psychopathology likewise is not resolved. Studies examining this relationship show a wide range of conflicting results, summarised in Table 1 below.

Table 1 (3 pages)

Summary of studies examining the relationship between level of insight and severity of psychopathology

Study	Patient Sample	Insight Assessment	Psycho-pathology Assessment	Outcome
McGlashan & Carpenter (1981)	schizophrenia (DSM-II) n=30	Attitudes questionnaire (Soskis & Bowers)	Global psycho-pathology (assessment not specified)	No correlation between attitudes and global psycho-pathology
Heinrichs et al. (1985)	schizophrenia or schizoaffective (RDC) n=38	2 categories: 1. insight present 2. insight absent	BPRS	No correlation between insight and total severity; significant correlation with grandiosity item
Bartkó et al. (1988)	schizophrenia (RDC) n=58	2 categories: - lack of feeling ill - lack of insight into illness	BPRS	No correlation between insight and severity; indirect relationship with grandiosity item
McEvoy et al. (1989b)	acute schizophrenia (DSM-III) n=52	ITAQ	BPRS, CGI	No consistent relationship between insight and severity
David et al. (1992)	schizophrenia: (n=57) P. psychosis (n=2) manic psychosis (n=4) depressive psychosis (n=7) (PSE)	David's Insight Assessment Schedule PSE item 104	PSE total scores	Moderate correlation between total insight and severity of psycho-pathology
Takai et al. (1992)	chronic schizophrenia (DSM-III-R) n=57	- PSE item 104, - subjective ratings (FBS), - ratios of FBS and BPRS	BPRS - 4 positive symptoms (SADS); - 5 negative symptoms (SANS)	Significant correlations between insight and total severity of specific items (anergia, thought disturbance, activation, hostile suspicious-ness)

Marková & Berrios (1992b - see chapter 6)	schizophrenia (n=19) major depression (n=13) dysthymia (n=7) bipolar depression (n=4) (DSM-III-R)	Preliminary Insight Scale	BPRS; HRSD	Significant correlation between Insight and BPRS scores (on admission) and HRSD scores (on discharge)
Amador et al. (1993)	schizophrenia or schizoaffective (DSM-III-R) n=43	SUMD	SAPS; SANS; HRSD	No correlation between insight and total severity; moderate correlation between item 1 on SUMD and total score on SAPS, moderate correlation between past form of item 1 and HRSD
McEvoy et al. (1993b)	schizophrenia or schizoaffective (DSM-III-R) long-term follow up n=25	ITAQ + 2 extra questions	BPRS; CGI	No relationship between insight and severity of psycho-pathology
Amador et al. (1994)	schizophrenia (n=212) schizoaffective (n=49) bipolar disorder (n=40) psychotic depression (n=24) major depression non-psychotic, (n=14)	Abridged version of SUMD (without retrospective scale, attribution scale, some symptom items)	SAPS; SANS	No relationship between insight and total severity; significant relationship with severity of some symptoms (delusions, thought disorder, disorganised behaviour) no relationship with grandiosity
Michalakeas et al. (1994)	schizophrenia (n=42) mania (n=13) depressive psychosis (n=22) (DSM-III-R, female)	ITAQ	BPRS	Significant relationship between insight and severity in manic patients, no relationship with severity in schizophrenia
Cuesta & Peralta (1994)	schizophrenia (dsm-III-R) n=40	AMDP-3 items: -lack of feeling ill -lack of insight -uncooperative-ness	SAPS; SANS	No significant relationship between insight and severity of psycho-pathology

Vaz et al. (1994)	acute schizophrenia (DSM-III-R, male) n=64	ITAQ (Spanish version) factorised into 2 factors: F1 = awareness of illness F2 = awareness of need for treatment	PANSS	No relationship between insight and global scores, no relationship between F1 and total scores on positive and negative scales, significant relationship between F2 and total scores on positive and negative scales and some items (hostility, poor rapport, etc.), significant relationship between F1 and some items (somatic preoccupation, poor rapport, etc.)

Abbreviations:

P psychosis =	Paranoid psychosis
HRSD =	Hamilton Rating Scale for Depression
RDC =	Research Diagnostic Criteria
BPRS =	Brief Psychiatric Rating Scale
CGI =	Clinical Global Impression
SADS =	Schedule for Affective Disorders and Schizophrenia
SANS =	Scale for the Assessment of Negative Symptoms
SAPS =	Scale for the Assessment of Positive Symptoms
PANSS =	Positive and Negative Syndrome Scale
PSE =	Present State Examination
AMDP =	Manual for the Assessment and Documentation of Psychopathology
FBS =	Frankfurter Befindlichkeitsskala
ITAQ =	Insight and Treatment Attitude Questionnaire
SUMD =	Scale to Assess Unawareness of Mental Disorder.

It seems therefore that whilst some studies show a direct relationship between insight and severity of illness, others show no such link, and still others point to a relationship between insight and the severity of only particular symptoms or symptom clusters.

Other variables studied in relation to insight have also yielded conflicting and inconclusive results. Treatment compliance, for example, has been considered

in most studies to be strongly correlated to insight (Lin et al., 1979; Marder et al., 1983; Bartkó et al., 1988, McEvoy et al., 1989a) though some have suggested only a weak relationship (Van Putten et al., 1976) and others have indicated a negative effect on insight (Whitman & Duffey, 1961). One problem, as others have pointed out (David et al., 1992), concerns the issue of correlating treatment compliance with insight, when the notion of treatment compliance is already inherent in the definition of insight (as in McEvoy et al., 1989a,b; David 1990, Amador et al., 1993, etc.). Correlations drawn in such cases must be tautological. Studies correlating insight with yet other variables such as age and IQ have similarly given rise to mixed results. Thus whilst some researchers have found no correlation between insight and age (David et al., 1992; Amador et al., 1993; Peralta & Cuesta, 1994), others have suggested a positive correlation between age and insight (Vaz et al., 1994). Age of onset of psychiatric disorder was reported by Amador et al. (1993) as being moderately correlated with the retrospective component of insight in their scale, but found not to be correlated with insight in the study by Peralta & Cuesta (1994). Likewise, whilst David et al. (1992) found that insight correlated positively with IQ (as assessed by the National Adult Reading Test), Takai et al. (1992) found no correlations between insight and IQ (as assessed by the WAIS). With regard to more sophisticated neuropsychological tests, the results are also conflicting. Thus, McEvoy et al. (1993b) and Cuesta & Peralta (1994) found no relationship between insight (as assessed by the ITAQ and items on the AMDP respectively) and neuropsychological impairment. Indeed Cuesta & Peralta (1994) reported an association between poor insight and better performance on some of the subtests. On the other hand, Young et al. (1993), using the SUMD (Amador et al., 1993) found a significant correlation between lack of insight and neuropsychological performance. Similarly, Lysaker et al. (1994) found a positive correlation between lack of insight (evaluated as a global score on the PANSS) and neuropsychological impairment (as assessed by an IQ measure and by performance on the Wisconsin Card Sorting Test).

3.3 The 'object' of insight in clinical psychiatry

It is striking and interesting to note that in the empirical studies reviewed, the focus has been, almost exclusively, on insight in relation to psychotic illnesses, particularly schizophrenia. In the few studies that have included patients with non-psychotic diagnoses, either these have not been specifically differentiated (e.g. Small, 1965) or the numbers have been too small to make meaningful comparisons between patients with different diagnoses (e.g., Amador et al, 1994; Michalakeas et al., 1994). Why the exploration of insight empirically should be limited to the psychoses is unclear, except presumably that since loss of insight has long been intrinsic to the definitional criteria of certain psychotic symptoms such as delusions (Berrios, 1994b), examination of insight has been promoted by the conditions where its loss is so dramatically apparent. On the other hand, it may have something to do with the different conceptualisations of the clinical disorders themselves that may have influenced this particular focus. In other words, even if not stated explicitly, *a priori* conceptualisation of the 'neurotic' disorders in terms of psychodynamic processes and hence including impairment of insight as part of particular defence mechanisms (see previous chapter) may have precluded its assessment in 'biological' terms. Whatever the explanation may be, this issue highlights again the lack of clarity in the meaning of insight itself. This lack of clarity in the meaning of insight relating, in part, to the differential conceptualisations (implicit or explicit) of psychiatric disorders is important clinically as well as theoretically. Insight assessment is intrinsic to the mental state examination, irrespective of the patient's disorder. Consequently, it is essential to define a common meaning or conceptualisation of insight. This will then enable the establishment of a framework on which insight assessments may be developed and applied to other conditions such as obsessive-compulsive disorders, hysteria, anxiety disorders and depression.

3.4 Summary and discussion

Insight is a complex concept and this is highlighted in the review of the research in this area in clinical psychiatry. Firstly, insight itself is conceptualised in different ways resulting in the design and use of a variety of assessment methods. Secondly, there has been some neglect of discussion pertaining to the theoretical or conceptual aspects of insight as a mental structure, with the consequence that the validity of insight instruments/assessments may be questionable since they may be capturing different phenomena. Thirdly, the relationship between patients' insight into their symptoms/illness and clinical variables such as the severity of their illness, prognosis, or cognitive function, remains unclear. Fourthly, research has focused predominantly on insight in psychotic illnesses, with little attention paid to insight in patients with non-psychotic psychiatric disorders.

These points in turn raise several issues. Most importantly perhaps, it is apparent that there is a need for more conceptual work in order to further clarify the meaning of insight and to determine the usefulness and validity in making distinctions between constituents or aspects of insight. Some of the issues needing explication and further exploration have already been raised, and here a few of the salient points will be discussed.

First, as seen above, a range of different terms have been used in defining insight. Terms such as 'attitude', 'awareness', 'belief', 'understanding', 'consciousness', 'recognition', 'knowledge' and others, have all been employed. Yet, clearly, these terms have different meanings and imply different processes. Whether such variations are subsequently captured in the different types of assessments is another question. The point is that little consideration in terms of a theoretical basis has been apparent in the use of, and distinction between,

these terms in the studies mentioned. The interchangeability of such terms or the assumption that they are referring to the same phenomenon, may have little significance in lay language or even in descriptive contexts. This issue, however, may be crucially important when mechanisms and explanations are sought for impaired insight. In particular, when, as has recently been the case, questions are asked concerning the association between brain mechanisms and impaired insight, then it would seem important to differentiate between, say, consciousness and belief. This issue is thus essential to the meaning of insight, and is one that is raised again in relation to the study of insight in relation to dementia (chapter 5).

Secondly, and directly related to the above, is the question of what is basically meant by insight or related terms as used in the empirical work. It seems that, common to the various approaches in assessing insight, there is nevertheless a fairly narrow notion of the meaning of the term that is apparent irrespective of the terms used in defining it. In other words, whether categorical or continuous, unitary, or multidimensional models are involved, the underlying meaning of insight in many studies seems to focus on either one or two components. These appear to be, first, acknowledgement of mental illness/pathology and second, acknowledgement of the need/benefit of treatment. The former component is in some of the more recent studies further subdivided into (i) an awareness of the mental illness/symptoms and (ii) a judgement or attribution concerning the nature of this subjective experience (David, 1990; Amador et al., 1991). Only a few studies have explored the possibility of a broader concept of insight (e.g. Greenfeld, 1989; Amador et al, 1991), yet the available assessments tend to reflect the somewhat narrower meaning. In part this must relate to, as mentioned already, both the difficulties inherent in the conceptualisation of insight and to the difficulties involved in translating the concept into an empirical approach. In addition, because the conceptualisation of insight is generally not addressed, such translations are likewise not overtly

acknowledged. Hence, no distinction is made between the theoretical concept of insight and its clinical manifestation. As a result, this relationship remains undefined and this may contribute to the apparent narrowness of the meaning of insight, as well as to the general ambiguity of the concept itself.

Thirdly, further conceptual work is needed not just to determine a common meaning and structure of insight but also to clarify its relational aspects. This seems to be most confusing at present with respect to symptoms and disease. Thus, it is not clear whether insight should be examined in relation to individual symptoms or to the illness as a whole. The above studies are as divergent in this as in the other matters, with some relating insight to the illness (Heinrichs et al., 1985) and others relating it to specific experiences/symptoms, although in practical terms, they nevertheless assess insight in relation to the illness (McEvoy et al., 1989a,b,c). Still others incorporate the relationship between insight and both illness and some symptoms within the definitional criteria of insight (David et al., 1992; Amador et al., 1993). These latter researchers do not however specify on what basis they select the particular symptoms, though clearly focusing on symptoms either in psychotic illnesses (David, 1990; David et al., 1992) or in schizophrenia (Amador et al., 1993). The main issue arising in relation to this point has to do with the difficulties in 'translating' between a theoretical concept and its empirical assessment. Where, as in the work by David and Amador et al., insight in relation to symptoms is viewed as a dimension of insight as a whole, then, it would be important to also understand this relationship at a theoretical level. In particular, it would be useful to discuss the choice of specific symptoms for the clinical assessment since this will necessarily, according to their definition, have an effect on the overall validity of insight. Furthermore, there are clear implications for the assessment of insight in relation to different syndromes or disorders. Thus, since different disorders involve different symptomatology, this should be taken into account in the clinical assessment of insight in order to validate the theoretical concept

proposed. In other words, it is questionable whether, using an instrument to assess insight in relation to some of the symptoms found in schizophrenia, it is equally valid to use it in patients with affective disorders (e.g. Amador et al, 1994) who, even if they share some of the symptoms, may have other symptoms predominating, to which the 'insight' assessment is not addressed.

Lastly, it is essential to carry out conceptual work in order to draw meaningful conclusions from correlational studies. In particular, with advances and refinement in sophisticated technology such as neuro-imaging and neuropsychological approaches, the current mismatch between these and the level of understanding in insight meaning and assessment makes it difficult to conclude much when they are correlated (Cuesta & Peralta, 1994; Takai et al, 1994).

Chapter 4

Insight in neurological states

Before examining the concept of insight in relation to chronic organic brain syndromes (dementias), a brief overview of the notion of insight (and related concepts) in relation to neurological states needs to be given. This is important for two main reasons. Firstly, interest in loss of insight, albeit in a very specific sense, has been the focus of studies in neurological literature since the late 19th century (Von Monakow, 1885 [cited in Prigatano & Schacter, 1991], Anton, 1899). This specific interest sharply contrasts with the lack of interest or the rather vague, intermittent interest in the subject shown in relation to functional psychiatric disorders over this time. Secondly, such interest has led to extensive research in the area, and the approaches adopted within the neurological sphere have seemed to influence the direction of research on insight in relation to dementias. Indeed, more recently these approaches, particularly with respect to work on underlying mechanisms of unawareness, have likewise influenced research on insight in relation to the psychoses. Concentration in this chapter will be predominantly on examining some of the research on unawareness of deficits in neurological disease, though some mention will also be made of two other areas where the concept of insight or awareness has also been raised.

Perhaps the reason why the notions of insightlessness or unawareness in neurological states have so early on been the focus of reports, relates to the specific and rather dramatic manner in which these appear to be manifested. Thus, since the late 19th century, there have been descriptions in the literature of patients, seemingly oblivious to prominent and major neurological deficits who maintained their 'unawareness' and /or explicitly denied any disability in the face of confrontative evidence to the contrary. 'Anosognosia', the term coined

by Babinski in 1914 to refer to the unawareness or denial of hemiplegia seen in patients following a stroke, has since then, also been used to refer to the unawareness displayed in patients with other neurological/neuropsychological syndromes. For example, it has been used to refer to cortical blindness (Anton's syndrome), aphasia (Rubens & Garrett, 1991), hemiballismus (Roth, 1944), amnesic syndromes (McGlynn & Schacter, 1989), dementia (Reed et al., 1993; Starkstein et al., 1995), head injury (Prigatano, 1991), tardive dyskinesia (Myslobodsky et al., 1986) to mention but a few. The question, whether 'anosognosia' or unawareness in these conditions can be considered in a similar sense to the loss of insight as conceptualised in functional psychiatric disorders, is an important one and remains at present largely unanswered. In other words, does it make sense to talk about loss of insight in the face of gross (or indeed otherwise) brain pathology as manifested by difficulties in memory, communication, etc.? In relation to neurological states, McGlynn & Schacter (1989) distinguish between 'anosognosia' (which they use synonymously with 'loss of insight' and 'unawareness of deficit') and 'denial of deficit'. The authors state that in the former, patients are unable to become aware of deficits, whereas in the latter, patients are aware at some (perhaps unconscious) level but unwilling to acknowledge this. This distinction may be of value within the neurological area but clearly does not address the issue with respect to how the concept is used in related specialities. In fact, most researchers do not make such distinctions and terms such as 'loss of insight', 'unawareness', 'anosognosia', and 'denial' tend to be used interchangeably. (This issue is examined more closely in the next chapter and explored in general terms in chapter 8.) This is an area which needs addressing and which at present is a source of confusion. Thus, despite overlapping of terminology relating to insight and convergences in approaches to studying insight across different specialties, there has been relatively little work carried out in the clarification of meanings underlying the different terms and their relationship to one another.

Since the early case reports (e.g. Anton, 1899; Babinski, 1914; Roth, 1944; Stengel & Steele, 1946), studies in anosognosia have in recent years become more systematic. Larger numbers of patients have been collected and attempts have been made to evaluate the degree of anosognosia in structured ways (Cutting, 1978; Bisiach et al., 1986; Starkstein et al., 1992, 1993). Qualitative differences in the type of awareness (and in the secondary elaborations developed) held by patients with neurological deficits have also been identified. Thus, anosognosic phenomena (e.g. anosodiaphoria, somatoparaphrenia, misoplegia, personification, kinaesthetic hallucinations, phantom supernumerary limbs) have been distinguished from anosognosia itself (Cutting, 1978). The recognition that such unawareness/anosognosia is specific and selective, i.e. patients could show awareness of some deficits (frequently mild ones) and yet be unaware of others in the face of more extensive pathology (McGlynn & Schacter, 1989), also helped to broaden the instruments used to assess anosognosia. Particularly in relation to brain injury, attention has been paid to the different resulting deficits (e.g. behavioural, affective, personality) and 'awareness' examined in relation to these (Prigatano, 1991). Recently, Blonder & Ranseen (1994) focused on 'anosognosia' or unawareness of cognitive and affective deficits, in preference to unawareness of hemiplegia, in patients who had suffered strokes. They found no evidence of unawareness in relation to any of these deficits in their sample of 10 patients. Likewise, similar approaches have recently been used in evaluating anosognosia in the dementias so that awareness is assessed with respect to a variety of individual impairments and not just in relation to memory function (Green et al, 1993; Vasterling et al, 1995; see next chapter).

4.1 Assessments of impaired insight/anosognosia

Just like with the various insight measures developed in clinical psychiatry, a variety of assessment methods have been applied to the study of anosognosia

in neurological states. These range from simple dichotomous divisions, i.e. anosognosia is described as 'present' or 'absent' (Cutting, 1978; Hier et al., 1983 a,b; Levine et al., 1991), to multiple categorisation based on several point scales (Bisiach et al., 1986; Cappa et al., 1987; Blonder & Ranseen, 1994). Such instruments also vary from clinician-rated scales with set criteria in relation to hemiplegia (Cutting, 1978; Bisiach et al., 1986; Starkstein et al., 1992), to patient-rated deficits using questionnaires (Levine et al., 1991). With respect to the multiple deficits sustained following head injury, investigators have assessed patient awareness as a function of the difference between patients' and relatives' perception of deficits rated on structured questionnaires given to both (Sunderland et al., 1984; Oddy et al., 1985; Prigatano, 1991). Similar methods of assessing awareness of deficits by comparing the discrepancies between assessments made by patients and assessments made by their relatives/carers (or between patient assessments and clinicians/test results), have been adopted recently in dementia research (see chapter 5). These particular methods are therefore more sophisticated in terms of the increasingly detailed information concerning awareness that can be obtained, though, as others have pointed out (McGlynn & Schacter, 1989), the validity of relatives' assessments of patient function/abilities is also likely to be influenced by a number of perhaps uncontrolled factors. In other words, some carers may not provide 'objective' assessments of functioning in patients but may both overestimate and underestimate levels of impairment. Such judgements on the part of the carers depend not only on personal differences in terms of contact and relationship with the patient and observational capacity, but may also be influenced by the effects of stress and affective disorder and by processes such as denial. In fact, with respect to unawareness of memory deficits, most work in this area suggests that carers' assessments of patients' memory deficits correlate well with 'objective' tests of patients' memory function (McGlone et al., 1990; Feher et al., 1991; Koss et al., 1993). Nevertheless, some studies have indicated that discrepancies (hence implying poorer insight in patients) are

greater when the burden of care is perceived as greater by the carers (De Bettignies et al., 1990).

Much of the detailed and structured work in assessing impaired insight or anosognosia in neurological states has been carried out in amnesic syndromes. Foremost amongst such studies has been the work by Schacter and colleagues (e.g. McGlynn & Schacter, 1989; Schacter, 1991, 1992;). A detailed assessment measure of awareness of memory deficits comprising of three main components is described by Schacter (1991). The first part consists of a General Self-Assessment Questionnaire in which patients rate on a 7-point scale the degree to which they experience difficulty with various aspects of memory compared to before their illness. Relatives also complete this scale. The second part consists of an Everyday Memory Questionnaire in which a number of hypothetical situations are described and patients are asked to rate the probability that they would remember information in these situations (currently and before their illness) after delays of a minute, an hour, a day and a week. In addition, patients are asked to make similar ratings of their relatives' abilities to remember the same situations. Similarly, the relatives also complete this for themselves and the patients. The last part consists of an Item Recall Questionnaire in which patients have to predict how many items they would remember (currently and prior to illness) if they were shown lists of 10 items (further subdivided into 'easy' and 'difficult' items), and are subsequently tested at each of the delays. Using this assessment in 2 densely amnesic patients, Schacter (1991) describes different patterns of results. One patient, whose amnesia was secondary to a ruptured aneurysm of the anterior communicating artery (ACAA rupture), showed poor awareness of memory deficits and overestimated his ability to recall items on the questionnaire, as compared with his wife who made more accurate predictions. In contrast, the other patient, whose amnesia was secondary to herpes simplex encephalitis, showed much greater awareness of her memory problems with ratings on the questionnaires

consistent with her spouse's ratings and with her performance on testing. Interestingly, the severity of memory deficits as measured by the tests was equivalent in both patients and the IQ of the second patient was much lower than that of the first. This suggests that the difference in awareness was unlikely to be due to generalised intellectual impairment.

This type of detailed assessment of awareness of memory deficit is an important example of the neuropsychological approach taken towards the concept of awareness in general. Thus, similar methods have been applied in the assessment of awareness of various impairments including social, behavioural and emotional in relation to head injury (Prigatano, 1991), cognitive and motor deficits in Huntington's disease (McGlynn & Kaszniak, 1991b) and similar deficits in Alzheimer's disease (McGlynn & Kaszniak 1991a, Green et al. 1993). This approach is important because it reveals crucial differences in the conceptualisation of insight between such approaches and those taken in psychiatric research. Such differences in turn become important when there seems to be some merging of disciplines (e.g. in dementia research, see next chapter), and need to be acknowledged before common underlying mechanisms of insight are sought. It seems apparent from the case descriptions and studies using the sort of assessments described above, that common to the neuropsychological approach to insightlessness/unawareness is a relatively narrow underlying concept of awareness. Patients either know or do not know they have a memory problem and/or are rated according to the perceived frequency with which they make 'mistakes' on account of this problem, and on the perceived severity which such mistakes affect them. This does not mean to say that the concept of awareness is regarded as an all-or-none phenomenon and Schacter (1992) explicitly argues against such a point of view. Rather, it means that the qualitative differences in awareness relate to the different tasks that would elicit the knowledge with respect to memory function. In other words, the types of awareness identified (see Schacter, 1992)

are dependent on the types of memory tasks used to elicit them. (This bears some resemblance to the task-dependent insight concept described in chapter 2 in the Gestalt cognitive psychological approach.) This concept thus contrasts with the wider notion of insight conceived in psychiatric research where, as mentioned earlier, this comprises not only of an awareness of a mental experience but, more importantly, involves a judgement of the nature and effects of this experience on the part of the individual. Clearly this latter approach is in part determined by the nature of the 'symptom' itself. This is so because in psychiatric practice, the symptoms being assessed with respect to insight, do not have a similar 'objective' correlate as do the 'symptoms' in neurology/neuropsychological research (i.e. paralysis, memory deficits, etc.). This reiterates a previous point suggesting the interdependency between the conceptualisation of insight and the 'environment' in which it is elicited. This subject matter will be discussed further in chapter 8.

4.2 Mechanisms underlying impaired insight/anosognosia

The predominant aim behind the refinement of instruments and larger studies has been to explore possible mechanisms whereby the phenomenon of unawareness or anosognosia can be explained. Numerous theories have been proposed and are comprehensively reviewed by McGlynn & Schacter (1989). Some will be briefly summarised here because they have been influential in the development of underlying mechanisms or explanations of insightlessness in the psychiatric disciplines. Broadly, these theories can be divided into three main groups, namely: (1) neuroanatomical, (2) motivational and (3) neuropsychological.

(1) Neuroanatomical theories

A variety of neuroanatomical theories have been put forward as a possible aetiological basis to the phenomenon of anosognosia. Diffuse generalised brain disease (Stengel & Steele, 1946) has generally been deemed insufficient to cause anosognosia, particularly since patients can be well orientated and have little evidence of general intellectual impairment (Babinski, 1914; Roth, 1949; Cutting, 1978). In addition, the specificity of anosognosia for a particular deficit or deficits, in the face of awareness of other impairments, also goes against this. More interest has thus focused on focal brain lesions, for example, thalamic (Roth, 1944; Watson & Heilman, 1979) or striatal damage (Healton et al., 1982). Most focus, however, has been directed at the right hemisphere, and particularly, the parietal region has been implicated (Hier et al., 1983a; Price & Mesulam, 1985; Bisiach et al., 1986; Rubens & Garrett, 1991; Goldberg & Barr, 1991; Bisiach &.Geminiani, 1991; Heilman et al., 1993; Starkstein et al., 1992). In general however, findings are inconclusive since although anosognosia does seem to be more prevalent in patients with right hemispheric lesions, some researchers have also shown anosognosia to occur in patients with left hemispheric damage (Cutting, 1978). Similarly, experimental studies examining individual hemispheric function by inducing temporary hemianaesthesia with intracarotid barbiturate injections have yielded mixed results. While some research (Buchtel et al., 1992; Gilmore et al., 1992) has found anosognosia restricted to patients who were given right sided injections and hence left hemiplegia, others (Kaplan et al., 1993; Dywan et al., 1995) have found no difference in the frequency of unawareness following right and left injections. Of course, in these studies, anosognosia/unawareness was elicited as a memory of the event rather than being elicited at the time of the hemiplegia developing, which, as the researchers pointed out, may influence the validity of the findings.

Numerous mechanisms subserving right hemisphere damage as the basis for anosognosia have been suggested, including, e.g. disturbance of the body scheme (Roth, N., 1944; Roth, M., 1949), 'disconnexion' from the speech areas (Geschwind, 1965), and personality disorder (Horton, 1976). However, there is little empirical evidence for such mechanisms as, for example, a body scheme disturbance would not explain the unawareness manifest in relation to cognitive or behavioural deficits. Nor is there evidence that patients are aware of deficits but are unable to express this awareness (McGlynn & Schacter, 1989). The notion that the phenomenon of unawareness develops as a result of impaired position sense and sensory loss has recently also been refuted. Researchers found that neither somatosensory loss nor spatial neglect were sufficient to account for anosognosia of hemiplegia in patients with right hemispheric strokes (Bisiach et al., 1986; Levine et al., 1991).

A great deal of interest has been shown in the role of frontal lobe dysfunction in the pathogenesis of anosognosia. In particular, Stuss & Benson (1986) have reviewed work in this area and proposed a model of brain functioning in which the frontal lobes are viewed as serving an executive or control function, monitoring, exploring, selecting and judging all nervous system activities. Interestingly, they make a distinction between self-awareness and awareness of deficits in behavioural disorders such as neglect and aphasia (Stuss, 1991). The former is seen as the highest psychological attribute of the frontal lobes, interacting closely with organised function systems subserving various psychological processes, e.g. attention, language and memory. Thus, damage to the frontal lobes would result in a general disturbance of self-awareness, which, because of the varied nature of the 'self', in turn would lead to 'fractionation' of disordered self-awareness (Stuss, 1991). Awareness of deficits, on the other hand, is related to the specific functional systems themselves, e.g. language, and hence impaired awareness of deficit involves impaired knowledge associated with the specific system and would relate to

dysfunction in posterior or basal brain regions. Similar views, concentrating on the interaction between frontal and parietal regions and emphasising to different extents the functional role of each in relation to general and specific awareness, have been put forward by Prigatano (1991), Mesulam (1986) and Bisiach et al., (1986). Indeed, the latter authors state, that anosognosia for a specific deficit "betrays a disorder at the highest levels of organization of that function. This implies that monitoring of the internal working is not secured in the nervous system by a general, superordinate organ, but is decentralized and apportioned to the different functional blocks to which it refers" (Bisiach et al, 1986, p480).

The evidence, pointing to the contribution of frontal lobe dysfunction in the development of anosognosia, has been coming from a variety of sources. For example, it has been observed that patients with the amnesic syndrome, involving frontal lobe impairment, tend to be unaware of their memory deficit, whereas patients with amnesic syndromes, involving temporal lobe damage, tend to show some awareness of their memory difficulties (McGlynn & Schacter, 1989; Schacter, 1991). However, there have also been reports of patients with the amnesic syndrome and frontal lobe dysfunction with preserved awareness of memory deficits (Luria, 1976; Vilkki, 1985; Schacter, 1991). The prevalence of frontal lobe damage in patients with unawareness of deficits following head injury (Prigatano, 1991) has, on the other hand, also pointed towards a putative aetiological role of the frontal lobes towards awareness of dysfunction. With respect to cerebrovascular accidents, Starkstein et al. (1993) found that patients with anosognosia (n=8) for hemiplegia were significantly poorer on neuropsychological tasks of frontal lobe function compared with patients without anosognosia (n=8), though there were no differences on CT scan lesions. Interestingly, neuropsychological tests did not discriminate patients with and without awareness of deficits following head injury (Prigatano, 1991). However, in this instance, patients with reduced awareness of deficits

had greater incidence of frontal and parietal lesions on MRI or CT scans. A similar focus on neuroimaging and neuropsychological tests with respect to frontal lobe function has also been adopted in dementia research (see next chapter) and likewise brings out mixed results. These, as is discussed later, are likely to reflect differences not only in the type and object of awareness, but also the variable sensitivity and limitations of the different instruments, both in assessing 'awareness' and in the 'structural' and 'functional' correlates.

(2) Motivational theories

In contrast to the preceding 'organic' approaches, others have argued that the pathogenesis of 'anosognosia' can be explained on the basis of psychological processes or motivational factors within the patient. The main proponents of these theories were Weinstein & Kahn (1955) who suggested that people are motivated to varying extents to deny the presence of illness or disability in order to protect themselves from the consequent distress of recognition of dysfunction. Using the term 'denial of illness' preferentially, though interchangeably with 'anosognosia', they brought the level of explanation underlying unawareness of deficits to that of psychoanalytical theory. In other words, they invoked the action of defence mechanisms as the unconscious mental processes involved in the protection against overt distress. Whilst proposing psychological mechanisms, the authors stressed, nonetheless, the necessity of the presence of brain dysfunction itself, in contributing to the presence and expression of the multiple forms of denial/anosognosia. Thus, as Weinstein (1991, p254) later stated, "...The existence and form of denial/anosognosia are determined by the location and rate of development of the brain lesion, the situation in which the denial is elicited, the type of disability, and the way the patient perceives its meaning on the basis of his past experience." Furthermore, following clinical observation, Weinstein & Kahn (1955) suggested, that a particular personality type predisposed to the

development of denial. Such patients premorbidly considered illness as a weakness/failure and were strongly concerned about the opinions of others and had strong drives to do well and succeed. Subsequently, Weinstein et al, (1994) assessed such traits in the form of Denial Personality Ratings in their research on denial/anosognosia in dementia.

As McGlynn & Schacter (1989) point out, there are a number of problems with viewing anosognosia/unawareness of deficits predominantly in terms of motivational/psychological processes. For example, such theories don't account for the specificity of anosognosia seen frequently in relation to neurological states. Nor, if unconscious psychological mechanisms are postulated should the site of the lesion make much difference. Likewise, the time course of anosognosia is often inconsistent with the views on onset and course of motivated denial. Lewis (1991) also emphasised these difficulties and consequently, she distinguishes between psychogenic and neurogenic denial. However, she stresses the importance of interaction of both psychological and neurological factors in the overall picture presented.

(3) Neuropsychological theories

With the advances in development of cognitive neuropsychology (Shallice, 1988; McCarthy & Warrington, 1990), interest has focused on applying cognitive neuropsychological theories to both normal brain function and on explanation of specific deficits in brain dysfunction. In particular, models are being developed which seek to link neuroanatomical approaches with cognitive psychological approaches, aiming to integrate these into both a structural and functional level of explanation. Unawareness of neurological deficits, in the context of the concept of awareness or consciousness in general, has thus been important in this regard and subject to a variety of related theories (Marcel & Bisiach, 1988; Heilman, 1991).

An interesting model attempting to account for the different types of awareness levels in relation to neurological deficits, primarily memory, has been proposed by Schacter (1990). This model, termed DICE (dissociable interactions and conscious experience), postulates the existence of a 'conscious awareness system' (CAS) which has direct links to individual 'knowledge modules' such as lexical, conceptual spatial, etc., as well as to an episodic memory information system. Whilst such modules/systems are in constant/ongoing operation to affect behaviour normally, it is only when the CAS is activated and when it interacts with such systems, that a conscious experience of the particular information is obtained. Concentrating on memory deficits, Schacter goes on to discuss how damage at different levels in such a model can explain both global and specific impairments of awareness. He then proposes different levels of explanation within his model to account for these various types of unawareness, including not only unawareness of deficits but also unawareness of knowledge or 'implicit memory' (see next section). A first order level of explanation would involve damage or impairment within the CAS or with its individual connections. He himself favours a second order level of explanation which would involve dysfunction at the level of the knowledge modules themselves. Sharing similarities with the various models proposed by Stuss & Benson (1986), Bisiach et al., (1986), Mesulam (1986), and Prigatano (1991), Schacter further links his model with neuroanatomical theories. He postulates that the CAS is a posterior system involving the inferio-parietal lobes, with connections to the 'executive system' situated in the frontal lobes (McGlynn & Schacter, 1989, Schacter 1990, 1991). In this way, the model is an attempt to provide both a structural and a functional explanation of impairment in awareness and the dissociations in awareness found in relation to different 'modules' or functions. In line with cognitive theory, it assumes modularity of mental processes, and hence the level of functional explanation is directed at the connections and at the result of damaged connections between individual

'psychological' systems. This approach may help to understand descriptively the clinical syndromes seen with amnesic disorders. However, it remains specific to them, and cannot provide explanations underlying the mental processes themselves, nor can it address issues such as delusional or confabulatory elaborations. This issue becomes important when generalisations are made concerning mechanisms underlying impaired insight in relation to other symptoms/disorders, and will be discussed in chapter 8.

4.3 Impaired insight of knowledge/function

Apart from studies exploring impaired insight with respect to neurological or neuropsychological deficits, interest has also been directed at impaired insight or unawareness in relation to knowledge or function. Korsakoff (1889), in his original descriptions of the amnestic syndrome was particularly interested in this aspect of insight. Thus, whilst commenting on the lack of concern (rather than lack of awareness) shown by patients about their memory impairment, he was struck by the level of their unconscious knowledge. This was evident both in their behaviour, e.g. whilst not recognising Korsakoff on repeated daily contact, patients nevertheless recognised that he was a doctor, and from the fact that months or even years after their illness, patients could recollect conversations or events occurring during their illness of which they had no awareness at the time. In addition, Korsakoff observed that the unconscious awareness was evident to differing extents in relation to different aspects of memory. For example, pleasant, sympathetic behaviour towards certain individuals and events and hostile or unsympathetic behaviour towards others, suggested that patients preserved unconsciously affective responses in the face of a lack of conscious recollection of the situations evoking such responses. Since the early observations by Korsakoff and others (reviewed also in Schacter, 1991), such unconscious knowledge, later termed 'memory without awareness' (Jacoby & Witherspoon, 1982) or 'implicit memory' (Schacter, 1995), has only been

developed as an area of systematic research since the 1970s. Implicit memory has been demonstrated in patients with the amnesic syndrome, who are able, for example, to show effects of priming on memory tests without recalling the priming itself (Warrington & Weiskrantz, 1968, 1974, 1982; Cermak et al., 1985; Shimamura, 1986; McAndrews et al., 1987; Schacter 1991). Assessments of this type of awareness have tended to be restricted to demonstrating its presence in amnesic patients, either by such priming tasks or by skill-learning tasks. In these latter studies, patients are taught to learn and retain new skills such as computer training and yet they remain 'unaware' of having such training or skills (Glisky et al., 1986).

Impaired insight/awareness of knowledge or function has been described in other neurological syndromes. Most striking perhaps is the example of 'blindsight', where there is "visual capacity in a field defect in the absence of acknowledged awareness" (Weiskrantz, 1986, p166). The patient described by Weiskrantz had a left hemianopia following excision of a malformation within the occipital lobe, yet, was able to perform visual tasks in his left field at a level that was significantly higher than chance. At the same time, he appeared to be unaware of his ability to perform at such a level, expressing surprise when informed he had 'guessed' correctly. Similarly, in prosopagnosia, where patients are unable to recognise familiar faces overtly, implicit recognition has nevertheless been suggested by the fact that such patients show increased autonomic responses (skin conductance responses, respiration rate/depth) on testing with familiar faces (Bauer, 1984; Tranel & Damasio, 1988; Benton & Tranel, 1993).

A number of mechanisms have been proposed to explain such phenomena, including, e.g. damage to one of two postulated separate channels (holding different types of retinal information) involved in visual perception (Perenin & Jeannerod, 1975, 1978; Perenin et al., 1980). A different type of 'neural

disconnection' has been put forward by Weiskrantz (1986, 1988) who suggested that there was a split between the capacity to perceive and an awareness or commentary on this, thus implying damage to a parallel 'monitoring' system. Another 'disconnection' hypothesis, at a more neuroanatomical level, based on damage to selective neural paths from the visual system to the limbic systems, was proposed by Bauer (1984, p466) in relation to prosopagnosia. He suggests that in prosopagnosia there is damage to the 'ventral' path which, following Bear (1983), is a "modality-specific 'foveal system that recognizes objects [faces] by multiple attributes' and mediates modality-specific orienting and stimulus-response learning". The 'dorsal' path on the other hand, which carries emotional tone or 'relevance' for the face, is intact, and hence there is the observed autonomic arousal on presentation of familiar faces (Bauer, 1984, 1993). As mentioned above, Schacter (1990) in relation to amnesic syndromes, suggests a mechanism involving impairment to the memory system itself rather than invoking damage at the level of an awareness or monitoring system.

In these and other instances, such as blindtouch (Paillard et al., 1983), the 'object' of awareness relates to knowledge or capacity. This is in contrast to the deficit or impairment of function that has been the 'object' of awareness in the research on anosognosia/unawareness discussed earlier. Likewise, insight in relation to mental illness and dementias has focused predominantly on the impairments or damage as a result of illness, rather than any residual functioning or ability. (There have been recent studies on implicit memory in dementias - see next chapter.) Whilst this distinction has been made at a definitional level and different mechanisms have been postulated (Schacter, 1990), conceptually, this remains a relatively unexplored area. In other words, what is the relationship between these types of impaired awareness, and how do they relate within the notion of insight as a whole? If there is implicit awareness or knowledge with respect to capacity, is there also implicit

awareness with respect to deficits? The problem is that such issues clearly involve the understanding of other major and complex concepts such as consciousness itself and the meaning of different types of knowledge. This in turn opens up ever increasing levels of explanation, and hence, greatly complicates exploration of this area.

Furthermore, closer examination of the implicit/covert knowledge exhibited in the different clinical situations suggests that these phenomena may not necessarily be the same. For example, in patients with prosopagnosia, their covert recognition of familiar faces is demonstrated by their autonomic responses in the face of their overt inability to recognise these faces. Similarly, amnesic patients demonstrate implicit memory through their ability to use knowledge they have learnt previously, without recognising that this is the case. With blindsight, however, it has been shown that awareness of the ability to discriminate visual objects varies according to the presented stimulus (location/distance/salience). In addition, even though the patient may say he is 'guessing', he is aware of a "feeling" or different perception - " wave-like impression" (Weiskrantz, 1986, p167). A similar phenomenon was described by Paillard et al. (1983) in their patient with deafferentiation her right hand, who was able to discriminate tactile stimulation, though was unable to experience the stimulation as a 'touch' sensation. The question then has to be whether the observed phenomenon is really impairment of awareness, or whether the patient is describing (or having difficulty describing) a qualitatively different perceptual experience which guides the discriminating capacity. In other words, it might be that in this case, 'awareness' is intact, but appears impaired because of the difficulties in linking a 'foreign' perceptual experience with tasks dependent on a 'normal' visual/tactile experience.

A brief mention should also be made of some related research examining awareness that falls perhaps in a level between the above implicit type

knowledge and the previous conscious or explicit knowledge. The 'feeling of knowing' phenomenon has been used as a test of 'metamemory', i.e. "knowledge about one's memory capability and knowledge about strategies that can aid memory" (Shimamura & Squire, 1986, p452). Patients are asked to judge, on the basis of a 'feeling of knowing', whether they would 'recognise' the correct answers to questions even if they did not know the answers spontaneously. In this sense, it would appear that a particular type of awareness or insight is being sought which, although couched in 'cognitive' terms, nevertheless bears important similarities to the broad concept of insight as used in psychiatry (i.e., incorporating judgement as well as awareness). On the other hand, it is also interesting that this 'feeling of knowing' is not considered as constituting an aspect of insight in Gestalt cognitive psychological terms (Metcalfe, 1986). On the basis of such feeling of knowing tests, researchers have found, e.g. that whereas some amnesic patients show preserved metamemory, others, notably patients with Korsakoff's syndrome, show impaired metamemory, in the face of comparable severity of memory deficits (Shimamura & Squire, 1986; Shimamura, 1994). These authors conceptualise 'metamemory' as an independent 'cognitive' system, one that can become impaired separately from memory itself, but as noted already, the judgements being made here could be equally conceptualised as a form of insight.

Finally, a brief reference has to be made to experimental situations where the notion of awareness, albeit in a somewhat different sense, has also been raised. Penfield (1975) described 'experiential' phenomena evoked upon stimulation of the temporal cortex in patients with epilepsy. Patients reported complex hallucinations, illusions, memory flashbacks etc. accompanied by a sense of reality of the experience, though at the same time, aware of what was going on in the operating room. Penfield suggested that this double awareness was possible because of the independence of the 'mind' from brain

mechanisms. In other words, "although the content of consciousness depends in large measure on neuronal activity, awareness itself does not" (Penfield, 1975, p55). In similar studies, Gloor et al. (1982), found that it was necessary to stimulate the limbic structures in order to confer the sense of 'experiential immediacy' to the evoked phenomena. They thus suggested that "limbic activity may be essential for bringing to a conscious level percepts elaborated by the temporal neocortex" (p140). They further postulated that this was achieved by the limbic structures through the attachment of affective/motivational significance to the percept. In other words, in order for an object to be consciously perceived, there has to be an affective dimension to the perceiving. This view has clear corollaries with the model proposed by Bauer to explain the covert recognition of faces in prosopagnosia.

4.4 Summary

In summary, 'insight' in relation to neurological states has been the focus of case descriptions since the late 19th century, primarily because of the striking presentation of patients 'denying' overt neurological disabilities. Since then, there has been increasing recognition of different types and degrees of awareness/knowledge including the possibility of unconscious knowledge.

In contrast to the somewhat broader and variable notion of insight as conceptualised recently in clinical psychiatry, insight in neurological states appears to be viewed in a much narrower, albeit more consistent, sense of 'awareness'. In this latter sense, it is conceived more akin to a specific function, irrespective of whether this might be an independent system or intrinsic to specific 'modules' (e.g. memory, language) themselves. This distinction in meaning between 'awareness' and 'insight' becomes particularly apparent in the light of the seeming separation of 'metacognition' from research on awareness. In other words, where judgements about self-functioning are sought and

explored, they no longer are conceived in terms of 'awareness' (or insight) and hence 'new' cognitive systems are postulated under the term 'metacognition'.

Numerous theories of underlying mechanisms for the phenomenon of unawareness or lack of insight have been suggested alongside advances in investigative techniques such as neuroimaging and neuropsychology. It seems that at present, the debate continues on whether there is a separate 'awareness or monitoring system' and whether this can be localised both neuroanatomically and in terms of neural organisation. Alternatively, the question is whether unawareness in some situations can be explained on the basis of organisation of the 'object' of unawareness itself.

Chapter 5

Insight in dementia

In the last decade, there has been growing interest in the concept of insight in relation to dementia. In particular, there have been increasing numbers of systematic studies focusing on the development of specific measures to assess insight as well as investigating the possible neurological and neuropsychological mechanisms underlying impaired insight. In contrast to the relatively consistent approach to awareness/insight in the neurological states (as reviewed in the last chapter), studies examining insight in the dementias are striking in the range of different approaches used (Kaszniak & Christenson, 1996). This suggests that, as in functional psychiatric disorders, a variety of different conceptual frameworks underlying the notion of insight are being applied in such research. This makes comparisons between studies problematic and may contribute in part to the reported mixed outcomes.

One of the reasons for the different approaches to the concept of insight in the dementias may lie in the clinical status of the dementias themselves. Dementias, or chronic organic brain syndromes, occupy both neurological and psychiatric domains, and hence are subject to the differing influences of physiological/neuropsychological versus psychiatric/psychological methods characteristic of each discipline. Another reason may lie in the nature of the clinical features of the dementias. Thus, rather than involving single/several specific neurological deficits, dementias may be characterised by various cognitive (including memory) deficits, motor abnormalities, affective and personality changes, psychotic symptoms and behavioural disturbances. Consequently, studies exploring insight in dementias include to different extents insight not only into memory function, but also insight into the other impairments. As has already been suggested, insight assessments and insight

conceptualisations are to some degree dependent on and driven by the specific 'objects' of their study (mental symptoms v deficits in function v 'observable' behaviour, etc.). Therefore, it seems likely that a number of different approaches have to be used, where a number of such 'objects' are studied concomitantly.

Evidence for the different approaches to the conceptualisation of insight in the dementias comes from two main sources: (1) terminology used and (2) assessments of insight. These will be examined in turn, before summarising the results of studies on insight in dementia. Lastly, some of the main issues arising from the review will be discussed.

5.1 The meaning of insight in dementia: terminology

A number of related terms are used in the research on insight in dementias including, 'loss of insight' (De Bettignies et al., 1990), 'lack of awareness' (Ott & Fogel, 1992; Green et al., 1993; Auchus et al., 1994), 'anosognosia' (Reed et al., 1993; Starkstein et al., 1995), 'denial' (Sevush & Leve, 1993; Weinstein et al., 1994) and more recently, 'impaired self-awareness' (Kaszniak & Christenson, 1996). This raises questions concerning firstly, whether these terms are referring to the same concept, and, secondly, whether they are used in the same way by the different researchers. At a very basic level, the terms do of course imply differences. Thus, 'anosognosia' as stated earlier, refers to unawareness of a specific neuropsychological deficit, the latter being 'objectively' ascertainable. It is thus not a term used in relation to the impaired insight seen in patients with, e.g. schizophrenia, where insight is assessed in relation to symptoms (generally psychotic) or disease. Neither of these can be considered as, or analogous to, specific neuropsychological deficits (irrespective of whether these patients show neuropsychological impairment on testing). Nor can symptoms such as hallucinations or delusions be considered

as 'objectively' ascertainable. 'Lack of awareness' is a less specific term in that it carries no implication concerning the 'object' of awareness whether this be a neurological, physical or 'psychological' phenomenon. As examined in the previous chapter, 'awareness' in relation to neurological states appears to be used in a more specific sense of a function, differentiated from judgement. 'Insight' on the other hand, following lexical definition and the 'psychiatric' approach, seems to refer to more than awareness. It includes also an understanding of what the object of awareness (memory deficit, paralysis, hallucination etc.) actually means for the individual. In this sense, awareness can be deemed necessary but not sufficient for insight. Interestingly, the more recently used term 'self-awareness' (recent, that is, in neurological usage) is suggestive of a closer relationship with insight. The term suggests an awareness of something as it relates to the individual and hence, implies some form of additional judgement. In fact, in common with general usage of these terms in dementia research, insight assessed as 'self-awareness' rather than 'awareness', does not necessarily reflect this difference in meaning (Loebel et al. 1990). 'Denial' tends to have both a general and specific meaning with problems arising when these are not differentiated. In a general sense, 'denial' is often used descriptively to refer to the refusal made by a patient to admit to an overt dysfunction. However, the term is also frequently used in the sense of defensive denial or 'motivated denial' (McGlynn & Schacter, 1989) where the implication lies in an underlying psychological process operating to inhibit overt acknowledgement of the dysfunction. In this sense, the term has a two-fold meaning in that not only does it refer to 'unawareness' (though implying awareness at an unconscious level), but it also suggests a psychological mechanism underlying this unawareness (i.e. defence mechanisms, etc.). The term 'denial' in the specific sense, has generally been applied to functional psychiatric illnesses and particularly to the 'neurotic' disorders where lack of awareness or denial of symptoms has been explained as "a mental mechanism without conscious awareness and employed to resolve emotional conflict and

allay anxiety by denying a problem" (Goodwin, 1989). Denial has also been used in this latter sense in dementia. For example, Weinstein & Kahn (1955) applied the term to organic syndromes postulating that (together with neurological mechanisms) a psychological process was in operation as a protective device against the distress of acknowledgement of the dysfunction, and that this contributed to the overt unawareness exhibited by the patient.

Problems arise when such terms are not defined and/or are used interchangeably without reference to possible distinctions. As a result, it becomes difficult to identify the particular sense or underlying concept (Feher et al., 1991). McGlynn & Schacter (1989), acknowledge such difficulties and they use the terms 'anosognosia', 'unawareness of deficit' and 'loss of insight' interchangeably. They make it clear, however, that they are using these terms to refer to an underlying concept of unawareness in the neuropsychological sense, maintaining the same meaning as used in relation to amnesic syndromes. On the other hand, they distinguish this concept from motivated denial which they view as a distinct and separate phenomenon. In contrast, however, Weinstein et al. (1994) use the terms 'anosognosia' and 'denial' interchangeably and differentiate these from 'loss of insight' which they consider as a distinct and unitary phenomenon. Unfortunately they do not actually define their concept of 'loss of insight' and it is consequently difficult to understand the grounds for their distinction. It is not clear, for example, why "loss of insight implies a unitary defect, which should become more marked as the disease [Alzheimer's disease] progresses" (Weinstein et al., 1994, p182). Using the term 'anosognosia', Starkstein et al. (1995) accept a definition of 'loss of insight, misinterpretation and explicit denial', thus broadening the concept in another direction. Along different lines, Mangone et al. (1991) consider impaired insight following frontal lobe dysfunction as equivalent to 'confabulation'. In contrast, they equate impaired insight following right hemisphere dysfunction, with

'anosognosia'. They do not examine the concepts themselves but define them by putative underlying brain mechanisms.

5.2 Assessments of insight in dementia

The number and variety of assessment methods used in exploring insight in dementia likewise suggest differences in approaches to the concept of insight. These are reflected in both the range of methods developed by which insight is inferred, and the different types of content deemed relevant to the determination of insight and hence sought by the various assessment measures. First, in terms of methods, most of the earlier studies do not define their assessment criteria, and on the basis of subjective evaluation, subjects are categorised into those having and those not having insight/awareness (e.g. Gustafson & Nilsson, 1982). More recently, however, attempts have been made to use qualitative and quantitative methods. For example, structured or semi-structured interviews have been administered in order to categorise degrees of insight in Alzheimer's disease (Sevush & Leve, 1993; Weinstein et al., 1994). In these cases, patients are rated on the basis of responses to specific questions, as having either no insight, i.e. no acknowledgement of memory impairment, or full insight, i.e. acknowledgement of both the presence and the severity of memory impairment, or partial insight, i.e. showing some awareness of the presence of memory impairment but not its full extent. Similar categorical divisions have been used to evaluate insight in patients with Huntington's Disease (Caine et al., 1978) and Parkinson's disease (Danielczyk, 1983). Others have complemented information by interviewing relatives/caregivers before making such distinctions (Ott & Fogel, 1992). These methods thus seek to grade patients' insight or awareness on the basis of a fairly general and non-specific concept of insight but without attempting to identify or qualitatively discriminate between different types or aspects of awareness.

More specific notions of insight or awareness appear to underlie the insight assessments based on discrepancy measures. These methods determine levels of insight on the basis of discrepancies between the patient's assessment of self-functioning and either: (1) 'objective' measures of impairment, such as a battery of neuropsychological tests (Anderson & Tranel, 1989) and/or, (2) the carer's assessment of patient functioning (De Bettignies et al., 1990; Mangone et al., 1991; Michon et al., 1992, 1994; Freidenberg et al., 1990; Verhey et al., 1993; Vasterling et al., 1995). The greater the discrepancy that is obtained on these measures indicates a greater degree of unawareness or insightlessness shown by the patient. In other words, these methods assume that the 'objective' assessments of functioning (either clinical tests or carers' views) provide the standard, or relatively accurate representation of the level of functioning (memory or other) in the patient. Lack of concordance is thus attributed to disturbed awareness on the part of the patient. The concept of insight underlying such methods is thus fairly specific in that it is conceived as a ('correct') evaluation of function in a particular area. In the sense that they focus on the differences between subjective and 'objective' evaluations, these methods stress quantitative differences in awareness, but tend not to explore the actual nature of awareness itself. Instead, qualitative differences, following the neuropsychological models of awareness, relate more to differential scores in discrepancy/awareness in relation to different tasks or functions (Green et al. 1993, Vasterling et al, 1995). Such ratings clearly also cannot discriminate between impaired awareness and denial in the 'motivated' or 'defensive' sense. Furthermore, some of the assumptions behind these methods can be questioned. It can be argued, for example, that even if clinical tests of memory/cognitive function provide valid and accurate measures of ability, they may not necessarily correspond to the sort of subjective experiences of memory impairment that are asked in questionnaires/interviews (Sunderland et al, 1983; Kaszniak & Christenson, 1996). Similarly, as discussed in the previous chapter, some carers may not provide 'objective' assessments of functioning in

patients but may, for various reasons, both overestimate and underestimate levels of impairment in the patient. De Bettignies et al. (1990), for example, used discrepancy measures between patients (with Alzheimer's disease and multi-infarct dementia) and informants as a measure of patients' insight into their living skills. They found that whilst insight was not correlated with age, mental status, education or level of depression in the patients, it was significantly related to the degree of caregiver concern or burden. In other words, the higher the degree of the burden perceived by the caregiver, the higher the discrepancy between patient and informant report. The authors suggested that the elicited impaired insight in this situation was not only due to the overestimation of capacity by the patients, but that caregivers with a greater perceived burden were underestimating the capacity of the patients. Most studies, however, seem to indicate that carers' assessments of patients' memory function have a good correlation with patients' performances on 'objective' (psychometric) tests (McGlone et al., 1990; Feher et al., 1991; Koss et al., 1993; Freidenberg et al., 1990; Jorm et al., 1994).

Reisberg et al. (1985) (reviewed by McGlynn & Kaszniak (1991b)) compared ratings made by patients with Alzheimer's Disease of their own and their caregivers' cognitive (memory) function with equivalent ratings made by the caregivers of theirs and the patients' memory function. This assessment of insight was thus based on the difference between patients' self-judgement and their judgement of others' function. A similar method has also been used by McGlynn & Kaszniak (1991a, see below), who suggest that in dementia, the cognitive breakdown results in patients being unable to monitor their own cognitive performance whilst still being able to make accurate judgements of their relatives' abilities.

An interesting and comprehensive method of assessing quantitatively patients' insight into deficits was devised by McGlynn & Kaszniak in Alzheimer's disease

(AD) (1991a) and dementia in Huntington's disease (HD) (1991b). This was developed using a similar approach to that described by Schacter (1991, see chapter 4) in the assessment of awareness of memory deficit in amnesic syndromes. Similarly involving comparisons between patients and their caregivers, with respect to HD, three aspects of 'insight' were explored. Firstly, a structured questionnaire (Daily Difficulties Questionnaire) was administered to both patients and caregivers to assess their own and their relatives' present functioning as compared to 5 years previously. Following this, the two other aspects of insight were assessed as the differences between patients' (and caregivers') predictions on performance on various motor and cognitive tasks and their actual subsequent performance. In other words, 'insight' was evaluated as a predictive judgement on tasks which could then be directly verified. A similar approach was used by Green et al, (1993) who likewise used the difference between patients' prediction of their performance on a word recall test with their actual subsequent performance as one aspect of insight assessment in dementia.

Apart from such differences in the methods used in assessing insight, the content of the information sought in such assessments also varies considerably, reflecting further the different notions underlying insight in these measures. This variation in content of insight assessment measures can, for the purposes here, be roughly divided into 2 main areas.

First, the object itself of the insight assessment is not always the memory function. Indeed, many studies do not directly specify the object of awareness and the general implication is that the insight refers to the disease as a whole (e.g. Danielczyk, 1983; Schneck et al., 1982). Some studies specify memory impairment as the sole object of the insight assessment (Feher et al., 1991; McGlynn & Kaszniak, 1991a; Michon et al., 1992; Reed et al., 1993). In other studies the object of insight is defined as 'independent living skills' and

awareness of memory impairment is not part of the assessment (De Bettignies et al., 1990). Still others assess insight into memory function alongside insight into other cognitive, behavioural, affective and personality functions. For example, McGlynn & Kaszniak (1991b) looked at insight in motor as well as cognitive performance. Ott & Fogel (1992) in turn examined insight in relation to the patient's situation, memory impairment, impairment in activities of daily living (ADL) and progression of deficits. The assessment devised by Anderson & Tranel (1989) explored awareness in 8 specific areas. These included the following: reasons for hospitalisation, motor impairments, general thinking and intellect, orientation, memory, speech and language, visual perception and lastly, abilities on tests and future activities. Green et al. (1993) focused on recent memory, remote memory, attention and everyday activities. On the other hand, Vasterling et al. (1995), assessed memory, general health, self-care ability and mood disturbance.

The second aspect of content of insight assessments that needs to be mentioned concerns the variations that result from the differences in conceptualisation of insight, where the 'object' of assessment is constant. In other words, where the insight assessments relate specifically to memory impairment, the contents of the assessments nevertheless vary according to what is subsumed under the concept of insight. For example, some assessments focus on awareness of a general memory impairment (Mangone et al., 1991; Sevush & Leve, 1993; Verhey et al., 1993), whilst others examine awareness of memory impairment in numerous specific memory-dependent tasks (Feher et al., 1991; Green et al., 1993). Some researchers also explore patients' awareness of the effects of memory impairment in different aspects of their lives (Sevush & Leve, 1993; Starkstein et al., 1995). In a different vein, some insight assessments concentrate on awareness of current memory function (Mangone et al., 1991; Verhey et al. 1993;) whilst others focus also on awareness of change in memory functioning (McGlynn & Kaszniak, 1991a,b;

Vasterling et al., 1995). Further disparities between studies are evident, for example, in the ratings of anosognosia/unawareness made by Reed et al. (1993), and Weinstein et al. (1994). The ratings in these studies are in part determined by views on patients' affective responses and levels of concern about deficits. Other researchers (Anderson & Tranel, 1989; Verhey et al., 1993), on the other hand, limit their evaluations to awareness or knowledge of the deficits themselves.

5.3 Results of empirical studies

Not surprisingly, results of empirical studies are inconclusive. Variability in terms, definitions, assessment methods, and 'object of insight' as described above are likely to contribute to this, as well as the fact that different outcome measures have been used. In addition, most of this work has been carried out in Alzheimer's disease, where loss of insight is recognised as an important feature of the disease (American Psychiatric Association, 1994). There has been little systematic work on other types of dementia. In general, it is claimed that patients with cortical dementias (e.g. Alzheimer's disease, Pick's disease) show greater loss of insight (Lishman, 1987; McGlynn & Kaszniak, 1991b). Some studies also suggest that there is an earlier loss of insight in Pick's disease (Gustafson & Nilsson, 1982). It has also been claimed that 'subcortical' dementias are not associated with a great degree of insightlessness (e.g. Caine & Shoulson, 1983; Danielczyk, 1983). Patients with multi-infarct dementia (MID) are said to have preserved insight as compared with Alzheimer's disease patients (Lishman, 1987; De Bettignies et al., 1990), although more recent work has found no significant difference (Sultzer et al., 1993). Most of these findings, however, are based on work where insight is not assessed in a structured way or where the criteria for assessing its presence/absence (most of these studies assume a unitary conceptualisation) are not defined (Danielczyk, 1983). In addition, difficulties arise in the assessment of the stage of the disease, the rate

of progression and the severity of dementia, all of which may influence the level and type of insight. In general, there has been less work on traumatic, radiation, space-occupying, myxoedematous, B12 deficiency, normal-pressure hydrocephalus, etc. types of dementia, perhaps reflecting the smaller prevalence of these clinical groups as compared with Alzheimer's disease. A summary of the results from recent studies on insight in dementias is given in table 2 (Appendix A, p238).

(1) Stage of dementia

With respect to stage of the dementia, most studies suggest that insight is preserved early on in the disease (Schneck et al., 1982; Seltzer et al., 1993) and diminishes with progression of the disease (Freidenberg, et al., 1990), though others point at a more complicated relationship. Thus, Reisberg et al. (1985) (reviewed in McGlynn & Kaszniak (1991b)) found that patients showed less insight at the earliest stage of the illness, becoming more insightful during the 'confusional' phase, before losing this insight in the later stages. Neary et al. (1986) suggest that there is considerable variation in the amount of insight held by patients with Alzheimer's disease, some patients with more global impairment showing greater insight into their illness than patients at an earlier stage.

(2) Severity of dementia

Examination of the relationship between the severity of the dementing illness and loss of insight has also yielded mixed results. Some workers report a strong positive correlation (Mangone et al., 1991; Ott & Fogel, 1992; Sevush & Leve, 1993; Verhey et al., 1993; Vasterling et al., 1995). Others find a weaker association (Feher et al., 1991; Michon et al., 1992) and yet others, claim that there is no relationship between the severity of dementia and loss of insight

(Green et al., 1993; Reed et al., 1993; Weinstein et al., 1994; Auchus et al., 1994). Results in this area are particularly variable (see table 2, Appendix A) and are likely to reflect not just the different methods used in assessing insight, but the difficulty and variability in determining the severity of the dementia itself. For example, many studies use the severity of cognitive impairments as a measure of severity of the dementia, whereas others rely to different extents also on measures of functional abilities, behavioural disturbance and personality change.

(3) Depression

In their attempt to 'explain' depression in dementia, some studies have examined the relationship between depressive symptoms and level of insight in dementia. Results are conflicting as, for example, Reed et al. (1993), found no relationship between 'anosognosia' in Alzheimer's disease patients and a diagnosis of major depression (according to DSM III criteria). De Bettignies et al. (1990) and Verhey et al. (1993) found no relationship between loss of insight in dementia (mixed groups of Alzheimer's disease, vascular dementia and others) and degree of depression (as assessed by the Hamilton Depression Rating Scale). On the other hand, Feher et al. (1991) have described a weak relationship between loss of insight and scores on the Hamilton Depression Rating Scale and Sevush & Leve (1993) claimed a significant relationship between loss of insight and severity of depression (depression in this study was assessed on a 3-item scale). In other words, the more insightful patients were found to be more depressed, and both studies suggested that the depression present in the patients with dementia might in part have developed as a reaction to the awareness patients had concerning their disease. In a large study, involving 235 patients with Alzheimer's disease, Seltzer et al. (1993) also found that preserved insight was significantly related to the presence of depression, but in this study, neither insight nor depression (or other symptoms)

were assessed in a structured or systematic way. Instead, together with 10 other psychiatric symptoms, they were rated simply as being present or absent. Interestingly, in direct contrast to the previous studies, Freidenberg et al. (1990) found a significant relationship between diminished insight in patients with Alzheimer's disease and both depressive and psychotic symptoms. On the other hand, Kaszniak et al. (1993) found no correlation between impaired awareness in Alzheimer's disease patients and ratings of depression or delusions.

(4) Brain mechanisms

In line with neurological research, where associations have been described between anosognosia and frontal lobe pathology (McGlynn & Schacter, 1989; Prigatano, 1991; Starkstein et al., 1993, see chapter 4), attempts have also been made to examine the role of the frontal lobes in the relationship between loss of insight and dementia. Weinstein et al. (1994) showed that patients with Alzheimer's disease, presenting with memory loss and behavioural disturbances indicative of frontal lobe involvement, had less awareness of deficits than patients presenting with features suggestive of posterior brain involvement such as writing/reading difficulties or visuospatial problems. Similarly, Mangone et al. (1991) and Michon et al. (1992, 1994) found a strong correlation between anosognosia and scores on frontal lobe dysfunction tests. Reed et al. (1993) carried out SPECT studies in 20 patients with Alzheimer's disease and found a significant correlation between anosognosia and right dorsolateral frontal lobe perfusion. Anosognosia in this particular study was determined on the basis of ratings made from casenotes on the patients, who were categorised as having 'full awareness', 'shallow awareness' or 'no awareness'. Starkstein et al. (1995) found that patients with anosognosia in relation to Alzheimer's disease had significantly lower regional cerebral blood flow in the right frontal lobe on SPECT studies in comparison with patients

without anosognosia, though there were no differences on neuropsychological testing. The authors in this study used the discrepancies between patients' answers and caregivers' answers on a structured questionnaire as a measure of anosognosia. They conceptualised anosognosia broadly, examining awareness of intellectual functioning, changes in interests and personality changes. However, they then categorised the patients into those with and those without anosognosia on the basis of a cut off point on their questionnaire score. It is not clear, therefore, whether the two groups differed simply in degree of awareness into deficits or in the types of deficits towards which they were unaware. Auchus et al. (1994) have reported that patients with Alzheimer's disease showed a significant correlation between unawareness of deficits and visuoconstructional dysfunction (as assessed by clock drawing and block designing) suggesting also that right hemisphere dysfunction might be important as an underlying mechanism of unawareness. Unawareness of deficits (rated as present or absent) in this retrospective study, however, was elicited on the basis of a clinical judgement and no criteria were given to explain how this was determined.

5.4 Implicit memory in dementia

For the sake of completion, a brief mention should be made concerning one of the other aspects of awareness or insight that has been studied in relation to dementia, namely, implicit or unconscious memory. Work in this area has followed the neuropsychological approach to awareness as already described in amnesic syndromes (chapter 4). Using priming tasks, patients with Alzheimer's disease have been shown to display implicit memory in a similar manner to other patients with amnesic syndromes (McGlynn & Schacter, 1989; Schacter, 1995). In addition, dissociations have been found between not only implicit and explicit memory, but also between the types of implicit memory preserved. For example, the commonest finding with respect to Alzheimer's

disease has been a dissociation between priming deficits in word-related priming tasks , visual tasks and motor tasks (Burke et al., 1994; Russo & Spinnler, 1994; Schacter, 1995). Interestingly, the converse, i.e. deficits in procedural, motor related tasks and sparing of verbal related tasks, has been found in Huntington's disease (Butters et al., 1994). In a detailed study, Keane et al. (1991) have been able to demonstrate a dissociation between perceptual priming (spared) and verbal priming (involved) in Alzheimer's disease, which is in keeping with the view that these functions are served by the occipital and temporo-parietal lobe, respectively. More recently, Gallie et al. (1993) compared 20 patients with Alzheimer's disease (mild, moderate and severe) with 40 controls on 4 different priming tasks (i.e., using spoken and written words, pictures and objects). They found that the patients with Alzheimer's disease and controls showed similar levels of priming on spoken and written word category completion tests (thus showing a dissociation between implicit and explicit memory in Alzheimer's disease). However, the patients with Alzheimer's disease showed lower priming effects on pictures (i.e., priming deficits) and greater priming effects on tactile identification (i.e., priming preserved) than did the control subjects. Differences were also observed at different stages of the disease.

Studies, examining this aspect of awareness in dementia, have generally been limited to demonstrating the presence (sparing) or absence (deficit) of implicit memory with respect to different modality-specific tests. In this sense, implicit memory is viewed very much as a distinct and separate neuropsychological phenomenon, with theories concerning its mechanism following the neuropsychological lines as described earlier. There has been little attempt to conceptualise this notion either theoretically or empirically within the framework of insight as a whole. It might be interesting, for example, to explore the relationship between this sort of unawareness of function and the impaired insight in relation to deficits in patients with dementia.

5.5 Summary

With respect to the work on insight in dementia, it is evident that whether made explicit or not, insight is conceptualised in a variety of ways. On the one hand, many researchers have used the relatively narrow and specific meaning of 'anosognosia' or 'unawareness', following the neurological/neuropsychological approach. In this sense, insight is viewed more as a function that may be present or absent in relation to particular memory deficits (analogous to anosognosia in relation to, e.g., hemiplegia). On the other hand, other researchers have followed a broader approach to insight, exploring not only the awareness of specific cognitive deficits, but, to varying extents, also the judgements of the effects of these impairments on the patients in relation to function, mood and behaviour. Such approaches have also widened the scope of insight assessments in examining insight not just into memory deficits, but into other aspects of the disease as a whole (e.g. mood disturbance, daily living skills, etc.). Judgements in this latter, broader sense, do not fit in with the conceptualisation of awareness in the neuropsychological sense, but are perhaps more akin to the neuropsychological concept of 'metacognition' (Metcalfe & Shimamura, 1994).

As with empirical work on insight in relation to functional psychiatric disease (chapter 3), the studies examining insight in dementia yield mixed and inconsistent results. This must in part relate to the different approaches used in defining and assessing insight, as well as to the frequent overlapping of such approaches. Consequently, the theoretical distinctions made above become blurred in the empirical situation, and it is not always possible to separate out the different aspects or awareness or insight that are being elicited. Clearly, patients with dementia show a range of insight both in terms of awareness of their specific deficits, and in terms of judgements relating to these. In addition, patients show different types of unawareness in relation to preserved cognitive

function (implicit memory). However, the relationship between levels and type of insight or awareness and variables such as the type of dementia, the stage and severity of dementia, and associated depression, remains to be determined. Likewise, localisation of impaired awareness or insight to specific regions or systems in the brain has to be dependent on a much clearer understanding of what it is that is being assessed.

Section II: The Structure of Insight

Chapter 6

Study 1: Exploration of insight in clinical psychiatry

As the examination and analysis of the literature on insight in clinical psychiatry and related areas shows, the concept of insight raises a number of important and interesting questions. As the purpose of the thesis is primarily the clarification of the concept of insight as a mental structure, the empirical work described here is focused on what seems to be one of the most important issues, namely, the meaning of insight.

It is apparent that the meaning of the term 'insight' is unclear, in the sense that not only are there different definitions and approaches to the study of insight given across the various disciplines reviewed, but also within the individual disciplines themselves. As has been noted earlier, this raises further questions. For example, are researchers examining different phenomena, with the terms and approaches linked by a superficial resemblance, but in fact referring to overlapping but nonetheless distinct concepts? On the other hand, could it be that it is the different aspects of the same phenomenon that are being explored? Perhaps the differences are emerging predominantly through the different perspectives from which insight is examined or from the different constituents of insight that are being sought. Another possibility might involve a mixture of both kinds of explanation. The answers to such questions, however, carry important implications for the mechanisms postulated as underpinning insightlessness. Does it make sense, for example, to seek a common underlying brain mechanism by equating the anosognosia in hemiplegia or amnesia with insightlessness into psychotic symptoms? How valid is it to compare studies using different or mixed approaches to insight assessment

and assume that the same phenomenon is being captured? How important are the 'objects' of insight assessments themselves (i.e. specific neurological deficits, psychotic symptoms, a particular illness, normal function, etc.) in the determination of the concept of insight and consequently also the possible mechanism underlying its expression?

The studies described in these next 2 chapters were both designed to further explore the nature of insight, with the aim of attempting to help answer some of the above questions, and in turn help lead to the development of a structural model of insight. The first study, described in this chapter, is examining insight in patients with functional psychiatric disorders, specifically schizophrenia and depression. The focus here is mainly on the construction of an instrument designed to explore and capture possible qualitative aspects of insight. At the same time, quantitative assessments of insight are also determined, and insight as a whole is compared between the patient groups, as well as related to changes in mental state and the degree of severity of mental illness.

The second study, described in chapter 7, is examining insight from a different perspective. Here, insight is assessed with respect to one particular mental experience, namely, memory function, but in relation to a mixed group of patients whose diagnoses range from functional psychiatric disorders to organic disorders, including both focal amnesic syndromes and dementias. In this sense, insight is being examined in a consistent manner but across several diagnostic groups.

6.1 Defining insight

In order to construct a measure of insight that can be applied to the patient groups, it is necessary to have a working definition of insight. It was evident from the analysis of the studies on insight in functional psychiatric disorders

(chapter 3), that there were several kinds of problems relating to this. First, it was apparent that despite the variety of meanings of the term 'insight' used by different researchers, rarely was a theoretical basis or conceptual framework provided as underlying the definition of insight given. Second, it was also apparent that where consideration had been given to a theoretical analysis of the concept, there were nevertheless, difficulties in translating the concept of insight and its constituents into an empirical form of measurement (e.g. Amador et al., 1991, 1993; see chapter 3).

The question is how to define or conceptualise insight so that its different aspects and components can be determined, and subsequently translated into a form allowing clinical/empirical elicitation. It seems that common to much of the 'psychiatric' work on the notion is the view that insight does not just consist of awareness of a particular mental experience, but that it also involves some sort of correct understanding or knowledge of the experience. This latter aspect has been variously termed as 'judgement' (Jaspers, 1948), views about the nature of symptoms (Greenfeld et al, 1989), 'attribution' (Amador et al., 1993), or 'relabelling of symptoms as pathological' (David, 1990). It also appears that it is this secondary aspect of insight that has been proving most difficult to translate into an empirical form, at least in a broad sense. In other words, it seems difficult, without exploring further the components of this judgement or understanding, to make the qualitative assessments of insight. Consequently, the empirical translation generally takes the form of a categorical assessment of the belief that the symptoms either do or do not constitute an illness. However, as pointed out earlier, researchers have in different ways proposed, in theory at least, other aspects of insight, e.g. concept of self-formation, psychological defensiveness (Amador et al., 1991) or views about the symptoms themselves and one's vulnerability to their effects/recurrence (Greenfeld et al., 1989). All such views are suggestive of a broader approach to the judgement made or understanding held by the patient with respect to his symptoms or illness.

It was therefore with a view to determining and capturing some of the qualitative aspects of insight in this broader sense, that an attempt was made here to explore in more detail, what this judgement or understanding might entail. For example, if the notion of 'correct attitude' (Lewis, 1934) is considered, then this term is suggestive of a process in which, in the first place, there is an awareness of the particular mental experience. This awareness is followed by some sort of assessment or judgement, and lastly there is an appropriate reaction to the assessment. In this case, the appropriateness or 'correctness' is taken to refer to what would be deemed as correct by a general 'non-ill' public. Similarly, if the notion of 'relabelling' something as pathological (David, 1990) is considered, the implication here is that some mental process takes place, whereby an experience is judged or assessed before then being 'correctly' understood as morbid. In this sense, it would be simplistic to consider 'relabelling' as corresponding 'closely to the concept of anosognosia' as suggested by Mullen et al. (1996), since making this sort of judgement must involve more than just awareness. The point is, however, that there must be some active process on the part of the patient. This will involve the gathering and assimilation of information that is to an extent apart or separate from the mental experience itself, so that the judgement or understanding of the experience can be reached. It is by trying to explore the nature and components of this other information constituting the judgement, that perhaps qualitative aspects of insight might be identified. For this purpose, Hamlyn's (1977) work on self-knowledge is particularly useful.

Hamlyn (1977) makes a distinction between the concepts of self-knowledge and the knowledge about the self. He argues that much literature in philosophy and psychology has been concerned with the knowledge about the self, that is, with the individual's awareness of his/her personality traits, with how he/she appears to others, with his/her self-esteem and self-evaluation. According to

Hamlyn, this is not a true self-knowledge but only reflects beliefs about the self. Self-knowledge proper, Hamlyn argues, is one's knowledge about things as they affect oneself. For example, if a person knows he has a disfigurement or a propensity to avoid certain situations, then he knows these features about himself. However, only if this person recognises the ways in which his disfigurement or avoiding habit affect his perception of the world around him and his interaction with other people, can he be said to have self-knowledge. Whilst this concept of self-knowledge may encompass any aspect of knowledge of the self in Hamlyn's sense, the concept of insight in clinical practice could be restricted to self-knowledge in relation to symptoms or illness. Thus, insight may be viewed as a sub-category of self-knowledge, involving knowledge of the relationship between the symptoms/illness and the patient's individual, personal characteristics, as well as knowledge about the symptoms/illness themselves. Using this broad definition of insight, different components can be identified. To have full or complete insight, patients would require not only to be aware of symptoms or illness, and not only to have the understanding or knowledge about the known facts of such symptoms or illness. They would, in addition, have to know about the ways in which having the symptoms/illness affected them, both subjectively, and in relation to the ways they interacted with their social environments. Whether it is realistic or even desirable to expect patients to achieve complete insight in this sense, is a separate question. The important issue is, however, that this definition opens up different ways of approaching insight qualitatively and allows for translation into empirical forms. Clinical exploration can thus focus not only on awareness of a mental symptom and judgement of its pathological nature, but in addition, can be directed at issues involving awareness of changes in the self, at levels of understanding concerning the effects of the symptom/experience on the self, both in terms of subjective perception of the environment, and in terms of functioning within this environment.

6.2 Aims of study 1

The main aim of this study was to construct a scale assessing insight, based on the definition of insight suggested above. Secondly, this scale would be used in patients with functional psychiatric disorders in order to explore some of the qualitative aspects of insight. Specifically, four questions are being asked in this study:

(1) Is it possible to identify and assess clinically, both qualitative and quantitative components of insight?
(2) Do changes in insight occur over time or over course of illness episode, and is the insight assessment scale sensitive to any such changes?
(3) Are levels of insight, as assessed by the scale, related to the severity of the patient's disorder?
(4) Can quantitative and/or qualitative differences in insight be determined between patients with different psychiatric diagnoses?

6.3 Method

(1) Construction of the Insight Scale (Appendix B)

The Insight Scale (Appendix B) had 32 items to be answered 'yes', 'no', or 'don't know'. Although as part of this study, the scale was administered to the patients in conjunction with the rest of the protocol, it was designed to be a self-rating instrument and was thus phrased as simply as possible. Consequently, issues of interrater reliability do not arise. The items were chosen on a face validity basis in relation to the definition of insight given above. Thus, it was attempted to break up the concept of insight into components thought to represent aspects of self-knowledge relevant to the patient's illness. Questions pertaining to the following categories were included:

(1) hospitalisation (1,4,6a,21,25,26);

(2) mental illness in general (3,11);

(3) perception of being ill (2,5,6b,10,13);

(4) changes in the self (6d,8,9,14,16,17,18,21,22,23,24,30);

(5) control over the situation (20,27,28,29);

(6) perception of the environment (6c,15,20,23,,26);

(7) wanting to understand one's situation (31,32).

Scoring

To facilitate analysis, a score of 2 was given for a positive response and 1 for a negative response, and items were subdivided into:

(a) Group A: those that if answered positively, would indicate greater (positive) insight (5,6b,8,9,13,14,16,17,18,22,23,24,26,32);
(b) Group B: those that if answered positively, would indicate less (negative) insight (1,3,7,10,11,15,20).

To determine the direction of insight with respect to individual items, the following assumptions were made:

(1) Items relating to general attitudes towards hospitalisation, mental illness and medication (categories (1) and (2)) mainly reflect the individual's cultural background. Positive insight was scored when the patient acknowledged that mental illness existed and could be treated with medication.

(2) Positive insight was also scored when individuals recognised that they were ill (and more specifically, mentally ill) and in need of treatment (category (3)). The acknowledgement of treatment need was included here, following general

lines taken in insight research. Nonetheless, it should be considered in a tentative light since, as mentioned previously, acceptance of treatment may not be a necessary constituent of insight (see also chapter 8).

(3) It was assumed that when individuals become mentally ill, a number of cognitive and experiential changes occur, affecting perception of self, of the environment and of the interaction between the two. The items in categories (4)-(7) relate to the awareness of such changes. Thus, positive insight was scored when the patient acknowledged a difference within him or herself and with his/her interaction with the outside world.

Items found to be ambiguous with respect to the direction of insight (2,4,6a,6c,6d,6e,12,19,21,27,28,29), were discarded before analysis took place. With regard to 'don't know' responses, these were discarded when no firm conclusions could be drawn concerning the direction of insight.

Semistructured interview

This instrument (Appendix C) was used in conjunction with the scale to allow further exploration of insight and to bring out any other aspects of insight which might be useful in the further development of the scale. Information from this interview was also used to check on the veracity of answers obtained to the insight scale. An individual qualitative analysis of the information from this interview was not however, carried out in this study.

Both the Insight scale and the semistructured interview were piloted for language validity.

(2) Patients and assessments

Forty-three patients with a DSM-III-R diagnosis (American Psychiatric Association, 1987) of either schizophrenia or a depressive illness who were admitted consecutively to the acute general psychiatric wards in Fulbourn Hospital, Cambridge, were interviewed within 48 hours of admission. Since this was an exploratory study whose purpose was to focus predominantly on insight, patients were selected on the grounds that these disorders were relatively straightforward, common and had relatively reliable means of ascertaining their severity. Because of difficulties in classifying and rating severity of personality disorders and disorders relating to substance abuse, these were excluded. Patients with other diagnoses, e.g., manic illnesses, obsessive-compulsive disorders, etc., were excluded because the small numbers of patients admitted to hospital over the time course of the study, would have made comparisons by diagnosis, very difficult. The following protocol was completed:

(1) data sheet;
(2) the preliminary insight scale (Appendix B);
(3) a semi-structured interview to examine insight (Appendix C);
(4) scales to measure the severity of the specific disorders, either:
    (i) Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1967), or
    (ii) Brief Psychiatric Rating Scale (BPRS) (Overall & Gorham, 1962)

Of the forty-three patients, twenty-two were reassessed using the same protocol within 48 hours of discharge from hospital. Because of early or unplanned discharges, it was not possible to follow up every patient. The SPSS-PCv.3.1 statistical package was used for data analysis.

6.4 Results

The demographic data and diagnoses for the sample are shown in table 3.

Table 3

Demographic data and diagnoses

Variable	Interview 1	Interview 2**
Numbers of patients	43	22
Sex (Males: Females)	19:24	11:11
Mean Age (range)	43 (22-68)	46 (22-68)
Diagnosis: Schizophrenia	19 (BPRSa range: 33-60)	12 (BPRSa range: 33-60) (BPRSb range: 17-33)
Diagnosis: Major Depression	13 (HRSDa range: 21-44)	5 (HRSDa range: 33-42) (HRSDb range: 2-11)
Diagnosis: Dysthymia	7 (HRSDa range: 24-33)	4 (HRSDa range: 24-33) (HRSDb range: 3-11)
Diagnosis: Bipolar Depression	4 (HRSDa range: 23-30)	1 (HRSDa: 27, HRSDb: 12)

a = score at interview 1, b = score at interview 2
** It was not possible to follow up 21 patients: 11 were discharged before notification; 6 took their own discharge; 2 refused to cooperate with the 2nd interview; 1 was transferred to another hospital; 1 died. The attrition rate, however, should not affect the results concerning the structure of the scale, as the reason for the 2nd interview was to look at the sensitivity to change of the Insight Scale.

The results are summarised in 2 parts. The first part deals with the analysis of the preliminary insight scale, based on 43 patients. The second part deals with the analysis of the results based on the 22 patients interviewed twice.

(1) Analysis of the preliminary insight scale

Questions belonging to groups A (positive insight) and B (negative insight) were analysed separately by exploratory principal component analysis (factor analysis).

Group A yielded 5 factors, which accounted for 63.5% of the variance (lowest eigenvalue = 1.21):

Factor 1 (23% of variance). This factor contains items concerning both perception of being ill and awareness of changes happening within the self. There is also the acknowledgement that other people recognise a change in the patient.

Factor 2 (12.4% of variance). The items in this factor are specifically concerned with the patients' recognition of thought processes being affected by the illness.

Factor 3 (10.1% of variance). This factor is concerned with patients' awareness of changes within themselves and the reflection of such changes in their interaction with their environment. There also appears to be a need for self-understanding.

Factor 4 (9.3% of variance). The items in this factor reflect general awareness of changes within the self and the resulting difficulties in functioning.

Factor 5 (8.7% of variance). This factor includes items that are concerned with the recognition of self-change and the need for help. Items also indicate an expectation that the patient's situation is treatable.

The common theme underlying all these factors is the patient's recognition of a change in the self.

Group B yielded 3 factors and accounted for 63.6% of the variance (lowest eigenvalue = 1.13):

Factor 1 (28.3% of variance). Items in this factor relate to perception of being ill and also to attitudes towards mental illness in general.

Factor 2 (19.1% of variance). This factor contains items which are concerned with perception of changes in the environment and may indicate delusional thinking.

Factor 3 (16.2% of variance). The items in this factor are concerned with attitudes towards hospitalisation.

Reliability

Items in groups A and B were analysed for internal consistency using Cronbach's alpha coefficient. This is an estimate for test reliability based on intercorrelations (Ghiselli et al., 1981). Group A yielded a standardised alpha = 0.71 and Group B, an alpha = 0.55. At this stage of the study, these alphas should be considered as adequate. No item proved to be redundant (i.e. its rejection increasing significantly the alpha value) in either group.

(2) Analysis of 'insight' in patient sample

(i) Changes in insight over time

For the 22 patients seen twice, overall scores for items in groups A and B were calculated separately for interview 1 and interview 2. Then a comparison was made of scores at first and at second interview, using a two-tailed *t*-test for related samples (table 4). The data in table 4 show a significant change in both positive ($t = 3.54$, $P < 0.002$) and negative insight ($t = 2.75$, $P < 0.01$) between the first and the second interviews, indicating an improvement in insight prior to hospital discharge. Thus the preliminary insight scale showed sensitivity to change.

Table 4

Comparison of global scores obtained for group A and group B items between 1st and 2nd interviews

Interview	**Group A** (insight-positive) mean global scores(s.d.)	**Group B*** (insight-negative) mean global scores (s.d.)
Interview 1	18.2 (3.5)	11.5 (1.8)
Interview 2	20.3 (2.3)	12.6 (1.2)

* For facility, the scoring of insight-negative or group B items has been reversed, i.e. the greater the score, the greater the level of insight.

(ii) Relationship between the severity of the mental disorder and insight

Correlations were calculated between insight scores at 1st and 2nd interviews and severity of mental disorders at both times, as measured by the BPRS and

the HRSD. The results at first interview showed a negative correlation (Pearson's) between the severity of psychotic disorder (BPRS scores) and the overall positive insight score ($P < 0.01$); patients with higher BPRS scores at initial interview showed lower levels of insight. The results at second interview also showed a negative correlation ($P < 0.01$) between severity of depressive illness (HRSD scores) and the overall positive insight score; i.e. patients showing a greater degree of severity of depression around the time of discharge from hospital had lower levels of insight at that time.

(iii) Comparison of insight scores between patients with schizophrenia and patients with depression

At first interview, patients with schizophrenia (n=19) had higher positive insight scores than patients with depression (n=24) (Mann-Whitney *U*-test, $P < 0.02$). No significant differences were found between these two diagnostic groups in regard to negative insight scores.

6.5 Discussion

This study describes the development and testing of a preliminary insight scale in a mixed sample of 43 patients. As stated earlier, the principal aim here was to explore the possibility of eliciting different qualitative aspects of insight. Thus, the work presented is in its early stages and can only form the basis of more substantive exploration in conjunction with further development and refinement of the insight assessment.

The insight scale was constructed on the basis of the definition of insight as a subcategory of self-knowledge described above. This broader conception of insight suggested a number of different aspects to the knowledge patients

might have in relation to their illness and its effects. In turn, this provided the insight scale with a variety of items thought to represent some of these aspects.

Factor analyses of group A items and group B items reveal a consistent pattern and the factors obtained show similar features. This indicates that patients were not responding randomly to the items (i.e. sometimes 'yes' and sometimes 'no' to similar questions). The most important factor emerging in both groups appears to centre around the perception of being ill. In addition, the factors in group A and factor 2 in group B are all concerned with the patients' recognition of changes in themselves and with the perception of change in their environment and their relationship with their environment. It seems therefore, that the most significant characteristics or aspects of insight as measured by the insight scale, relate to the patients' awareness of qualitative changes in themselves and their outside world. Other aspects of insight brought out by the scale, though to a lesser degree, include the recognition of the need for help (factors 4 and 5, group A) and hospitalisation (factor 3, group B). These seem to be linked to an awareness that other people can perceive changes in the patients.

The second part of the study examined changes in patients' insight between the state of acute illness and the state of improvement as determined by hospital admission and hospital discharge, respectively. The relationship between insight scores and the severity of the mental disorders was also examined.

In accordance with some other studies (Birchwood et al., 1994), the results show a significant improvement in insight scores between hospital admission and discharge. This contrasts, however, with the results of McEvoy et al. (1989b) who found no significant change in their study. Several reasons could account for this difference. McEvoy et al. (1989b) were examining patients with

schizophrenia, whereas the patient sample in this study also included patients with depressive illnesses. Splitting the results according to diagnosis might have given a different picture, but the sample size did not allow for this. It might be interesting, however, for future studies to compare the changes in insight over illness episode between patients with different diagnoses. More importantly perhaps, the insight instruments in the two studies are very different. As described in chapter 3, the insight scale used by McEvoy et al. (1989b) (ITAQ), focused specifically on the issue of being mentally ill and requiring treatment. By trying to separate out components of such judgements, in an attempt to capture more qualitative aspects of insight, the scale that was used in this study included, in addition, questions concerning awareness of subtle changes going on in the patient and in his/her relationship with outside events. In other words, before coming to a judgement about what is happening, and specifically about being mentally ill, there has to be some perception or awareness of change. In fact, this goes back to the distinction made by Jaspers (1948) between, firstly, being aware of illness or change and, secondly, making a correct judgement as to the nature of the mental illness. As indicated earlier, most insight assessments in clinical psychiatry focus on this latter component of insight, i.e. the judgement that one is suffering from a mental illness, and tend not to explore the earlier stages. Thus, it could be hypothesised that the improvement in insight over time, as shown in this study, might be related to the fact that verbal recognition of general changes may be less threatening to the patient than the verbal recognition of being or having been mentally ill (in other words, it might be easier to say 'I feel different' than to say 'I am mentally ill'). Although significant, the change in insight as represented by the increase in total insight scores, appears relatively small in terms of the mean values given in table 4, and follows similar results reported in other studies (Birchwood et al., 1994). In part this is a consequence of some patients showing marked change in responses between admission and discharge, and others showing little change. The small size of the patient sample in this study precluded a more

detailed analysis but future work would need to be directed at some of the issues arising. For example, it would be interesting to examine whether specific items or factors were more sensitive to change than others. It would be also useful to explore the relationship between both qualitative and quantitative changes in insight and the illness affecting the patient. It may be that other variables or factors related to the patient (e.g. past experiences, intelligence, interests, cultural/environmental influences, etc.) are important in determining both the sort of insight expressed and the change shown in insight over time.

In agreement with some studies (e.g. David et al., 1992; Takai et al., 1992;), but in contrast to others (Bartkó et al., 1988; McEvoy et al., 1989b, 1993b; Cuesta & Peralta, 1994), this study shows a significant negative correlation between the severity of the disorder and level of insight. In other words, the more ill the patients are (as assessed by the rating scales), the less insight they show. Interestingly, correlations are different in relation to the various disorders. Thus, in schizophrenic patients, the more severe the psychotic disorder at time of admission (as measured by the BPRS), the lower the level of insight (as assessed by the insight scale). On the other hand, in the patients with depressive illnesses, it was only at the second interview (i.e. prior to discharge), that the severity of their (residual) depression, as measured by the HRSD, showed an inverse correlation with insight. Once again, the sample numbers were too small to allow firm conclusions to be drawn here. Nevertheless, this differential effect is suggestive of factors other than severity of disease, being important in modulating the type and extent of insight shown by patients. This would need to be explored further by examining other patient variables and involving a larger sample of patients. For example, it may not be the severity of a particular disorder that contributes significantly to the insight held, but perhaps the presence of psychotic symptoms, be they in the context of schizophrenia or depression or mania. Work in this area and conclusions drawn must, however, be tempered with recognition of the problems inherent in

comparing severities of different illnesses. Clearly, the scales, i.e. BPRS and HRSD are necessarily different and will be assessing a different type of severity in each disorder. In addition, the issue of how far or to what extent a rating scale is measuring severity of the pathological process is a complex one and cannot be explored here. The point is, however, that the rating on the scales does not have to reflect the severity of either the pathology in the brain or the effects on the functioning of the patient, either of which may be important in the sort of insight held by the patient.

The last part of this study examined differences in overall scores on the insight scale between schizophrenic patients and patients suffering from depression. Interestingly, the schizophrenic patients scored significantly higher on group A (positive insight) items, i.e. on the items concerned with awareness of self-change and in the recognition of such change as affecting the individual's functioning, compared with the depressive patients. In contrast, items in group B (negative insight), concerned more with general attitudes towards mental illness and hospitalisation, did not differentiate between the diagnostic groups. Again, in view of the small sample sizes, it is difficult to draw firm conclusions, but the indication of such differences must merit further exploration in both the quantitative and qualitative aspects of insight in relation to different mental disorders.

6.6 Conclusion

This study provides some answers to the questions raised at the beginning of this chapter, but also uncovers more as insight is explored further. With respect to the first question, although crude in its present form, the preliminary insight scale does provide both a qualitative and a quantitative assessment of insight. The items on this scale were chosen in an attempt to reflect the theoretically derived definition of insight as a subcategory of self-knowledge. Factor analysis

brought out dimensions approximating to some of the aspects of insight that were thought to be relevant to the original definition. Thus, emerging as important, were factors relating to the patients' awareness of change in themselves and in their environment, their awareness of the perception by others of changes in themselves, hospitalisation and the need for help. The scale also provides quantitative measurements, although the scoring system at present is cumbersome and needs simplification.

In relation to the second question, the results show that over the period of hospital admission, insight scores change in the direction of improvement. The third question, concerning the relationship between insight and severity of the patient's disorder is more difficult to answer. Overall, insight scores were found to be inversely related to the severity of the patients' illness but this result has to be qualified, as was seen above, by the both the time of insight assessment (interview 1 or 2) and the type of psychiatric disorder (schizophrenia or depression) affecting the patient. At this stage it can only be postulated that the severity of a particular disorder is likely to affect the extent of insight shown by the patient, but the degree to which this might be important and the contributing effects of other factors, remains to be discovered.

The issues raised in this study can only be addressed in the context of both further theoretical exploration and a more substantive study involving a greater number of patients and ideally, including patients with different functional psychiatric diagnoses. Thus, the fourth question also remains only partially answered but merits more exploration. It seems that different qualitative components of insight can be elicited and it is likely that many other such components exist. The next important questions have to deal with the significance of individual qualitative aspects of insight, as items or factors. Is endorsement of specific items related to the type of illness, the stage of the illness, personality factors, prognosis, etc.?

Chapter 7

Study 2: Insight into memory function

Just like the study described in chapter 6, the study described below was designed to explore the nature of insight and to determine its possible components. In comparison with the previous study, however, the present study asks questions from a different perspective. The previous study, in light of some of the conceptual and empirical problems that had emerged from reviewing insight research in functional psychiatric disorders, was concerned predominantly with the definition of insight and the translation of its theoretical components into an empirical instrument designed to capture more qualitative aspects of insight. The present study, on the other hand, focuses on a somewhat broader problem with respect to the nature of insight. This problem relates to the already mentioned issue concerning the conceptualisation of insight across disciplines, and the question of whether the same phenomenon is being sought in these different areas. If, because of the diverse paths of development taken by the various disciplines as well as their different foci of interest, this has resulted in different phenomena being explored, albeit under similar terminology, this must carry important implications for any conclusions concerning the neurobiological basis or localisation of insight. Specifically, it is apparent that increasingly researchers are attempting (both explicitly and implicitly) to link the approaches used and models held to underlie unawareness/anosognosia in neurological states with ideas concerning loss of insight in functional psychiatric disorders. For example, several studies have concentrated on searching for correlations between neuropsychological variables specific to frontal lobe and right hemispheric dysfunction and impaired insight in patients with schizophrenia (McEvoy et al., 1993b; Young et al., 1993; Cuesta & Peralta, 1994) or with bipolar affective disorders (Ghaemi et al., 1996). Such studies appear to be based on the finding that anosognosia has

been linked with frontal lobe dysfunction and right hemisphere damage (e.g. Bisiach et al., 1986; Starkstein et al., 1992; see chapter 4). In other words, it is assumed that anosognosia as assessed in neurological conditions and impaired insight as assessed in schizophrenia, are both referring to the same phenomenon. Young et al. (1993), for example, whilst acknowledging difficulties in determining a clear definition of 'unawareness' in relation to schizophrenia, nevertheless base their study on a possible association between such unawareness and anosognosia in neurological states. They define 'unawareness' in schizophrenia as 'the phenomena in which individuals with long standing schizophrenic symptomatology state upon intensive questioning that they are not ill, do not have symptoms or have no difficulties or abnormalities which they attribute to a psychiatric illness' (Young et al., 1993, p118). They consider this an analogous phenomenon to the anosognosia seen in neurological disorders. Mullen et al. (1996) are even more explicit in equating these phenomena. They state that 'the ability to relabel certain mental events as pathological *corresponds closely* to the concept of anosognosia. ....the recognition by a patient of neurological symptoms is *conceptually identical* with the recognition of psychiatric symptoms' (p645, my emphases). In consequence, common explanatory hypotheses and underlying mechanisms are sought for the impaired insight and unawareness present in schizophrenia and neurological states. Similarly, it is evident from the research on insight in dementia (as pointed out in chapter 5) that mixed approaches are applied with respect to unawareness or insightlessness. These are drawn from 'neurological', 'psychiatric' and 'psychodynamic' disciplines with the assumption that the same phenomenon is being explored in the various studies.

The important question that has not been addressed is, however, whether the concepts of awareness or insight in the 'organic' and the 'functional' states can validly be considered as being the same. This issue is not one concerning the distinctions, valid or otherwise, between 'organic' and 'functional' states. Rather,

irrespective of the validity of such distinctions, this issue concerns the question of whether the different approaches to conceptualising insight and awareness in these disciplines have resulted in different meanings behind the terms. Is it valid, for example, to assume that because schizophrenia is currently considered to be 'organic', that the concepts and approaches used in the 'neurological' disciplines may simply be applied to schizophrenic symptoms in an analogous fashion? If it is the same phenomenon, namely insightlessness that is being examined in neurological disorders as in psychiatric disorders, then the mechanisms proposed as underlying anosognosia are likely to hold for insightlessness in psychotic illnesses. On the other hand, if different phenomena are being captured, it would make little sense to try to 'explain' insightlessness in schizophrenia purely in terms of frontal lobe dysfunction.

The study described below is designed in part to address the question of whether the same or different phenomena are being elicited in relation to different pathological states. First, however, in view of the important implications of this issue, the problem needs to be formulated explicitly. The question is whether unawareness of a specific neuropsychological deficit (anosognosia) can be considered as roughly equivalent to unawareness of mental illness. If equivalence of these phenomena is assumed (e.g. Young et al., 1993; Mullen et al., 1996), then two further broad assumptions need to be considered.

First is the assumption that the 'unawareness' has the same meaning or relates to the same process in both cases. From the work already analysed it seems apparent that this assumption may not necessarily be correct. Anosognosia or unawareness in the neuropsychological sense has been conceptualised, more or less, as a specific function whose elicitation and assessment is task or test dependent (see chapter 4). Unawareness of mental illness or impaired insight in clinical psychiatry has been conceptualised in a broader sense. In this

discipline, it generally is viewed as comprising not only awareness but also secondary elaborations in the form of judgements, attributions, views etc., concerning the nature of the illness or symptoms in relation to the self (chapters 3 & 6). In this latter sense, unawareness is therefore not conceived only as a function (albeit, this may be part of the concept of insight as a whole), but as a composite including other 'diffuse' mental processes.

The second assumption is that 'specific neuropsychological deficit' can be viewed as comparable to 'mental illness'. At various points throughout this thesis it has been suggested that the 'object' of insight research has a close, interdependent relationship not just with the clinical insight assessment, but also with the conceptualisation of insight itself. In other words, there seems to be a common evolution where the development, refinement and elaboration of the 'object' of insight assessment (e.g. intellectual tasks in Gestalt cognitive psychology; memory tests in cognitive neuropsychology) occurs in conjunction with the refinement and elaboration in the conceptualisation of insight and its assessment in the particular area. In a sense, this sort of interdependency serves also to maintain the distinctions between the notions of insight in the various disciplines. However, the issue relates, in addition, to a more specific problem. The problem lies in the fact that there is a basic, categorical difference between the meanings underlying the terms 'specific neuropsychological deficit' and 'mental illness'. The former refers to something that is 'objectively' ascertainable in the sense that it is in principle determinable by a 3rd person either through observation or specific tests. In other words, there is a relatively direct one-to-one relationship between the pathological dysfunction or 'object' (e.g. hemiparesis, dysphasia) and its determinable manifestation (inability to move limb, difficulty with speech). On the other hand, with regard to 'mental illness' there is not the same sort of direct correspondence between object and manifestation. The term 'mental illness' refers to a construct; one that may have biological/organic determinants, but in addition, its wider 'meaning' is

constituted by the contribution of other and fluctuating factors such as cultural, environmental, current fashion etc. Hence, this is not a fixed concept, nor is it relating to a specific pathology. Signs taken to indicate mental illness in one decade may not necessarily apply in another decade. Similarly, they may differ from one culture to another or even from one clinician to another. Furthermore, patients may not experience 'illness' in the conventional sense, thus giving further scope to distortion of the relationship between 'object' and its manifestation. This will be discussed further in the next chapter, but it appears that there are theoretical objections to the assumption that unawareness of deficit and unawareness of mental illness refer to the same phenomenon.

The question of whether one refers to the same or different phenomena under the terms 'unawareness' or 'insightlessness', in relation to different diagnostic groups, does not seem to have been tackled at an empirical level. In the first place, this would be difficult to do without addressing the problem theoretically. Secondly, the distinctions that can be made theoretically, e.g. between awareness as a function and awareness incorporating wider judgements, are likely also to pose problems for empirical translation. Nevertheless, in an indirect way, the study described here is attempting to explore this problem empirically. This study is designed to assess insight into memory function across both organic and functional disorders. It is indirect in addressing the above problem in the sense that it is a *post hoc* examination of the pattern and extent of insight shown by patients as assessed by the insight instrument. This examination, in turn, questions whether the obtained insight patterns can best be 'explained' by the hypothesis involving a single/common phenomenon being elicited, or whether it makes more sense to consider the possibility of different phenomena being captured. In contrast to the previous study, the focus is on the relationship between insight and the object of insight assessment, in this case, memory function.

Focusing on memory function as an object of insight assessment is useful for a number of reasons. Firstly, memory complaints are common and occur in both 'organic' and 'functional' disorders (as well as in the general population) and can, in a sense, be explored 'independently' of the primary diagnosis. Secondly, as the previous chapters have shown (chapters 4 & 5), there has been a considerable amount of research on insight into memory function, though this has been carried out predominantly in relation to memory pathology. Both awareness of memory dysfunction and awareness of memory function (implicit memory) have been studied in relation to focal brain disease (amnestic syndromes) and generalised brain disease (dementias). With respect to 'normal' or non-ill subjects, self-reports of memory function have been treated mainly in experimental psychology where, rather than 'insight' or 'awareness', somewhat different frameworks are used. For example, Hermann (1982), reviewing the current self-report questionnaires on everyday memory function found only a moderate correlation between self-assessments and performance on clinical tests of memory. These results were then discussed in terms of people's beliefs about their memory and factors that might influence such beliefs. Similarly, in functional psychiatric disorders, whilst memory function/dysfunction has not in itself been the subject of insight research, there is indirect reference to this issue, e.g. in recognition of the syndrome of 'pseudodementia' (Gelder et al., 1996). Likewise, studies examining subjective memory complaints in depressed patients have noted discrepancies between such complaints and actual memory performance (Grut et al.,1993), thereby implying some disturbance in awareness or insight.

7.1 Aims of study 2

The principle aim of this study was to explore and compare the extent and patterns of insight into memory function held by patients with an organic basis and patients without an organic basis to their memory problems. As explained

above, the overall objective was to help achieve a further understanding of the structure of insight and thereby also to determine its valid conceptualisation in clinical practice. By focusing specifically on memory function as a problem, this study aimed to explore insight across major diagnostic groups, hence enabling the comparison between patients with organic and non-organic brain impairment. In contrast to previous studies, 'memory problem', rather than 'memory dysfunction', was deliberately chosen as the 'object' of insight assessment. This meant that patients' insight could be examined, in a sense, independently of their memory dysfunction (or rather the cause of the memory dysfunction - thus avoiding the preconceptions specific to the conceptualisations of insight in neurological and psychiatric disciplines). It was further hoped that by thus separating insight from memory dysfunction as the object of insight assessment, other qualitative features specific to insight itself, rather than to the memory problem, could be identified. Apart from this broad explorative purpose, this study had several specific aims:

(1) to develop and test an instrument assessing insight into memory function,
(2) using this instrument, to explore the extent and patterns of insight into memory held by patients with a range of disorders,
(3) to compare the qualitative and quantitative assessments of insight between patients with organic memory problems and those without evidence of organic impairment,
(4) to carry out a limited, and at this stage preliminary, analysis of correlations between the qualitative and quantitative measures of insight and clinical variables (psychiatric ratings, neuropsychological performances).

7.2. Method

(1) Construction of the Memory Insight Questionnaire (MIQ) (Appendix D)

The 'Memory Insight Questionnaire' (henceforth the 'MIQ') was designed to be as simple and straightforward as possible so that it could be completed also by patients with mild/moderate degree of cognitive impairment. In line with some of the assessments described earlier in relation to memory problems (chapters 4 & 5), patients' insight was measured as a function of the discrepancy between patients' views and their carers' or relatives' views on their memory function. Thus, a self-administered version of the instrument was given to the patients whilst the same questions, phrased in the third person, were filled out independently by the carers. (For the sake of simplicity, the term 'carers' shall continue to be used to refer to the people who accompanied the patients and completed the MIQ. It should be understood that whilst many of these (family/close friends) were indeed carers in the sense of having to help patients in their daily functioning, others were family or close friends who, because there was no real need by the patient, did not have the role of carers. What was considered important was that they knew the patient well and were in a position to observe any changes in his/her memory function.)

The MIQ consists of 19 items concerning different aspects of memory function and patients were asked to choose one of four possible views relating to each item (see Appendix D). The items themselves were based on the broad concept of insight, elaborated in the previous chapter, as an awareness of the specific experience (in this case memory impairment) and judgement concerning the nature and effects of the memory impairment on the patient's general functioning. In practice, it is clearly impossible to separate out these aspects of insight into distinct components since elements of judgement necessarily enter expressions of awareness and likewise, expressed judgements have to be

dependent on some form of awareness. With respect to the MIQ content, the items were designed, on a face validity basis, to evaluate 4 main areas likely to be affected by memory difficulties:

(i) general functioning (items 3, 10, 19)
(ii) memory - general, autobiographical, procedural (items 1, 2, 4, 5, 6, 7, 8, 16)
(iii) language function (items 9, 11, 18)
(iv) cognitive - general, executive (items 12, 13, 14, 15, 17)

Scoring on the items was based on a simple 4-point scale. Thus with respect to the function/problem addressed by each item, 1 was scored for the view that there was improvement, 2 was scored for the view that there was no change, 3 was scored for the view that the problem was mildly worse, and 4 was scored for the view that it was much worse. A higher total score obtained by the patient therefore indicates a perceived greater degree of memory/functional impairment. Similarly, the higher the score obtained by the carers indicates a greater degree of memory impairment in the patient (as evaluated by the carers). The level of insight using this instrument is calculated as the difference in scores on the items between ratings by patients and ratings by their carers.

(2) Patients

One hundred consecutive patients referred to the 'Memory Clinic' at Addenbrooke's Hospital, Cambridge, were given the MIQ as part of their overall assessment. The 'Memory Clinic' is a regional specialised clinic for patients with memory problems and acts as a tertiary referral service and also accepts referrals from primary care. Patients, referred on account of memory problems, either because of subjective complaints or following the concerns of others, are thus a mixed group. Their diagnoses range from various forms of dementias and other organic amnesias to functional psychiatric disorders (e.g. depression,

anxiety disorder etc.) or indeed to no specific organic or functional disorder. This latter group, whilst not fitting into psychiatric conditions as classified by the ICD10 (World Health Organization, 1992) or the DSM-IV (American Psychiatric Association, 1994), nevertheless consists of patients showing distinct patterns of affective/cognitive/behavioural symptoms and personality traits which may thus be putatively related to some ongoing mental or personality disorder.

(3) Assessments

Patients referred to the clinic are examined in turn by the neurology team, the psychiatric team and the neuropsychology team. They thus receive a full neurological examination including, where appropriate, further investigations such as neuroimaging. They are given a battery of neuropsychology tests, the number and type depending on both clinical need and the capacity of patients to complete these. In general, a core battery includes: Verbal IQ (WAIS-R), NART IQ, digit span, vocabulary, arithmetic, similarities, block design, fragmented letters (VOSP), McKenna Naming Test, Warrington Recognition Memory Test for words and faces, Wechsler Memory Scale for passages and designs (immediate and delayed recall), verbal fluency, Wisconsin Card Sorting Test and/or the Weigl (details and references of individual tests are in Lezak (1995)). The psychiatric examination is in two parts. First, patients are interviewed and a full history and mental state examination is obtained. Their carers are interviewed separately. Second, where possible, the patients complete a core of computerised questionnaires consisting of :General Health Questionnaire 28 (Goldberg & Hillier, 1979), Cognitive Failures Questionnaire (Broadbent et al., 1982), Beck Depression Inventory (Beck et al., 1961), Signal Detection Memory Test (Miller & Berrios: Recognition memory by means of a word-based signal detection analysis, unpublished, based on Miller & Lewis, 1977), a Scale for the Self-assessment of Irritability (Snaith et al., 1978), Dissociation Questionnaire (Riley, 1988), and a Personality Inventory (Bedford

& Foulds, 1978). Where indicated, additional questionnaires relating to specific symptoms are given, such as the Maudsley Obsessional Compulsive Inventory (Rachman & Hodgson, 1980). In addition, carers are asked to complete the TRIMS Behavioral Problem Checklist (Niederehe, 1988).

All patients were seen personally by the author who supervised all the computerised psychiatric questionnaires and who carried out the psychiatric examinations in over 50% of the patients.
The SPSS for MS Windows version 3.1 was used for analysis of data.

7.3 Results

(1) Patients

On the basis of the psychiatric, neurological and neuropsychiatric assessments described above, the patients were divided into those with an 'organic' (n=56) and those with a 'psychiatric' (n=44) diagnosis. The sociodemographic data for both samples are shown in table 5. The 'organic' sample was slightly older but there were no other differences in terms of sex ratio, duration of memory problems, education, alcohol dependency or smoking.

Table 5

Organic and psychiatric patients compared on sociodemographic variables

Variable	Organic Group (n=56)	Psychiatric Group (n=44)	Statistics
Mean Age (Std. Dev.)	63.02 (12.76)	52.16 (11.64)	P< 0.001[a]
Sex (males:females)	34:22	23:21	NS[b]
Mean Duration of Memory Complaints in months (Std. Dev.)	39.79 (35.89) (n=56)	51.45 (38.18) (n=42)	NS[a]
Alcohol (significant : non-significant intake)	3:53 (n=56)	3:40 (n=43)	NS[b]
Smoking (significant: non-significant)	11:37 (n=48)	4:36 (n=40)	NS[b]
Education (primary: secondary: higher)	19:26:10 (n=55)	14:20:9 (n=43)	NS[b]

a = **t**-test for independent samples
b = Chi-Squared

Comparison of the two samples in terms of the computerised psychiatric instrument is shown in table 6 and of neuropsychological performance in table 7.

Table 6

Organic and psychiatric groups compared on main psychiatric measurements

Psychiatric Measure[1]	Organic Group mean value (s.d.)	Psychiatric Group mean value (s.d.)	Mann-Whitney U	Signifi cance 2-Tailed
Beck Depression Inventory	7.45 (6.57) (n=44)	13.66 (13.01) (n=44)	570.0	P< 0.0009
Carers' Checklist (TRIMS-BPC)	60.19 (52.17) (n=47)	79.86 (66.89) (n=29)	579.5	NS
Cognitive Failures Questionnaire	87.51 (18.52) (n=39)	70.89 (18.27) (n=44)	422.5	P< 0.0001
Dissociation Questionnaire	8.71 (3.52) (n=24)	9.06 (3.60) (n=31)	329.0	NS
General Health Questionnaire 28	5.67 (5.81) (n=48)	8.82 (7.07) (n=44)	766.5	P< 0.02
Maudsley Obsess.-Compulsive. Inventory	6.5 (3.66) (n=8)	8.10 (5.58) (n=19)	67.0	NS
Personality Invent. - dominance subscale	29.32 (4.04) (n=31)	28.88 (3.07) (n=34)	514.0	NS
Personality Invent. - extrapunitive subscale	27.10 (3.51) (n=31)	27.71 (3.62) (n=34)	479.0	NS
Personality Invent. - intropunitive subscale	32.52 (5.92) (n=31)	30.56 (2.45) (n=34)	394.5	NS
Signal Detection Memory - ß value	3.46 (6.41) (n=44)	7.66 (9.71) (n=44)	572.5	P< 0.001
Signal Detection Memory - d' value	1.22 (0.69) (n=44)	1.87 (0.63) (n=44)	436.5	P< 0.0001
Snaith's Irritability Questionnaire - anxiety subscale	3.73 (2.62) (n=34)	5.51 (3.40) (n=35)	411.5	P< 0.02
Snaith's Irritability Questionnaire - depress. subscale	3.85 (2.24) (n=34)	5.23 (3.55) (n=35)	478.0	NS
Snaith's Irritability Questionnaire - inward irritability	2.82 (1.90) (n=34)	2.94 (2.55) (n=35)	566.0	NS
Snaith's Irritability questionnaire - outward irritability	3.24 (2.30) (n=34)	4.23 (2.44) (n=35)	457.5	NS

[1] = References for psychiatric measures are in section on Methods

Table 7

Organic and psychiatric groups compared on main neuropsychological measurements

Neuropsychology Measure[1]	Organic Group mean value (s.d.)	Psychiatric Group mean value (s.d.)	Mann-Whitney U	Signifi-cance 2-Tailed
Verbal IQ	95.64 (14.85) (n=44)	102.77 (14.22) (n=31)	518.5	NS
Arithmetic	9.22 (3.66) (n=46)	10.74 (3.28) (n=31)	565.5	NS
Block Design	9.38 (4.02) (n=50)	11.68 (3.27) (n=31)	525.5	P< 0.01
Digit Span	8.67 (3.21) (n=51)	9.50 (3.02) (n=32)	688.0	NS
Fragmented Letters (VOSP)	16.36 (6.00) (n=47)	19.28 (0.90) (n=28)	355.5	P< 0.0005
Similarities	8.28 (3.40) (n=50)	10.59 (2.47) (n=32)	479.0	P< 0.002
Vocabulary	9.44 (2.98) (n=50)	10.91 (3.03) (n=32)	612.5	NS
NART IQ	105.12 (12.78) (n=50)	107.22 (11.67) (n=32)	735.5	NS
McKenna Naming Test (raw score)	14.91 (8.37) (n=47)	23.00 (3.95) (n=30)	260.5	P< 0.0001
Verbal Fluency (using 'S')	12.66 (6.13) (n=41)	15.21 (5.33) (n=29)	431.5	P< 0.05
Wechsler Memory Scale: Passages - immediate recall[2]	22.31 (23.45) (n=32)	53.56 (31.21) (n=27)	185.5	P< 0.0002
Wechsler Memory Scale: Passages - delayed recall[2]	19.69 (23.87) (n=29)	55.36 (27.12) (n=25)	110.5	P< 0.0001
Wechsler Memory Scale: Design - immediate recall[2]	40.58 (33.65) (n=26)	78.63 (26.49) (n=19)	85.5	P< 0.0002
Warrington Recognition Memory Test: Words-50[2]	5.95 (3.69) (n=42)	9.47 (4.15) (n=30)	334.5	P< 0.0009
Warrington Recognition Memory Test: Faces-50[2]	5.69 (2.92) (n=32)	8.64 (3.29) (n=28)	223.0	P< 0.0006

1 = References for the neuropsychological tests are in section on Methods

2 = raw scores have been age adjusted to give scale scores (Warrington) and percentiles (Wechsler)

The 'organic' sample showed significantly lower mean scores on the Beck Depression Inventory ($p < 0.001$) and on the anxiety and depression subscales of the Snaith's Irritability Scale ($p < 0.01$). They also had significantly worse scores on the Signal Detection Memory Test (d' scores - $p < 0.001$; ß scores - $p < 0.01$).

With respect to neuropsychological performance, the organic patient group performed significantly worse on a number of measurements, particularly on the memory tests for recognition and recall but also on verbal fluency, Mckenna Naming Test, fragmented letters and block design. The organic patients were also significantly worse in tests of frontal lobe dysfunction, i.e. the Wisconsin Card Sorting Test and/or the Weigl (Chi-Squared = 9.57, $P < 0.001$).

(2) Memory Insight Questionnaire

a. Reliability of Instrument

Item analysis of both the self-administered and carer's version of the MIQ showed variance, range, skewness, and endorsement rate to be adequate for all 19 items (see Appendix E - tables 8 & 9).

The reliability of both versions of the MIQ was then measured by determining their Alpha Cronbach coefficient (for the whole scale) (Appendix E - tables 10 &11) and by the method of split-half coefficients (Appendix E - tables 12 & 13). In all cases, the coefficients were >0.80 which is a very adequate internal consistency for an instrument.

b. Comparison of insight scores between organic and psychiatric groups

(i) Total Insight Scores

For each of the 19 items on the MIQ, the patients' score was subtracted from the carers' score. This yielded 19 discrepancy values which, in turn, fell into 3 groups:

(1) discrepancy values of '0' - indicating full agreement between patient and carer on evaluation of memory item.

(2) positive discrepancy values - indicating that the patient's memory problem was evaluated as more severe by the carer than by the patient.

(3) negative discrepancy values - indicating that the patient's memory problem was evaluated as more severe by the patient than by the carer.

The first objective was to obtain a purely quantitative assessment of insight in terms of the size or amount by which evaluations were discrepant. Therefore, to obtain a total insight score, the discrepancy values for all the 19 items were added up for each patient. The values were added up numerically, irrespective of the direction (i.e. whether positive or negative) in which the values lay. On this basis, a greater size of discrepancies indicated a lower level of insight held by the patient.

Next, in order to take account of the direction of the discrepancies, the sum of the positive discrepancies and the sum of the negative discrepancies were separately calculated for each patient.

Results are shown in table 14.

Table 14

Comparison of total insight scores (as functions of discrepancy values on the MIQ) between organic patients and psychiatric patients

Discrepancies on MIQ	Organic Group (n=56) mean (s.d.)	Psychiatric Group (n=44) mean (s.d.)	Mann-Whitney U	Significance 2-Tailed
Total discrepancy score	11.41 (6.04)	11.93 (5.45)	1143.5	NS
Total positive discrepancies	7.16 (6.06)	3.39 (2.99)	773.0	P< 0.001
Total negative discrepancies	4.25 (4.98)	8.54 (6.08)	662.5	P< 0.0001

The results show that there is no significant difference in the total discrepancy scores between the organic and the psychiatric groups of patients. In other words, the 2 samples show similar amount and range of agreements/disagreements and thus, a similar range of insight into their memory problems. There is, however, a significant difference between the 2 samples with respect to the direction of the discrepancy values. The 'organic' patients show significantly more positive discrepancies than the 'psychiatric' patients, and similarly, the 'psychiatric' patients show significantly more negative discrepancies than the 'organic' patients. This indicates that the 'organic' patients' evaluation of their memory problems is of less severity than that of their carers. In contrast, the 'psychiatric' patients' evaluation of their memory problems is of greater severity than that of their carers.

(ii) Grouped insight scores

The 19 discrepancy values were then grouped into the areas mentioned in the section on the MIQ construction as sharing related aspects of memory function. This yielded the 4 'discrepancy' supervariables:

(i) general (sum of discrepancies on items: 3,10,19)
(ii) memory (sum of discrepancies on items: 1,2,4,5,6,7,8,16)
(iii) language (sum of discrepancies on items: 9,11,18)
(iv) cognitive (sum of discrepancies on items: 12,13 14 15 17)

Organic and psychiatric patient groups were then compared on their responses in relation to each supervariable. The results are shown in tables 15 and 16.

Table 15

Distribution of insight responses compared between organic and psychiatric patients in relation to the 4 subsections on the MIQ: general, memory, language and cognitive.

SUPERVARIABLE (items, whose discrepancy values are added, are in brackets)	**Organic Group** (n=56)	**Psychiatric Group** (n=44)	**Chi-Squared** (D of F. = 2)
GENERAL (3,10,19)	19/30/7*	10/25/19	8.75 (P< 0.05)
MEMORY (1,2,4,5,6,7,8,16)	18/29/9	7/21/16	6.73 (P< 0.05)
LANGUAGE (9,11,18)	14/26/16	5/17/22	5.73 (NS)
COGNITIVE (12,13,14,15,17)	17/29/10	5/23/16	7.28 (P< 0.05)

*(a/b/c) a = frequency with which discrepancies are positive
b = frequency with which discrepancies are 0 (concordant responses)
c = frequency with which discrepancies are negative

Table 16

Organic and psychiatric patients compared on insight scores in relation to the 4 subdivisions of memory function: general, memory, language and cognitive.

Supervariable (items, whose discrepancy values, are added are in brackets)	Organic Group (n=56) mean (s.d.)	Psychiatric Group (n=44) mean (s.d.)	Mann-Whitney U	Significance 2-Tailed
GENERAL (3,10,19)	1.78 (1.45)	1.36 (1.28)	1025.5	NS
MEMORY (1,2,4,5,6, 7,8,16)	3.61 (2.83)	3.18 (2.40)	1141.0	NS
LANGUAGE (9,11,18)	1.55 (1.58)	2.30 (1.91)	952.0	P< 0.04
COGNITIVE (12,13,14, 15,17)	2.27 (2.08)	2.52 (2.15)	1154.5	NS

Table 15 shows a comparison of the distribution of discrepancies in relation to each supervariable between the organic and psychiatric samples. Table 16 shows a comparison of the mean values for each supervariable between the 2 patient groups.

As can be seen from table 15, with respect to each supervariable, the organic patient group shows a higher proportion of positive discrepancies compared with the psychiatric group which shows a higher proportion of negative discrepancies. This is consistent with the previous results and indicates that 'organic' patients are evaluating their problems in these areas as less severe than are their carers. The converse is true for the 'psychiatric' patients who, compared with their carers, are evaluating their problems in each area as more severe. It is only in the language area that the groups show a comparable

proportion of positive and negative discrepancies. Results indicate that both patient groups have a higher relative frequency of negative discrepancies in this area. This shows that a greater proportion of both 'organic' and 'psychiatric' patients are evaluating their language function as more severely impaired than are their carers.

In quantitative terms (table 16) again both groups appear to be showing similar degrees of impaired insight (i.e. no significant difference in size of discrepancies) in each area. The exception to this is once more the language area where 'psychiatric' patients appear to show a significantly greater extent of discrepancy ($p<0.04$), indicating less insight into their problems.

(3) Examination of Item responses on the MIQ

Table 17 shows the range of frequencies with which items were answered concordantly and discrepantly for each patient group. The psychiatric patients clearly show the widest range of responses and in line with the previous results, they have the greatest frequency of negative discrepant responses.

Table 17

Frequency with which MIQ items were answered concordantly and discrepantly for each patient group

Frequencies	Total Patient Group (n=100) range in %	Organic Group (n=56) range in %	Psychiatric Group (n=44) range in %
Frequency of concordant responses	37 - 62	37 - 59	23 - 68
Frequency of positive discrepant responses	14 - 34	18 - 46	4 - 31
Frequency of negative discrepant responses	9 - 49	7 - 34	9 - 68

To obtain an idea of whether particular MIQ items were more likely than others to give rise to discrepancies and to concordances, the frequency with which each item was answered concordantly and discrepantly was counted in relation to each patient group. Items responsible for the highest and the lowest frequency of response were identified and are listed in table 18. The 2 highest and 2 lowest frequencies were arbitrarily chosen in order to select the items.

Table 18

Organic and psychiatric patients compared on the types of MIQ items giving rise to the highest and lowest frequencies of discrepancies and concordances

MIQ Item Responses	Organic Group (n=56) MIQ items	Psychiatric Group (n=44) MIQ items
Items responsible for most frequent positive discrepancies	6, 1	3, 10, 4
Items responsible for least frequent positive discrepancies	11, 4	15, 7
Items responsible for most frequent negative discrepancies	11, 18	11, 12
Items responsible for least frequent negative discrepancies	1, 10	10, 3
Items responsible for most frequent concordances	15, 10, 7	10, 8, 13, 15
Items responsible for least frequent concordances	18, 6	11, 4, 6

Inspection of the items shows that, most strikingly, item 11 gave rise to the most frequent negative discrepancies for both patient groups. This particular item is concerned with evaluation of language function (Appendix D) and the results thus indicate that language problems were most frequently

'overestimated' as problems in both patient groups. In 'organic' patients, this is further reinforced by the result that item 18 (similarly concerned with language evaluation) was also responsible for the highest frequency of negative discrepancies (table 18). Items 6 and 1 were responsible for the greatest frequency of positive discrepancies in the 'organic' patients, both these items relating specifically to the memory subsection of the MIQ. In other words, these particular aspects of memory function were most frequently underestimated as problems by the 'organic' patients.

(4) Correlations between insight, psychiatric and neuropsychological variables

The total insight scores and positive and negative subscores were correlated with the computerised psychiatric tests and with neuropsychological performance. The results showed that total insight scores did not correlate significantly with any psychiatric or neuropsychological variable.

With respect to psychiatric measures, the total positive discrepancy scores showed negative correlations (Pearson's) with Beck Depression Inventory scores, GHQ28 scores ($P < 0.05$) and the Signal Detection Memory score (d') ($P < 0.01$). There was a positive correlation with the Cognitive Failures Questionnaire score ($P < 0.01$). This shows that the greater the positive discrepancy, indicating greater underestimation of memory problems, the less depressed and/or less emotionally disturbed were the patients (as determined by the BDI and GHQ) and the worse they performed on the Signal Detection Memory test (indicating organic impairment) and on the Cognitive Failures Questionnaire (indicating attentional difficulties). In contrast, the total negative discrepancy scores showed only a significant negative correlation with the Cognitive Failures Questionnaire ($P < 0.01$) and a positive correlation with the outward irritability subscale of the Snaith's Irritability Scale ($P < 0.05$). This shows that the higher the negative discrepancy, indicating greater

overestimation of memory problems, the greater the outward irritability measure and the lower the score on the Cognitive Failures Questionnaire.

With respect to neuropsychological measures, the total positive discrepancy scores showed significant negative correlations with Verbal IQ, Similarities, the Wechsler and Warrington recall and recognition tests ($P < 0.01$) and Block design, Fragmented letters and McKenna's naming test ($P < 0.05$). This shows that the higher the positive discrepancies, indicating greater underestimation of memory problems, the worse the performance on these neuropsychological tests. The total negative discrepancy scores showed significant positive correlations with the Warrington recognition of words test ($P < 0.01$) and Similarities and McKenna's naming test ($P < 0.05$). This shows that the higher the negative discrepancies, indicating greater overestimation of memory problems, the better the performance on these particular neuropsychological tests.

(5) Relationship between neuropsychological performance, patients' self-evaluations and carers' evaluations

In order to get an indication of whether patients' self-evaluations of their memory problems and carers' assessment of patients' memory problems bore any relationship to actual memory impairment as elicited on neuropsychological testing, further analyses were carried out. In this case, discrepancy values were not used and instead, the total scores obtained by patients on the MIQ were correlated with neuropsychological performance. Similarly, the total scores given by carers on the MIQ were correlated with the patients' neuropsychological performance. It was predicted that carers' assessments were more likely to correlate with degree of memory impairment as determined by the neuropsychology results. Results showed this to be the case. There were no significant correlations (Pearson's) found between patients' self-

assessments and their performance on neuropsychology tests. In contrast, there were significant correlations between carers' assessments and neuropsychology results. The strongest correlations were with Similarities and Warrington Recognition Memory Test for Faces ($P < 0.01$). Other significant correlations were with Block design, McKenna Naming Test and Verbal IQ ($P < 0.05$).

7.4 Discussion

In order to help lead to further understanding of the structure and components of insight, this study set out to do two main things. Firstly, the aim was to construct and test an instrument assessing insight into memory function irrespective of the cause of the memory problem. Secondly, the aim was to compare, using this instrument, the insight shown in patients with an organic basis to their memory impairment and those with no organic basis underlying memory complaints.

(1) The Memory Insight Questionnaire

With respect to the instrument, the MIQ was relatively simple to administer. Patients with a fairly wide range of cognitive abilities (as assessed by neuropsychology) were able to complete it and similarly, carers did not have problems with it. Analysis of the responses showed the instrument to have good reliability and internal consistency.

Insight was assessed as a function of the difference between patients' and carers' responses on the MIQ. In other words, levels of discrepancy between patients and carers were viewed as reflecting the level of insight held by the patient. Higher levels of discrepancy, signifying greater degree of disagreement thus indicated lower levels of insight. This approach to evaluating insight is one

that has been followed in many recent studies exploring insight in neurological syndromes and in dementias (see chapters 4 & 5). The main problem with this method lies in the assumption that the carer's assessment of the patient's memory function is correct, and hence, any discrepancies are due to the patient's 'wrong' evaluation of function. This is a major assumption since clearly the carers may not be providing a 'correct' evaluation. They themselves may, for example, be unaware of the extent of the patients' problems. This could be the case if they were not closely involved with the patient and/or had little opportunity or ability to observe the patient's functioning. Partly in order to minimise this problem, items on the MIQ were specifically designed to examine fairly overt functional difficulties with little emphasis on subjective feelings and not requiring in-depth knowledge of the patient. Furthermore, ratings on the MIQ were kept deliberately crude (i.e. better, same, worse, much worse). Equally, carers might underestimate the patients' functional difficulty if they themselves were distressed or frightened by the possible consequences of the patients' memory problems. In other words, for a variety of reasons, carers might be denying patients' difficulties. On the other hand, carers might also overestimate the patients' problems. This could happen if they were under exposure to the constant complaints made by patients. Another reason for overestimation of patients' problems, as has been found by De Bettignies et al. (1990), might be caused by carers' considerable stress in looking after patients. Similarly, if carers were themselves suffering from an affective disorder, they might perceive a greater impairment in the patients' functioning.

In spite of such factors which are likely to affect the evaluations made by carers of patients' memory function, the carers' assessments remain one of the better standards against which patients' self-evaluations can be measured. Comparing self-assessments of memory function with more 'objective' measures such as neuropsychology tests has been found to be unreliable both in normal subjects and in patients with various neurological impairments

(Sunderland et al, 1983). This suggests that specific memory tests may not necessarily be capturing the sort of memory problems that are experienced in daily functioning. However, studies have also shown that carers' assessments of patients' problems correlate better with psychometric tests (McGlone et al., 1990; Koss et al., 1993; Jorm et al., 1994). This, in turn, suggests that carers may, nevertheless, be detecting some abnormalities that are apparent in the patients' functioning. Results in this study are in agreement with such studies. Thus, patients' evaluations of their memory function, as assessed by the MIQ, showed no correlation with any neuropsychological variables. In contrast, the evaluations of patients' memory function given by carers on the MIQ, showed significant negative correlations with some neuropsychological variables (Similarities, Warrington faces, Block design, McKenna, Verbal IQ). In other words, the higher the scores given by the carers on the MIQ, indicating a greater severity of dysfunction in the patient, the worse the patients' results on the neuropsychology testing. This adds force to the argument that carers provide a relatively good 'objective' assessment and hence gives validity to the discrepancy method of assessing insight. Interestingly, correlations were not found with all neuropsychological variables, suggesting that either the psychometric tests may not be capturing the same sorts of impairments that become evident in daily functioning or that carers may be more 'observant' in some areas than in others.

Assuming therefore that carers' evaluations on the MIQ gave a valid assessment of the patients' memory function, the discrepancy between patients' and carers' responses on each item was viewed as reflecting the degree of insight into memory function held by the patients. It followed that the greater the discrepancy between the responses, the poorer the insight held by the patient. Analysis of the results showed that the MIQ yielded 2 types of responses, namely, concordances signifying good insight and discrepancies signifying poor insight. The discrepancies were themselves of 2 types, firstly,

positive discrepancies indicating that patients were underestimating their degree of memory difficulties, and secondly, negative discrepancies indicating that patients were overestimating their degree of memory dysfunction. Thus, the MIQ identified impaired insight of 2 types as manifest by the opposing directions of discrepancy values. The question then is how can these different types of impaired insight help towards the understanding of insight as a whole, of the components that may be important in its structure. In order to answer this, the 2 types of impaired insight need to be examined in turn.

The first type of impaired insight as manifested by positive discrepancies indicates that the patient is underestimating his memory dysfunction. In other words, the patient would appear to lack awareness or knowledge of the extent to which his memory is impaired and causing difficulties in functioning. This type of insightlessness is of the sort that has been the focus of the neurological and neuropsychological studies exploring unawareness/anosognosia in relation to organic memory impairment (chapters 4 & 5). As such, insightlessness has been predominantly conceptualised in terms of disturbance of awareness. Following neuropsychological models, this disturbance has been postulated to arise either as impairment of a general awareness system or as a specific module-linked (in this case, memory) awareness function (McGlynn & Schacter, 1989; Schacter, 1990). The crucial aspect to this approach to insightlessness lies in the necessary link with the neurological or neuropsychological deficit itself. Both the conceptualisation of insightlessness and the postulated underlying mechanisms are only possible in the context of a specific (and ascertainable) neuropsychological deficit. In the absence of such a deficit the question of insightlessness, conceived as disturbance of an awareness function, simply does not arise. This approach to conceiving insightlessness as a disturbance of an awareness function in relation to a deficit, is consequently committed to a view of insight as a unitary phenomenon. Even where unawareness is sought in relation to different aspects of the deficit, the basic

idea of insightlessness remains that of a disturbed awareness function. Furthermore, this approach to the structure of insightlessness lends itself, as is evident from studies mentioned earlier, to the search for brain localisation.

The MIQ in this study, however, identified another type of insightlessness, as manifested by negative discrepancies, indicating that the patient is overestimating the extent of his memory problems. Should impaired insight of this type be conceptualised in a similar way? If a consistent approach were to be taken, and again assuming that carers are giving an accurate evaluation, then impaired insight of this type would have to be conceived as some sort of hyperawareness. In other words, one would have to view the disturbed insight as an excitation of an awareness function in relation to experienced memory difficulties. In turn, following the previous model, this disturbance of awareness should carry similar implications for the localisation of insightlessness to particular brain systems. The problem with this conception of insightlessness is that it makes little sense in a situation where there is no actual or organic deficit present. How and why should a putative awareness function become thus disturbed or overactive in isolation? The question then is whether it would make more sense to conceptualise this type of insightlessness in a different way. To reiterate, the negative discrepancies identified by the MIQ indicate that patients are overestimating the extent of their memory problems. This suggests that, irrespective of whether or not there is a 'real' memory deficit present, processes other than just awareness may be involved in patients' self-evaluations. In other words, it seems to make sense to return to the wider conceptualisations of insight that have been proposed in clinical psychiatry (see chapters 1, 3 & 6). These conceptualisations have included, in addition to awareness, also further elaborations termed variously as judgements (Jaspers, 1948), attitudes (Lewis, 1934), attributions (Amador et al., 1991), relabelling (David, 1990), self-knowledge (Marková & Berrios, 1992a,b) etc. Applying this wider approach to insight conceptualisation to this type of insightlessness, identified by the

negative discrepancies on the MIQ, may prove more useful here, particularly when no 'organic' memory deficit is present. This is because emphasis is shifted from the disturbance of a putative single awareness function to consideration of other factors that may be important in the formation of judgements or self-evaluations. Awareness of memory difficulties may or may not be disturbed. In addition, however, the over-estimation of the extent of such difficulties may, on this wider view of insight, be influenced by various and multiple factors. These, moreover, are unlikely to be confined to single, specific brain systems. At this stage, one can only speculate about the nature and influence of such factors (e.g. affective state of patient, past experience, current stresses, family experiences, such as other family members [or close friends] suffering from organic memory disorders, etc.). Larger studies with more homogenous patient samples would be necessary for the further exploration of the nature and relative contribution of such factors in the formation of self-evaluations.

(2) Comparison of Patient Groups

The subdivision of the patients into an organic group (n=56) and a psychiatric group (n=44) was based on the joint views held by the individual teams (psychiatric, neurology and neuropsychology) following assessment of the patients. Since the principal purpose of the present study was to compare insight in patients with an organic basis and patients without an organic basis to their memory problems, the specific diagnosis for each patient was not considered important at this stage. Moreover, since the sample of patients was heterogeneous, attempting to categorise patients on the basis of individual diagnoses would have resulted in too many small subgroupings to allow a meaningful statistical analysis. In broad terms, the organic group consisted of patients who were mainly suffering from mild or moderate chronic organic brain syndromes, most commonly Alzheimer's disease but also vascular dementia. A

small proportion of the organic group included patients with organic brain damage following road traffic accidents, cerebrovascular incidents and encephalitis. The psychiatric or non-organic group consisted of a more mixed group of patients. Some had affective disorders which could be classified under the current diagnostic systems (ICD-10, (World Health Organization, 1992); DSM-IV, American Psychiatric Association, 1994)) into forms of depressive and/or anxiety disorders. Other patients were more difficult to classify as their patterns of symptoms/behaviours/personality traits did not fall under particular categories in the diagnostic systems. Their psychopathology remains to be explored but was not the remit of this study. The main point, however, was that the psychiatric group of patients, whether or not they had a conventional psychiatric diagnosis, nonetheless had distressing and disabling memory complaints.

As expected, the psychiatric group showed more psychiatric morbidity with respect to the results on the computerised psychiatric rating scales (table 6) and the organic group showed greater impairment on the neuropsychological testing (table 7).

Comparison of insight between the patient groups

The results show that in quantitative terms, there was no significant difference in the total amount of insight held between the 2 patient groups (table 14). The 'organic' patients and the 'psychiatric' patients did not differ in terms of sizes and range of discrepancies obtained on the MIQ. When the insight scores were subdivided into the 4 areas of related functions (i.e. the supervariables), then similarly, the results indicate similar ranges of insight in relation to each area in both patient groups. The exception was insight into language function (sum of discrepancies on items 9,11,18) where the 'psychiatric' patients showed a greater amount of discrepancy, indicating greater loss of insight into this

particular area. This result, however, needs to be discussed in context of the type of impaired insight this represents (see below).

The most striking finding is the qualitative difference in insight held between the 2 patient groups (tables 14 & 15). Thus, whilst both groups appeared to demonstrate similar ranges and extents of impaired insight, they differed significantly in the type of insightlessness they exhibited. This is evident from the result that 'organic' patients had significantly more positive discrepancies, indicating that they were underestimating the extent of their memory problems. In contrast, the psychiatric patients showed significantly more negative discrepancies, suggesting that they were overestimating the extent of their memory problems. As far as could be ascertained, no previous studies have directly compared 'organic' and 'non-organic' patients for the amount and/or type of insight held in relation to a specific problem. Many studies have explored insight into memory dysfunction but this has been in the context of organic memory impairment, either dementias (e.g. Feher et al., 1991; Reed et al., 1993) or amnesic syndromes (e.g. McGlynn &.Schacter, 1989; Schacter, 1992) (see chapters 4 & 5). Consequently, insightlessness has been conceived in terms of patients underestimating or being unaware of their memory difficulties. In the psychiatric literature, studies exploring insight have focused on psychotic symptoms or the mental illness as a whole (chapter 3) and insightlessness here has been conceived in terms of patients' judgement of the morbidity of their experiences. However, in spite of some theoretical linking between the conceptualisation of insightlessness in these disciplines as mentioned earlier, there have been no empirical studies examining insight into a problem that cuts across disciplines. This study, in contrast, by focusing on insight into memory problems *per se*, identified qualitative differences in insight held between patients with organic and patients with non-organic memory impairment. In other words, the emphasis here was on insight as a whole, rather than on aspects of insight brought out in relation to, and dependent on,

specific disorders. The qualitative differences emerged from the opposing direction of discrepancies obtained on the MIQ. Insightlessness, defined as a function of such discrepancies must, if consistency were to be preserved, be constituted from the discrepancies irrespective of their direction. Models seeking to explain insight must correspondingly include mechanisms that incorporate evaluations in both directions.

In the light of the earlier discussion concerning the possible conceptualisation of the different types of insightlessness identified by the positive and negative discrepancies, the distribution of these discrepancies in the patient groups makes sense. Thus, in line with other studies (e.g. Green et al., 1993), patients with organic memory impairment showed impaired insight predominantly of the type characterised by underestimation of their memory problems. This disturbed insight could be conceptualised in terms of disturbed awareness relating to the organic deficit. In contrast, the psychiatric group tended to overestimate their difficulties and it was suggested that impaired insight of this type could be conceptualised in term of disturbed judgements. These, in turn, could result from numerous diverse factors relating to patients' mental states, past histories/experiences and current life events. Correlations between the different types of insight and some psychiatric variables were carried out simply to check for any unexpected relationships. As expected, negative discrepancy values (i.e. type of insightlessness characterised by overestimation of problems) showed no significant correlation with psychiatric variables. This is most likely to be due to the heterogeneity of the patient sample which manifested this type of insightlessness. In other words, the 'psychiatric' patients who were more likely to show this type of impaired insight than the 'organic' patients, were a mixed group. Their judgements would be influenced by different factors, both individual (e.g. personality traits, personal circumstances, culture) and general (e.g. presence and type of mental disorder). To determine which factors were related to the judgements made and to what extent, a larger

study would need to be carried out, involving comparisons of more homogenous 'psychiatric' patient groups. Interestingly, more significant correlations were obtained with positive discrepancy scores on the MIQ. The 'organic' patients who exhibited this type of insightlessness compared with the 'psychiatric' patients, were a more homogeneous group. Results indicated that, in the presence of organic deficit, patients who were more depressed or emotionally disturbed (as determined by the BDI and GHQ), showed greater insight into the severity/extent of their memory problems. At this stage, little more can be said about this and again further studies with more homogeneous groups are indicated. Moreover, this study was primarily concerned with the testing of a new instrument in a patient sample. To validly explore relationships between the insight measure and clinical variables, a second sample of patients would be required.

The only area in which the 2 patient groups differed significantly in terms of a quantitative measure of insight was language. As is evident from the results in table 16, 'psychiatric' patients differed from the 'organic' patients not only in the type of insight but also in the amount of insight they held as determined by the greater discrepancy values on the MIQ. This indicates that 'psychiatric' patients appear to show less insight into their language function than do 'organic' patients. A number of reasons could account for this.

First, the 'organic' patients may be showing apparently better insight into their language function because their language, or memory for words, is relatively preserved in the face of a specific memory deficit (e.g. in episodic or short term memory deficits). In other words, the concordance between patients and carers with respect to language might be because they both are detecting few problems. Results of this study, however, suggest that this is unlikely. It is evident from the neuropsychological tests that organic patients show significant impairment on a number of tests relating to language function (e.g. verbal

fluency, McKenna Naming test). Rather, It seems more likely that patients, whilst showing significant language impairment, appear nevertheless to be relatively aware of language difficulties. One reason for this relative insight could be that their awareness into memory difficulties with language is spared in the context of specific memory deficits. Such an explanation would fit with some of the neuropsychological models of module-specific awareness systems although would entail a high degree of selectivity and specificity in the types of deficits affecting the patients. Another reason as to why 'organic' patients should show comparatively better insight into their language function might be related to the different nature of language itself. Talking or conversing represents a more continuous activity and is one that, in a sense, patients are engaged in even whilst answering the questionnaire. Hence, perhaps patients are less likely to forget that they are having problems in conversing and finding the right words. In contrast, it might be easier to forget that they had difficulties with recalling past events or with carrying out various tasks.

Second, in view of the type of impaired insight that is more prevalent in this area of memory function, other explanations for the quantitative difference in insight between the patient groups need to be examined. Specifically, 3 of the results provided by the study indicate that language problems tend to be overestimated by the patients, principally by the 'psychiatric' patients but also, relative to the other areas, by the 'organic' patients. First, of the 4 areas of evaluation (i.e. general/memory/language/cognitive), it is only in the area of language that patient groups show a comparable proportion of positive and negative discrepancies (table 15). Second, the language area was the only area giving rise to a quantitative difference between the patient groups, the psychiatric patients showing less insight (table 16). Third, item 11, specifically concerned with language, was the item that produced most negative discrepancies in both groups of patients (table 18). These results, taken together, raise the question as to what is it about the language items

themselves that might predispose to the overestimation of dysfunction? One possibility is that, in contrast to the other items on the MIQ, these ones are rather specifically directed at the evaluation of a wider and more subjective experience. To take an example, item 11 asks patients to evaluate their difficulties in expressing themselves. Whilst this question can refer to the experience of having difficulties in remembering words, it can also refer to the experience of having other difficulties causing problems in conversing. If patients are distressed or depressed, for example, they may find it a greater effort to talk, and likewise, if they are preoccupied with fears or worries. They might have a degree of psychomotor retardation and again find it more difficult to express themselves normally. Another possibility could be that because of attentional difficulties, patients may find it difficult to respond as they would 'normally' do in a conversation. All such factors and others, are likely to result in patients experiencing difficulties in expressing themselves. At the same time, however, these subjective difficulties may not necessarily be apparent to an outside observer. Thus, unless there are fairly overt language problems, such as major word-finding difficulties or paraphasias, carers may not be as sensitive to the subjective problems experienced by the patients in expressing themselves. In other words, it is possible that with respect to the language area, the carers are more likely to underestimate difficulties than in relation to the other areas, and this may contribute to the prevalence of the negative discrepancies in both patient groups.

Interestingly, the study showed that although both patient groups showed impaired insight predominantly of the one type, both positive and negative discrepancies were obtained in both groups (tables 15, 17, & 18). A number of explanations could account for this result. Firstly, in relation to the conceptualisation of insight as a whole, it would seem unlikely that disturbances of awareness and of judgement would occur in isolation. In the first place, judgements are clearly dependent on some form of awareness. In addition,

irrespective of whether or not there may be an impairment of awareness, other factors (e.g. long-standing beliefs, current situations, past experiences etc.) may become more important in the formation or expression of some judgements. Secondly, the patient groups were not 'pure' in the sense that they were exclusively 'organic' or 'psychiatric'. In fact, many of the organic patients showed concomitant psychiatric problems such as depressive disorders or anxiety states. These psychiatric problems could develop either in reaction to the disability experienced as a result of the organic condition, or spontaneously, as a direct result of the organic impairment or in the context of a past psychiatric history. In consequence, however, patients' responses were likely to represent a mixture of awareness/unawareness of their memory problems and judgements concerning these as coloured by their mental state. For example, patients with fairly mild dementia, might, primarily on account of a depressed mental state, overestimate the extent of some of their memory/functional difficulties. This could thus result in a mixture of positive and negative discrepancies on the MIQ. Thirdly, it may be that some carers are giving 'wrong' evaluations either generally or in relation to specific items on the MIQ. Fourthly, perhaps some items on the MIQ, either because of the way they are phrased or because of the particular issue they are addressing, encourage discrepancies in particular directions. This might be the case, as was discussed above, with respect to the language items.

7.5 Conclusion

In contrast to previous investigations, this study explored insight in relation to a particular problem (memory complaints) that cut across a wide range of diagnostic categories. It was hoped that this study design would enable the examination of insight as a whole, irrespective of and separate from the factors affecting the 'object' of insight assessment itself.

First, concerning the specific aims of this study, results show that the MIQ provided a useful assessment of insight into memory function in this patient sample. It was reliable and able to evaluate both quantitative and qualitative aspects of insight shown by patients with a range of disorders. Most significantly, the MIQ identified qualitative differences in the insight shown between patients with an organic basis to their memory difficulties and those without an organic deficit. In addition, results also indicated that the patient groups showed a quantitative difference in insight with respect to language function. At this stage however, it is not clear whether this quantitative difference in insight represented 'better' insight in 'organic' patients, 'worse' insight in 'psychiatric' patients or a poorer evaluation made by carers. A more detailed exploration of insight into memory difficulties relating to language function would be necessary to help clarify this issue.

Second, concerning the underlying objective of this study of seeking to understand the structure of insight, the results are also interesting. The qualitative difference in insight identified by the MIQ between the patient groups demands further exploration and explanation. Whilst the type of impaired insight manifested by the organic patients could be understood in terms of an impaired awareness function as conceptualised by researchers in this area, this same conceptualisation is difficult to apply to the type of impaired insight manifest in the psychiatric patients. Consequently, it was suggested here that impaired insight in this latter group of patients might more usefully be conceived as impairment of judgements made by patients concerning their experiences. Since such judgements are likely to depend on multiple and diverse factors, apart from awareness itself, then the structure of insight must correspondingly be conceptualised in multidimensional terms.

Returning to the question posed earlier in the chapter, namely, whether the concept of insight in the organic and functional states (as has been studied

empirically) can be considered the same, results from this study would thus suggest that there are, in fact, important conceptual differences. In part, it is likely that these differences have been hidden because studies have restricted their examination of insight into either organic or functional conditions. This study, by examining insight across these diagnostic categories, revealed the need for wider explanatory models to cover the different phenomena relating to insightlessness. Identification of the different aspects or types of insight is important in the consideration of the structure of insight as a whole. In particular, where research is focusing on the determination of a neurobiological basis to insight and its brain localisation, it must be essential to clarify which specific phenomena of insight or insightlessness are being studied.

Chapter 8

Towards a structure of insight

The notion of insight has now been examined across various areas related to and of relevance in psychiatry. Two empirical studies have been presented in which separate instruments for assessment of insight were designed and tested in patients with a view to further exploring the meaning and components of insight in clinical practice. This last section is now concerned with bringing together some of the issues raised and the ideas emerging from this work, in order to develop a model for the structure of insight. In turn, the purpose of such a model is several fold. First, it can provide a framework against which the various components and aspects of insight, together with their interrelationships, can be identified and understood in a structured and consistent manner. Second, a structured model of insight may help clarify the sites and types of differences evident in the variety of approaches to insight conceptualisation and assessments reviewed. As a result, mechanisms underlying insight formation/impairment may be understood/explained in terms of such differences. These can then be conceived as involving changes in the structural aspects or levels of insight as a whole, including the relationship with the 'object' of insight. Lastly, further systematic theoretical and empirical work can be developed on the basis of predictions derived from the model.

It is now important to make a distinction between two aspects of insight. First, is the question of what insight is from a theoretical standpoint, i.e. the concept of insight in terms of all its possible constituents, relationships and expression. Second, is the question of what insight is from a clinical standpoint, i.e. the phenomenon of insight in terms of its appearance and behaviour, which may represent only an aspect of the theoretical concept. In other words, the theoretical concept of insight can be viewed as a broader notion, which

incorporates the phenomenon of insight in its definition. From a semantic viewpoint, this distinction may be artificial, but from a practical viewpoint, it may prove to be useful. The concept of insight is wide, and its contents and extents have no clearly defined boundaries. Nevertheless, it is the concept which has to provide the scaffolding upon which the clinical phenomenon is based. It is because of this wide, rather blurred nature of insight as a concept, as well as the factors that are involved in its clinical representation and interpretation (see below), that the concept of insight is unlikely to be captured clinically in all its entirety. In other words, the clinical phenomenon of insight can only represent some aspects or components of the concept of insight as a whole. The practical value in making this distinction between the concept and phenomenon of insight is that aspects or components of the concept of insight can be identified in a systematic manner, enabling a more structured translation into clinical terms. Thus, this translation between a theoretical concept and a clinical phenomenon can be made explicit, and hence, what is actually being captured clinically, can be demarcated. Before going on to examine the concept of insight and its relationship with the phenomenon of insight, a brief consideration has to be given to the phenomenon of insight with respect to the perspectives from which this is discussed.

8.1 The phenomenon of insight: ontology and epistemology

As has been described above, the phenomenon of insight refers to the appearance or manifestation of insight in clinical terms. There are however, two main aspects to consider in relation to this definition. First, from an ontological perspective, the phenomenon of insight, whether relating to normal or pathological experiences, has to correspond to or represent some real entity. In other words, it is assumed that there is something called 'insight' that exists in reality, and that this is manifested as the phenomenon of insight. It is not necessary, at this point, to commit oneself to the level of definition of such

reality, be it described in terms of brain receptors, signals, networks, etc. It is sufficient for the purposes here to say that the phenomenon of insight is supervenient upon some form of physical reality. The term 'supervenience' is used here in the technical sense put forward by Davidson (1970), that 'mental characteristics are in some sense dependent, or supervenient, on physical characteristics'. Without elaborating on this, the point behind the use of this term is that it implies a specific relationship between 'mental' and 'physical' events, involving dependence but non-reducibility (see also Kim, 1993). Treating the phenomenon of insight as supervenient upon some sort of physical reality may be theoretically correct but is not very helpful from an empirical or clinical point of view. The very nature of the concept of insight suggests that it reflects a process that pervades all experiences, and that it might be impossible simultaneously to capture all its multifarious appearances. Nor is it likely that account could be taken of all the situations, actual or potential, where insight might be apparent in relation to a particular experience, not least because of additional interacting factors such as time and contexts that must affect the expression of insight.

This leads to the second aspect from which the phenomenon of insight can be considered, namely, the epistemological perspective. In this sense, the phenomenon of insight, rather than being viewed as something happening in reality (and hence in its entirety), can be considered in terms of what is being presented or assessed clinically. In other words, this has more to do with the relationship between what is actually happening and the way in which this is clinically conceived. Thus, the phenomenon of insight, from the epistemological viewpoint, can be regarded as representing only contingent and particular aspects of the phenomenon of insight in its ontological sense. From a practical or empirical point of view, it is clearly more useful to consider the term 'phenomenon of insight' in this epistemological sense, and hence is the way in which the term will be used here.

8.2 The concept of insight

It is now important to clarify what is meant here by the 'concept' of insight. Detailed psychological (Komatsu, 1992; Medin, 1989; Smith, 1988) and philosophical (Geach, 1971; Peacocke, 1992; Porter, 1868; Wagner, 1973) work exists attempting to explain the formation and structure of concepts in general. It is beyond the scope of the thesis to review such theories. Suffice it to say that all forms of conceptualisation involve cognitive-emotive processes whereby judgements are constructed. Such judgements act as markers of real or abstract entities or referents. Earlier on, it was emphasised that the phenomenon of insight would be considered from the epistemological perspective and that in this sense, it would represent only some of the aspects or components of the concept as a whole. However, when trying to determine its structure, it is important to note that the concept of insight will need to be considered as wider even than the phenomenon of insight from an ontological perspective. This is because, insight (in patients/subjects) is observer determined. This means that in addition to elements pertaining to the patient, it will include the cognitive contribution of the clinician (dependent in turn on e.g. previous experience, general knowledge, attitudes, personal mental state, etc.) and his/her negotiation with the patient (i.e. the pragmatics of the situation). In other words, the concept of insight becomes a composite construct that does far more than mirror the phenomenon in its ontological sense; indeed, it creates a bridge between the patient and the context within which it is elicited. Exploring and developing a possible structure to understand the concept of insight in this wider sense, including this bridging function, and enabling the systematic delineation of the phenomenon itself is the purpose of this next section.

8.3 Determining the structure of insight

Having established the distinction between the concept of insight and the phenomenon of insight, the next issue deals with the determination of the structure of the concept of insight. The work presented so far, as analysed from the reviews of research into insight, as well as from the results of the empirical studies, has indicated that 2 aspects of the concept of insight have been, to varying extents, explicitly distinguished. These aspects relate to: (1) awareness and (2) some form of secondary process or elaboration that has been variously termed 'judgement', 'attribution', 'relabelling' or 'self-knowledge' etc. To briefly reiterate, with respect to clinical psychiatry, these two aspects have generally been described either overtly (e.g. Jaspers, 1948; Amador et al., 1991) or implicated in the definitions and approaches taken to study insight (e.g. McEvoy et al., 1989a,b,c; David, 1990). With respect to neurological disorders, insight has been predominantly defined and conceptualised in terms of awareness. In relation to the dementias, approaches involving mixtures of both aspects have been apparent in such research (chapters 4 & 5).

Irrespective of the extent to which the secondary elaborations are made part of the conceptualisation of insight, it is evident that some form of awareness of a particular experience must constitute the initial process or component of the structure of insight. The question is, what does this 'awareness' mean? And, to what sort of experience does it refer? It may help to start by examining the latter question first, namely, the relational issue, i.e. the 'object' of awareness. This would make sense from the already emphasised interdependency between insight/awareness and its relational 'object'. In other words, it is important from the structural viewpoint because of the likely differential effects of the various types of 'objects' (e.g. mental symptoms, physical symptoms, functional deficits, 'normal' experiences, etc.) on the structure of awareness

itself. In addition, tackling this relational element first must also help to clarify the nature and effects of the categorical differences (see chapter 7) between the 'objects' of awareness (e.g. functional deficit versus mental illness) on the structure of insight as a whole. In theory, awareness in this context may refer to any event (mental/somatic) along the continuum of normal to pathological experience. The primary interest here being clinical psychiatry, it makes sense to start by examining the structure of insight in relation to mental symptoms. Subsequently, other 'objects' of insight/awareness, including abnormality or loss of function and 'illness' will be explored to determine whether a similar structure of insight holds, or whether modifications are necessary.

8.3.1 Insight in relation to mental symptoms

In order to build up a structure of insight in relation to mental symptoms, there first has to be some idea of how mental symptoms might arise and become expressed. For this purpose, it is useful to follow a model, described elsewhere (Berrios, Marková & Olivares, 1995), in which a number of pathways are proposed as possible routes in the formation of mental symptoms. This model is based on the view that declared 'symptoms' are concepts jointly constructed by the patient and the clinician, whose relative contribution may vary according to the particular pathway of symptom formation. Because symptoms are formed, expressed, and elicited in different ways, the term 'symptom' embraces a wide range of heterogeneous constructs. The subject of symptom heterogeneity is vast and complex and again has been explored elsewhere (Marková & Berrios, 1995). Here, it may be sufficient to note that mental symptoms are heterogeneous, not only simply from the descriptive point of view, but also in terms of origin and structure, and indeed also with respect to their ontological status as symptoms. This is an important point and relevant to emphasise because not only does symptom heterogeneity entail that symptoms should be 'treated' (or regarded/conceived) differently, but also, in view of what

was said earlier concerning the interdependency of 'object' and insight, it carries implications for the structure of insight.

Clearly, it is not practical to attempt to examine awareness in relation to each individual mental symptom. Instead, following the model of symptom formation mentioned above, an account will be given of 3 postulated pathways (pathways (a), (b) and (c), below), along which mental symptoms might develop (figures 1 & 2). In the context of these pathways, the construction of insight will be explored, and subsequently, on the basis of this, a model of insight structure in relation to mental symptoms will be formulated.

Pathway (a) (figure 1)

It can be postulated that some symptoms arise directly as a result of some form of pathological brain lesion or abnormality in neurobiological signalling. The figure shows that the initial stage in this pathway can be conceived in terms of such abnormal signalling penetrating consciousness to produce a formless, inchoate experience. This experience, termed in the model as the 'primordial soup' (PS), is as yet unnamed, a state of pre-cognitive experiential material, which requires to be conceptualised before it becomes named as a particular symptom. In order however to be conceptualised, this experience clearly has to reach conscious awareness. Since the notion of a PS has been proposed as part of this pathway, it follows that such conscious awareness occurs by definition. Nevertheless, at this point, a theoretical distinction could be made between the actual expression of the pathological signal and awareness of the same. In other words, this pathway to symptom formation could be viewed as consisting of two parallel pathways, one representing (i) the actual process (pathological signalling → PS), and the other pathway (echoing it) relating to (ii) awareness of this process. This distinction, it has to be emphasised, is purely theoretical as in practice, it would be very difficult to separate out the 2

processes. From a structural point of view, however, it could be important and in this sense, bears similarity to the 1st and 2nd order explanatory hypotheses put forward in Schacter's (1990) model concerning awareness of memory function/dysfunction (see chapter 4). Thus, the first order explanation in his model relates to the existence of a separate conscious awareness system, which can be considered analogous to the echoing pathway (ii) described here. The second order explanation, on the other hand, relates unawareness to an intrinsic abnormality in the 'object' of awareness itself, and hence can be considered analogous to the process of pathology effecting change to result in the abnormal experience, i.e. process (i). The important issue is that this symptom formation model proposes that irrespective of whether pathway (a) is conceived of as a double, parallel, process, or a single unitary process, the common result is the conversion of a pathological signal into a conscious experience. The essential consequence of this is, from the perspective of insight construction, that this conscious awareness of the initial experience must represent a common core in the structure of both, the symptom, and insight relating to the symptom. In other words, it would appear that some of the processes involved in insight formation are enmeshed with those pertaining to symptom formation.

Following the registration of the triggering of the PS as a conscious experience, the next step would logically entail for this registered experience to be 'matched' against templates of both normal and abnormal earlier experiences in order that conceptualisation could proceed. This conceptualisation is likely to involve a number of cognitive-emotive processes whereby a judgement of the experience is constructed that will be dependent on factors such as previous experience, general knowledge, intelligence, cultural and environmental contexts, capacity and inclination to assess and organise information, etc. For example, a PS experienced *ab initio* as 'fuzzy' and 'unpleasant' might be constructed as, e.g. somatic discomfort, depressed mood, anxiety or depersonalisation. Clearly, the

types of factors involved (as listed above), suggest that it is possible for the same or similar brain signalling to result in different symptoms being presented as a result in turn of different conceptualisations. Thus what might be conceptualised and named by one patient as anxiety, may be conceptualised and named by another patient as guilt or depression. In addition, the final construct will also be determined by the patient's capacity to verbalise, by the clinician's own construction or interpretation of the patient's description and by the pragmatics of the interview.

To summarise briefly, pathway (a) indicates that patients may conceptualise, on the basis of a number of both internally and externally determined factors, an initially formless conscious experience into a declared 'symptom'. It is proposed here, that this initial awareness of change in experience must be viewed as a common structural core to both the symptom and the insight in relation to this symptom. Thus, the symptom, by the time it becomes 'formed', can be said to be 'insight-tagged'. Insight tagging can be considered as the primary layer or level to insight structure in relation to symptoms formed by this pathway, and as such, is inextricably linked to the symptom itself. Logically, this makes sense for subjective mental experiences, since expression of these is dependent on an awareness of something new or changed. Without such awareness of change, there could be neither the subjective mental experience nor insight.

Successive levels to insight structure (see below) have to relate to the awareness of the symptom after it is formed, and thereafter, to the effects of the symptom in terms of progressively more advanced or sophisticated judgements in relation to the self and to the environment.

Pathway (b) (figure 1)

Some symptoms do not seem to be accompanied by any overt awareness of them as symptoms or experiences (e.g. thought disorder, neologisms, forms of dyskinesia, etc.). This suggests that construction processes on the part of the patient may not have such a role in their expression, and indeed in their naming and classifying. Hence, to some extent, their construction as 'symptoms' occur largely due to the clinician. In this case, the symptom formation is likely to follow a different path. Since what is being postulated here is a lack of awareness in association with pathological signalling, it would seem that in this case, the PS is bypassed and the 'signal' is expressed indirectly by its modulation of other processes. For example, 'incongruent affect' could be viewed as being formed along this pathway, in that the 'normal' affective responses are modulated by the effects of the pathological brain signalling. The construction of symptoms along this pathway thus represents an interaction between the behaviours modulated by the brain signal and the clinician's construction of perceived events. Hence, the resultant symptom structure is unlikely to directly incorporate processes of 'awareness' and judgement. In this case, insight construction, when it occurs, will be determined predominantly by the degree of awareness held in relation to the formed symptom, and to what the patient may ulteriorly perceive as the effect that such a 'symptom' (as recognised by the clinician or others) may have on his/her life.

Pathway (c) (figure 2)

The proposed third pathway suggests that some symptoms may be formed as secondary (and subsequent) constructions issuing out of primary constructs rather than from pathological brain signals. In other words, it may be that not all 'symptoms' will develop in consequence to a pathological brain signalling, but that instead, their construction may be 'triggered' by the experiencing of a

primary construct. For example, a persecutory hallucination, developing from the conceptualisation of a PS triggered by distressed brain signals, may itself give rise to a feeling of anxiety or fear, either via a change in the PS experience (c1; figure 2), or through the direct conceptualisation of the hallucinatory experience (c2; figure 2). In this case, the symptom of anxiety or fear, whilst also mediated by brain signals, will not necessarily relate to the type of brain signalling giving rise to the anxiety expressed as a primary construct in the context of a primary anxiety disorder.

The construction of insight in relation to such symptoms will thus have to be more complicated. First, as in pathway (a), the processes of awareness and judgement that operate in the conceptualisation of the symptom will contribute to the structure of the symptom (whether this occurs through c1 or c2). In the context of this pathway, however, such processes are secondary to the initial processes of insight (and symptom) construction involved in the formation of the primary or original construct. Thus, at this stage, the structure of insight can be envisaged as a nesting system of such processes, the number of levels being dependent on the number of successive constructions. Subsequent stages of insight construction in relation to these symptoms will again involve processes similar to the ones mentioned for pathways (a) and (b), i.e. with respect to the symptom as a whole and to its effects on the patient's self and functioning (see below).

Three different types of pathways to symptom formation have been described. They will help to illustrate how the core structure of insight might be linked with the structure of some symptoms themselves, and how this might vary according to the way in which symptoms may arise. It seems likely that many other pathways may be involved in the formation and expression of symptoms. For example, it is conceivable that changes will occur in the PS either through the effects of pathological brain signalling or mediated indirectly through the effects

of formed constructs. For various reasons these may not become conceptualised and hence may not result in the formation of individual symptoms. Nonetheless, although unconceptualised, such PSs may influence the construction of other symptoms and consequently the structure and expression of insight. However, for the sake of clarity, further possible pathways to symptom formation will not be explored here. Instead, based on the above pathways, a model for the structure of insight as a whole, in relation to mental symptoms, will be described.

A model for the structure of insight (figure 3)

So far, the construction of insight has been described only in terms of the general model of symptom formation (via pathways (a),(b) and (c)). Next, a more specific model of insight structure is proposed, based on its relationship with symptom formation, and at the level of detail required to lead to empirical work. It should be emphasised again, that the mechanisms proposed here as underlying insight construction in relation to mental symptoms, can be viewed as the same as those utilised in the appraisal of any PS experience, whether 'normal' or pathological. This model suggests that insight structure is hierarchically constructed, involving mechanisms that run parallel to symptom formation (figure 3). Successive levels in such functional hierarchy will incorporate increasing information (individual experiences, attitudes, biases, etc.) and hence generate ever more elaborate (in terms of the types and numbers of judgements involved) and progressively more individually determined versions of insight.

Level 1

This primary or basic level of insight structure applies, as described above, to insight constructed in relation to symptoms formed along pathways (a) and (c)

(see figure 3). The term 'symptom' will continue to be used, but, as already mentioned, should be taken to refer also to normal changes in conscious experience formed along these pathways. At this level, to reiterate, the processes involved in the construction of such symptoms and insight must be closely linked because of the shared core of conscious awareness that is essential for both. In other words, the awareness of some experience as generated by brain signalling must be considered as the basic 'unit of analysis' in the structure of both insight and the particular symptoms. Such 'insight-tagging' has been described as difficult to tease apart in practical terms, though theoretically useful to conceptualise as distinct. It was therefore suggested that pathway (a) (constituting also the primary part of pathway (c)), could be conceived of as existing in the form of 2 parallel pathways. One pathway could represent the actual pathological process and the other pathway, 'echoing' it, could represent awareness of this process. Elaborating further, the experiencing of a PS can therefore be viewed as being 'echoed' in a parallel system that involves both emotional and cognitive registration of the experience. As this experience is being formed into a 'symptom', the information contained in the echoing function is 'matched' against templates of earlier experiences so that a judgement concerning the nature of this experience can be made.

Registration occurs in stages and it may be that emotional awareness has primacy over cognitive registration. This would make sense from an evolutionary point of view, as emotional processing is likely to be older and essential to survival. The subsequent addition of cognitive processing (awareness, attitudes, judgements, motivations, etc.) could be seen as the result of increasing adaptational sophistication. This, in turn, would enable the individual to assess himself 'with the eyes of others' and hence be in a better position to predict reactions and readjust his behaviour accordingly. Such postulated parallel processes of insight and symptom construction are likely to

have bi-directional links. This would allow for the echoing process to feed back emotional, volitional and cognitive information during the conceptualisation of the PS, and hence make possible the final structure of the symptom to be insight tagged.

Thus far, the model applies more readily to the construction of insight in relation to symptoms formed along pathways (a) and (c), i.e. to those symptoms based on conscious awareness of some experience via the presence of a PS. However, symptoms formed along pathway (b) seem to bypass the PS and are expressed as effects on other behaviours. Insight in relation to such symptoms will have to have a different core structure. In this case, there is no shared 'awareness' to form the basis of the symptom structure and hence no insight tagging. Awareness in relation to these symptoms must occur at a later stage in symptom evolution, i.e. closer to the stage of symptom completion - level 2 (see below). The structure of insight will thus be relatively independent of the symptom structure, in contrast to the strong link between insight and the symptoms formed via the PS. The issue of whether any triggering of the PS occurs, at perhaps different levels of awareness, such that echoing also takes place, resulting in subconscious registration, can only be speculative at this stage. It may be that there is a continuum along which registration occurs and that conscious judgement of the experience will take place only when a certain threshold of registration is reached. The fact that some symptoms, although not accompanied by overt conscious awareness, seem to be associated with some awareness, albeit not at a conscious level, as evidenced by the patient's behaviour in the case of implicit knowledge, suggests that there must exist different levels of registration. This, in turn, suggests the presence of continuous echoing, again with thresholds determining the triggering of conscious processes. Whatever the mechanisms involved, this first level of insight structure is likely to vary depending on the extent to which conscious processes are involved in the formation of the particular symptom.

Level 2 (figure 3)

The second level in insight construction can be specified as the conscious awareness of the presence of the symptom once it is formed or completed. In other words, at this level, the patient becomes aware consciously of the symptom as a symptom. The structure of insight at this level will therefore incorporate not only the components involved in level 1 construction (where applicable), but, in addition, the symptom as a new whole will be subjected to similar processes of registration and judgement. Possibly, different factors will become important in these secondary elaborations. Again, whether in fact the mechanisms of registration and awareness in relation to the symptom as a whole are similar to those in level 1 construction can only be speculative at this point. It is likely, however, that once more thresholds in registration processes may be important for awareness of the symptom as an entity to occur.

Level 3 (figure 3)

A third level of insight construction involves more elaborate construction, in that the symptom as experienced consciously is then judged in terms of its effects on the patient. At this level, or perhaps even at successive levels, various types and degrees of judgement must take place in relation to the patient's self, his/her functioning, and his/her relationship with external factors. At this level of insight construction, individual factors (e.g. general intelligence, attitudes, past experiences, personality traits, tendencies to introspect/analyse, cultural/social background, etc.) are likely to play an increasingly important role in the construction processes. Thus it is also at this level that the greatest interpersonal variation will occur in relation to the amount and type of insight held.

In summary, based on a model of symptom formation, three structural levels in the concept of insight can be identified. In relation to a symptom, these levels could be represented simplistically as, 1) how it is (relating to subjective mental symptoms), 2) that it is (awareness of the symptom), and 3) what it does (knowledge of nature and effects of the symptom).

The first level links the development of insight with the actual formation and expression of subjective mental symptoms themselves. Such symptoms have to be formed on the basis of awareness of change in experiential consciousness. Therefore, the processes involved in their conceptualisation and construction as particular symptoms, have to depend on the assessments or judgements made by patients, also on the basis of this initial awareness of change. This means that at this level, the two processes are inextricably interwoven, or bound up with each other. From an empirical perspective, it would be difficult to assess insight at this level since the phenomenon of insight could only be determined if there were a known correspondence between a pathological lesion or abnormality and a specific mental symptom. Only in the face of this contingency could this basic aspect to insight structure be assessed as a function of the distortion between the symptom as it was expressed and its known gold standard. Clearly, this is at present not a feasible situation, at least with respect to subjective mental symptoms.

The second level of insight structure identified is that of awareness of the symptom once this is formed. The independence of this awareness from the symptom it relates to, will depend on two factors. First, it will depend on the particular path of formation taken by the symptom (particularly whether pathways (a)/(c) or pathway (b) are involved). Second, it will depend also on the as yet unresolved issue concerning the nature of awareness or consciousness as a separate or inherent function. It is evident from the empirical studies

reviewed and analysed in this thesis that most of the work on insight or awareness into neurological states, and some of the earlier work on insight in clinical psychiatry, has concentrated on this second level of insight structure. In other words, research on the assessment of insight has been directed at capturing the phenomenon of insight as an explicit acknowledgement or recognition of the given symptom (or neurological deficit/abnormality).

The third level of insight structure has been identified as one which involves not only awareness (and its structural constituents) of the existence of a symptom, but also some form of understanding concerning its nature and effects on the subject. This latter aspect can be taken to the widest extent, including the effects on the subjective feelings and experiences of the patient, his/her functioning and his/her perceptions and outlook in relation to the external environment. From an empirical perspective, aspects of this structural level of insight have been addressed in some of the recent studies on insight in clinical psychiatry and by some of the researchers examining insight in dementias.

The importance of the distinctions made here, particularly in differentiating between levels 2 and 3 of insight structure, is that they highlight the structural differences underlying the approaches taken to studying the phenomenon of insight. Whereas in level 2, the phenomenon of insight is elicited as an awareness of the presence of a given symptom, in level 3, the phenomenon is elicited as an understanding or knowledge or judgement of the nature and effects of the symptom. The processes and hence mechanisms underlying the notion of awareness *per se*, compared with those underlying the judgements or evaluations made at the higher level, must be very different.

8.3.2 Insight in relation to 'mental illness'

So far, insight construction has been explored in relation to individual symptoms and related to the mechanisms of symptom formation. Much of previous work in clinical psychiatry (see chapter 3) however, has focused on 'mental illness' rather than mental symptoms, as the 'object' of insight research and assessments. Many studies, as was seen earlier, did not actually differentiate explicitly between the notions of symptoms and illness. Yet, this may be an important distinction to make, both with respect to understanding the structure of insight, and in terms of the conclusions that can be drawn in comparing intra- and interdisciplinary work. The question here therefore is how the above model of insight structure, as formulated in relation to mental symptoms, might apply to 'mental illness'.

To a certain extent, the answer will depend on the view one takes of the term 'mental illness'. On the one hand, the term could be used in the same sort of sense of 'object' as 'symptom' or 'deficit', i.e. as a distinct ontological entity. In this case, the meaning of 'mental illness' could be considered as simply encompassing the totality of its perceived or understood constituent mental symptoms. On this view of mental illness, factors similar to those involved in the construction of insight in relation to symptoms would also operate. In addition, there would have to be some overall assimilation of the global effect of all the symptoms contributing to the illness. Moreover, there are two further points that would need to be considered. First, symptoms may have differential effects in terms of their contribution to the overall insight. For example, in schizophrenia, the degree of insight (or lack of) in relation to a delusion might contribute more to an overall insight structure than that related to apathy. Second, because some of the processes in insight construction are inherent to the structure of the symptoms themselves (level 1), then the relationship between insight and illness would be one of double implication (i.e. they would entail one another).

Thus, not only would changes in and evolution of the illness produce changes in the degree of insight held, but the degree of insight would also determine to some extent the expression of the illness.

On the other hand, however, this issue is likely to be more complicated, since the term 'mental illness', as argued in the previous chapter, belongs to a different category of 'objects'. Thus it cannot simply be the case that 'mental illness' refers to a distinct ontological or experiential entity in a similar sense to that referred by 'symptom' or 'deficit'. Instead, the term 'mental illness' as stated earlier, is a construct which may in part be determined by the presence of constituent symptoms, but which also is to a large extent determined by factors pertaining to the environment, the culture and the current scientific frameworks shaping the world of the individual. While in the case of symptoms, deficits or functions, insight will depend simply on an awareness (and subsequent judgements) of a specific internal experience, it is not so simple with respect to insight into having a 'mental illness'. Here, insight must also depend on the beliefs held by the individual (and the society) concerning the nature and status of mental illness. Clearly, viewing 'mental illness' as a construct conveys a sense of a different order of 'object' to that represented by 'symptom' or 'deficit'. This would suggest that the phenomenon of insight would be based on a structure of insight that in turn has to relate more to level 3 processes. Consequently, variables relating more to the individual and his/her social/cultural environment may be more important in the constitution of the insight structure than the variables relating to symptom formation and symptom effects.

8.3.3 Insight in relation to organic deficits/abnormalities

The model of insight structure has been developed on the basis of a postulated system of symptom formation. The heterogeneity of mental symptoms has been

emphasised and particular focus placed on subjective mental symptoms. These are viewed as arising directly or indirectly from some form of distressed brain signalling. In addition, their formation and expression is also dependent, to variable extents, on multiple factors (relating to the individual, environment and pragmatics) which may be some 'distance' removed from the actual putative pathological lesion. Consequently, the relationship between organic brain pathology and the presence of an individual subjective mental symptom or symptoms is far from clear. Furthermore, in contrast to 'objective' mental symptoms (i.e. signs such as flight of ideas, incongruent affect) and to the organic deficits discussed below, there are few reliable means of external verification of the presence of such symptoms. This brings the issue to this current section dealing with another type of 'object' of insight assessment, namely organic deficit or abnormality. The question is whether the model of insight structure described in relation to mental symptoms, can be applied to the symptoms and signs that are 'overtly' (from a third person perspective) present and whose relationship with organic pathology is much more direct.

As discussed in chapter 4, work in this area has concentrated on assessment of insight or awareness into quite prominent deficits such as hemiparesis, blindness, movement disorders, speech disorders and amnesia. Clearly, such abnormalities are readily ascertainable by a third person, either through clinical observation and/or specific tests. Thus, these 'symptoms' or abnormalities are evident in a way that subjective mental symptoms are not. Where such abnormalities are apparent in the patient, in the context of his/her unawareness or anosognosia, these will be elicited and named by the clinician. In this way, these deficits/abnormalities may be said to behave similarly to the mental symptoms described as being formed along pathway (b), i.e. modulating existing functioning/behaviours without entering experiential awareness and thus being constructed as 'symptoms' by the clinician or external observer. The structure of insight in this situation must, according to the model, be

conceptualised along level 2, i.e. in terms of degrees of awareness of a symptom once this has been formed. In fact, as was apparent from the review of research in this area, particularly with respect to the neurological abnormalities, the assessment of the phenomenon of insight has generally been based on this aspect of the concept of insight. Particularly in the face of major and dramatic deficits, insight or awareness is sought as a function that is present, partially present or absent in relation to the deficit. The fact that patients can also have these deficits, and yet not show the unawareness/anosognosia, has further served to emphasise the idea of a distinct awareness or insight function which is subject to independent impairment. In the light of evident discrepancy between the presence of an 'objective' deficit/symptom and the patient's lack of its acknowledgement, there has been, in relation to most such deficits, little need to explore further judgements or understanding. Specifically, there has been little need to examine the sort of cognitive-emotive elaborations that have been suggested for level 3 of insight structure. Once again, however, as with mental symptoms, symptoms falling in this category of 'organic deficits or abnormalities' must be considered as heterogeneous, and as such, they would ideally merit individual exploration. Here, brief consideration will be given to memory deficit, partly because of the considerable research that has been directed specifically at insight in relation to amnesia (see chapters 4 & 5), and partly to reflect the interest of the second empirical study (chapter 7). In contrast to the work on anosognosia e.g. in hemiparesis, more attempts have been made to explore wider judgements concerning the types and effects of memory deficits, particularly in dementias. In addition, this particular 'object' of insight assessment raises some further interesting issues with respect to the structure of insight.

It is apparent first of all that the structure of insight, as developed in the model here, is highly dependent, at all its levels, on a working memory function. Thus,

the first level or insight-tagging depends not only on the initial matching of the qualitatively and/or quantitatively new experience to templates of past experiences, i.e. episodic memory, but the ongoing subsequent conceptualisation of this experience depends also on more general information from a variety of sources (cultural, personal knowledge, etc.), i.e. involving also semantic memory. Similarly, at level 3, both semantic and episodic memory function would be essential to an even greater extent. This is because the symptoms/deficits are here evaluated and integrated within their overall contexts and related to the subjects' knowledge of their selves, their functioning and the environmental and interactive effects. At level 2, where the structure of insight has been conceptualised in terms of awareness of a particular symptom/deficit, depending on the pathway involved in the formation of the symptom, memory function may not be as intrinsically essential to the structure of insight. In other words, if pathway (b) is involved, i.e. bypassing the conscious registration of the pathological experience, then awareness of the symptom, once this has been formed, will not depend on memory function in the same sort of way. Memory function at this level may, however, be important to insight assessment from a different perspective. In this case, rather than being of such structural importance to the concept of insight, it may instead affect the phenomenon of insight from a temporal viewpoint. For example, it could be envisaged that if immediate recall were to be impaired, then, even in the face of an intact awareness mechanism, the phenomenon of insight at this level could appear impaired simply because the patient forgot that he had registered a particular experience. Clearly, this would also carry implications for research aimed at localising an 'awareness' function.

The dependency of the structure of insight on memory function raises two important points. First, this suggests that depending on the type, extent and/or selectivity of the memory impairment, the structure of insight and hence the phenomenon as assessed clinically, will be differentially affected. Moreover, the

variability in the insight held in the context of organic memory impairment is likely to be present also with respect to other experiences or functioning, both normal and pathological. For example, it is conceivable that patients with a greater proportion of anterograde memory impairment compared with retrograde memory impairment may have less awareness or insight into their occurrent memory difficulties than into their capacities to do various intellectual or technical tasks. This however, is an empirical issue and raises further questions concerning the relationship between a specific type of memory deficit and insight into various different experiences, including the memory deficit itself. Although insight into a variety of different symptoms/experiences or functions has been studied in dementia (Green et al., 1993; Vasterling et al., 1995), the relationship between the extent of insight in relation to different 'objects' of insight assessments and the type of memory deficit involved, remains to be explored.

The second point arising from the interdependency between memory function and insight structure, is to what extent this issue might concern other 'symptoms' or experiences. When considering insight of the 'healthy' individual into 'normal' experiences or functions, it is generally assumed that the actual processes involved in insight formation are functioning normally and hence that, in principle, full or complete insight is possible. With respect to mental symptoms, and in the context of psychiatric illness such as schizophrenia, this may not be a tenable assumption. It seems likely that in many psychiatric disorders the 'normal' processes of judging, evaluating, attributing etc. are also affected by the pathology of the disorder and thus are likely to affect the possible construction of insight. As Lewis (1934) had questioned earlier, is it appropriate to ask whether, in view of the fact that he/she would be looking at his/her illness with distorted eyes, a patient with mental illness could have insight? The problem is that in contrast to the 'organic' impairments mentioned above, such distortions of cognition in the presence of mental illness may be

subtle and are at present difficult to assess or demonstrate in a reliable and useful sense. The various and mixed impairments found on neuropsychological tests in schizophrenic patients (McKenna, 1994) indicate cognitive problems, but not how judgements and perceptions about things in general are affected.

8.4 The structure of insight as a construct

The concept of insight is thus a composite construct, comprising not only the phenomenon of insight, but also of constructions by the patient, the clinician, and the interactive process itself. In this respect, insight is elicited and evaluated clinically by processes similar to those involved in the assessment of psychiatric symptoms in general. It may be useful to briefly mention some of the factors that may contribute to these processes of construction.

Insight as a patient construct

From the patient's perspective, individual factors will play a variable role in determining the type and degree of insight held and expressed by the patient. In part, this will depend on the relational aspects of the insight assessment, i.e. whether insight is assessed in relation to symptoms, to illness, or to function, etc. Where insight is related to symptoms, then the particular pathway involved in the formation of the symptom is likely to influence the extent to which individual factors will be important. For example, symptoms formed along pathway (a), because of their construction based on conscious awareness, will be shaped to a greater degree by factors pertaining to the individual, such as past experience, personal attitudes/biases, and intelligence, than the symptoms whose construction follows pathway (b). Thus, since the structure of symptoms formed along pathway (a) is so closely linked with the core insight structure, then the above factors will likewise help shape the insight held by the patient. The level of insight chosen for the assessment of insight will also determine the

degree to which individual factors will play a role in the amount and type of insight held. Where insight is assessed at level 3, for example, individual factors will be of much greater importance in the structure of insight. This is because at this level, increasingly complicated judgements are made on the part of the patient. Such judgements, because they involve not just the recognition of the symptom's presence, but also the effect of the symptoms on the patient and his/her interaction with the environment, are thus more dependent on personal factors. These, in turn, relate to the patient's capacity to assess, analyse, integrate the variety of internal and external information they receive in the context also of their environment and culture. Individual factors will therefore shape the overall insight structure to a much greater extent at this level than insight assessed at level 2. On the other hand, where insight is assessed at level 2, the contribution of individual/personal factors to the insight held will not only depend on the pathway of formation of the particular symptom, but also on the degree to which the awareness at this level is an independent function.

This issue, namely the extent to which individual factors are important in the construction of insight, is important because of the implications this carries for research programmes, particularly in relation to the current interest in correlating insight with neuropsychology and neuroimaging (Takei et al., 1992; Young et al., 1993). Such factors need to be taken into account, as does the level at which insight is being assessed. In addition, relational aspects should be defined clearly before conclusions are drawn about the relationship between insight and a brain function or location.

Furthermore, although the assessment of insight is based on patients' speech and behaviours, the patients' speech and behavioural acts do not necessarily correlate with their actual degree of insight. This is often indicated by the manner in which patients express themselves (arousing suspicions concerning the 'real' nature of their thoughts/beliefs) or by a disparity between the content

of their utterances and their behaviour. Such a lack of correlation may result from limitations on capacities to express knowledge/understanding and the influences of underlying motivations, e.g. fear of the 'madness' connotation, or wanting discharge from hospital, or a change in medication, etc. Clearly, it is important to be aware of these issues because they also carry implications for the assessment of and research into insight.

Insight as a clinician construct

The assessment of insight is carried out by clinicians, and their evaluation will include not only what is presented to them in the form of the patient's speech and behaviour, but also their own interpretation of the patient's speech and behaviour. In other words, they also will be constructing their own concept of the patient's insight and individual factors relating to the clinicians' knowledge, attitudes, past experiences, theoretical views, biases, etc. will be important in the evaluation of insight.

Insight in the interactive process

Finally, insight is assessed in the clinical situation and the patient-clinician interaction will also contribute to the end-of-line construct. Thus, the manner in which the clinician and patient relate to each other in terms of reactions and responses elicited will affect the conceptualisation and verbalisation processes in each of them.

8.5 Relational aspects of insight

The relational aspects of insight as a concept have already been discussed with respect to the model of the structure of insight. Some of the main implications for the phenomenon of insight will be mentioned here. In practice,

the focus of current empirical work on insight in clinical psychiatry has been on psychotic illnesses. This raises two immediate questions. First, does insight across different diseases represent the same phenomenon? Second, following from this, is it meaningful for the same type of insight assessment to be carried out in patients with different diseases?

It can be argued that whilst insight as a concept has to be consistent across diseases, the phenomenon of insight, as manifested clinically, will differ from disease to disease. There are two main reasons for this. First, insight is a relational concept, i.e. its formulation is dependent on the existence of other entities or constructs (e.g. symptoms, diseases, functions, deficits, and normal experiences). Clinically, insight cannot be assessed as an isolated phenomenon (in contrast to hallucinations, depressed mood, etc.), but only in relation to something else. In other words, there cannot be insight without there being something to have insight about. Since different diseases will involve different symptomatology, the insight-symptom interdependency will result in differences in both the structure and manifestation of insight in relation to different diseases. In addition, once formed, insight has to show some specificity for the individual disease and symptoms. If insight is defined as self-knowledge in relation to the disease, then it entails knowledge about the particular disease. Inevitably, different diseases will involve different types and amounts of knowledge, i.e. the knowledge held in relation to alcohol dependency, for example, may be different from the sort of knowledge held in relation to bipolar affective disorder. This, of course, also has bearing on the previously discussed issue concerning the meaning of the term 'mental disease/illness' as a construct and hence determined also by the changing ideas or knowledge about it within a particular society, time and culture.

Second, psychiatric illnesses consist of different disorders with variable effects on 'mental functioning'. Thus, schizophrenic disorders may affect the processes

of thinking in different ways than, for example, phobic states. Such differential effects by different diseases on the cognitive and emotive processes will thus give rise to different clinical phenomena of insight.

It would seem that the relationship between insight and symptom structure and disease suggests that the manifestation of the phenomenon of insight will vary in relation to different disorders. This in turn suggests that in order to be valid, insight assessments should be adapted specifically to the individual disorders. In turn, this would also mean that with further understanding of both symptoms and 'illness', further modifications will have to be considered with respect to the evaluation of the phenomenon of insight.

8.6 Summary

A hierarchical model of insight construction, closely linked to symptom formation has been described, and mechanisms suggested to explain insight structure in relation to the different ways symptoms arise. Conceptualised in this way, insight is a continuous process where the factors operating in its construction will be changing according to the dynamics of symptom structure formation as well as in relation to the continuing changes externally (environment, contexts).

Three distinct levels have been identified in the postulated structure of insight. The first, or 'insight-tagging' level has been linked directly to the formation and expression of subjective mental symptoms themselves. The implication is that this level of insight structure can only be understood in relation to the understanding of symptom formation and expression. Additionally, at this level, questions concerning degrees/types of awareness involved, can likewise only be undertaken in conjunction with the exploration of the construction of individual symptoms. The second level has been identified as awareness of a

symptom once this has been formed, and is dependent on the further understanding of the nature and mechanisms underlying awareness or consciousness. The third level in the structure of insight has been related to subsequent judgements made on the basis of the second level, and consequently, it involves the addition and interaction of multiple wide-ranging processes, themselves increasingly dependent on individual and cultural factors.

The model thus provides a structure to a broad concept of insight, built on successive levels of increasing sophistication of awareness and knowledge in relation to a patient's experience. Delineating such levels theoretically enables a choice to be made in relation to which level might be addressed in clinical assessment and research. Different levels of insight structure may have different applicability with respect to clinical and research purposes. It is not clear, for example, which level of insight structure might be of more use in terms of predictive validity. Awareness of symptoms as pathological, and their attribution to a mental illness are only some of the identifiable components (on separate levels) in this model, but clearly there are many more. Indeed, the perception of experiencing a change and the perception that this change is affecting certain functions or views may have more to do with overall insight than the attribution of this perceived change to a mental illness. Once more, this remains an empirical issue. The relative effect of different components of insight is something else that needs further research.

The model of insight structure emphasises two essential points. First, the distinctions made between levels carry important implications for empirical research. For example, differentiating between levels 2 and 3 theoretically, with the consequent differences in their underlying processes/mechanisms, suggests that research aiming to correlate insight with clinical variables or with brain functions/systems, needs to distinguish between the clinical phenomena

that are being elicited. Second, the model stresses the interdependency between the structure of insight and its relational object. This is important because, as was discussed earlier, the various 'objects' of insight assessment themselves have different effects on the structure of insight (e.g. the difference between subjective mental symptoms and organic deficits as 'objects' of insight assessment). In turn, the differential structural effects on insight will likewise necessarily affect the phenomenon of insight that is being elicited and evaluated. Again, consideration of such interdependency must be important in research seeking to explain mechanisms underlying impairment of insight.

Finally, insight has been considered as a composite construct. Thus, insight as elicited and assessed in a clinical interview, will be the product of a number of constructive processes. Specifically, it will include the following factors: first, the patient's own construction of his/her experience; second, the clinician's construction of the patient's experience - based on both the speech and behaviour of the patient and the clinician's individual conceptualisation of insight; lastly, the factors involved in the interaction between patient and clinician that help shape these processes.

CONCLUSION

The study of insight in the context of mental disorders is complicated. There are many reasons for this but three main ones have been identified here. First, and most importantly perhaps, it is because insight itself is a complex concept, one whose content is rich but abstract and whose boundaries are difficult to demarcate. Evidence presented here shows that from its development in the mid 19th century as a phenomenon to be studied separate from, but in relation to, mental illness, insight has been conceptualised in a variety of ways. These conceptualisations have been dependent, amongst other things, on prevailing philosophies and views concerning the nature and origin of mental disorders. Diverse views as to the meaning of insight, methods of assessing it clinically, its importance in clinical practice and relationship with other clinical variables, have continued to be prevalent. Such diversity is apparent not only between different disciplines (psychiatry/psychology/neurology) but also within them.

Second, and reflecting the diverse conceptualisations, approaches taken to the study of patients' insight into their symptoms/illness, have correspondingly been variable. Studies examining insight in patients have thus yielded mixed and inconsistent results. In consequence, it is difficult to compare such work and draw conclusions concerning the nature of insight in mental illness.

The third main source of problems in the study of insight lies in the difficulty in translating from a theoretical definition of insight into a practical or empirical means of insight assessment. Again, this reflects the definitional complexities of insight as a concept. Even when a relatively simple definition of insight is taken, such as, recognition of illness, difficulties remain in converting this to an insight assessment that captures its quantitative and qualitative components. To what extent, for example, should the recognition/acknowledgement of illness be taken? Do the patients have to be sure that they are ill, or is it enough that they

have a 'feeling' of illness? Do they need to specify the sort of illness (and if so, to what degree) and the severity with which they believe this affects them? Is it enough to assess their occurrent verbal contents or do these need to be contextualised within the overall consistency of their speech and behaviour? Such questions complicate the translation process and are increasingly pertinent in relation to broader definitions of insight.

These main issues thus make the study of insight problematic. One of the important questions they raise is whether, in the light of the different conceptualisations and approaches, the researchers into insight have attempted to capture the same or different phenomenon of insight. The results of the second empirical study presented here, together with analysis of work on insight, suggest that the different approaches to the conceptualisation of insight have resulted in the assessment of clinically different phenomena. With the aim of making some sort of sense of the different phenomena falling under the term 'insight', a model of the possible structure of insight has been developed. By systematically bringing together the likely factors and processes necessary to the construction of insight, a framework is presented against which different clinical phenomena can be identified. In addition, their mutual relationship as well as with the structure of insight as a whole, can be postulated. Consequently, this enables the proposed mechanisms underlying insight, including ideas on neurobiology and localisation, to be matched to the appropriate clinical phenomenon.

To capture the manifold and varied phenomena falling under the term 'insight', it was important to define insight broadly. For this purpose, insight was defined as a form of self-knowledge which individuals hold not only about the experiences affecting them but also about how such experiences affect their interaction with the world. Unpacking this broad definition resulted in the identification of awareness of an experience as forming the structural core of

the concept of insight. This notion of awareness was common to all conceptualisations of insight. On the basis of this notion a hierarchical model of insight was developed, closely linked to the formation of experiences themselves. Judgements (on which knowledge is based) in relation to the core experiential awareness were viewed as constructions made by the patient (with the contribution of clinicians/others and the interactive situation) and underpinned both by general and by individual factors. The hierarchical element of this structure depended on successive levels of increasing sophistication of judgements, and hence of knowledge, in relation to the patient's experience. Apart from identification of different levels capturing different clinical phenomena, the model also emphasised the complex and interdependent relationship between insight and the 'object' of insight assessment.

The overall purpose of the model of the structure of insight was not so much to identify and to capture all possible components of insight, but to recognise the specific components/phenomena that were being sought in relation to different clinical/research settings.

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APPENDIX A: Table 2 (5 pages)

Summary of studies examining insight in dementias

Study	Patient Sample	Terms used:(a) 'Object' of insight:(b)	Assessment of 'Insight'	Outcome Variables	Main Findings
Anderson & Tranel (1989)	n=100 dementia:49 CVA:32 head trauma:19	a-unawareness = anosognosia b-cognitive & motor deficits	awareness index (AI):- discrepancy between patients' description of ability and performance on neuropsychology tests	neuropsychology tests: 1-8 CT and/or MRI	-3 groups no different on AI. -Unawareness associated with:- right-hemisphere damage, IQ, temporal disorientation
De Bettignies et al. (1990)	AD: 12 MID: 12 elderly control: 12	a-level of insight b-Independent living skills	discrepancy between scores on questions rated by patient and rated by caregivers	Physical Self-maintenance Scale Instrumental Activities of Daily Living HDRS	-AD greater loss of insight than MID & controls. -loss of insight not related to level of depression -loss of insight significantly related to degree of caregivers burden
Feher et al. (1991)	AD: 38	a-anosognosia, unawareness of symptoms, denial of memory deficits b-memory deficits	'denial score'- discrepancy between scores on questions rated by patient and rated by caregivers	MMSE, GDS, HDRS, memory tests: 4,9,10	-degree of denial correlated weakly with severity of dementia and severity of memory impairment -degree of denial correlated negatively with depression
McGlynn & Kaszniak (1991a)	AD: 8	a-unawareness of deficits, loss of insight b- memory deficits	discrepancy between scores on DDQ and CTPP as rated by patients and caregivers	MMSE neuropsychology tests: 11-22	-degree of unawareness correlated with severity of dementia -patients had little insight into own memory deficits but better insight into carers' performances

McGlynn & Kaszniak (1991b)	HD: 8	a-unawareness of deficits b-memory deficits and motor disturbance	discrepancy between scores on DDQ, CTPP and MTPP as rated by patients and caregivers	MMSE, neuropsychology tests: 10,22 motor tasks: a-e	-discrepancy between HD and caregivers on ratings -HD showed accuracy at predicting own performance on some memory tests
Mangone et al. (1991)	AD: 41	a-insight - 2 components-confabulation, anosognosia b-physical self maintenance activities and ADL	'Impaired insight score (IIS)' - discrepancy between scores on items rated by patients and caregivers	MMSE, GDS, BDRS, BPRS Neuropsychology tests: 9, 23-33	-lower insight correlated with increased severity of dementia -lower insight in AD with delusions -significant correlation between IIS and GDS, BDRS, BPRS, MMSE -no correlation with duration of memory loss -negative correlation between IIS and all neuropsychology tests -best predictors of IIS = GDS, 23,30.
Michon et al. (1992)	AD: 15	a-anosognosia b-memory	'nosognosic score' - discrepancy between patient and family ratings	MMSE neuropsychology tests: 22,34-37	-no correlation between anosognosia and 34 -marginal correlation with MMSE -high (negative) correlation with 'frontal' tests score
Ott & Fogel (1992)	n=50 (AD:-37, rest: vascular, frontal lobe, etc.)	a-insight, awareness of dementia b-situation, memory impairment, impairment in ADL, progression of deficits	'insight rating scale' - score based on information from both patient and caregiver, scoring in each domain	MMSE, HDRS, COR, GDS, CDRS	-significant correlation between impaired insight and severity of dementia -poor correlation with depression

Reed et al. (1993)	AD: 57 (47-probable, 10-possible)	a-anosognosia, lack of awareness of symptoms b-memory impairment	ratings by 2 psychologist from notes of interviews made by neurologist & psychiatrist - 4 categories identified	MMSE, DSM III neuropsychology tests: 38-41 SPECT - (n=20)	-no relationship between level of awareness and dementia severity -no relationship between level of awareness and presence of depression -association between anosognosia and right dorsolateral frontal perfusion
Sevush & Leve (1993)	AD: 128	a-denial of deficits, anosognosia b-memory	structured clinical interview - 3 categories identified	Cognitive abilities: 42, 3-item depression scale	-correlation between denial and severity of cognitive deficit -negative correlation between denial and depression
Verhey et al. (1993)	AD: 103 VD: 43 other: 24 (HD, PD, etc.)	a-insight, awareness, anosognosia - 'absence of knowledge/recognition' b-cognitive deficits (mainly memory)	semi-structured interview of patient and caregiver - 4 categories identified	GerDS, HDRS, DSM IIIR	-level of awareness related to severity of dementia -no relationship to depression (presence or severity) -modest correlation between awareness and item 'psychic anxiety' on HDRS
Green et al. (1993)	AD: 20	a-awareness of deficits b-recent memory, remote memory, attention, everyday activities	-questionnaire discrepancy = discrepancy between patient and family judgement in the 4 areas -recall discrepancy = discrepancy between patient prediction on recall performance and actual performance	Dementia Rating Scale (n=9) neuropsychology tests: 2 (n=11), 38 (n=20)	-patients show variable awareness in relation to the 4 domains -greatest unawareness in relation to recent memory and everyday activities -no correlation between unawareness and severity of dementia

Auchus et al. (1994)	AD: 28	a-unawareness, anosognosia, anosodiaphoria b-cognitive impairment	retrospective review - patients judged aware (13) and unaware (15) on basis of self-report and responses to direct questions on memory	neuropsychology tests: 2,9,30,39,40,41, 43	-no correlation between unawareness and severity of dementia or memory function tests. -only significant correlation between unawareness and visuoconstructive ability (41,44)
Weinstein et al. (1994)	AD: 41 (30-probable, 11-possible)	a-anosognosia, lack of knowledge of disease, denial, unawareness of impairment, etc - not loss of insight b-memory, ADL	specific questions as part of structured interview - 3 categories identified	MMSE, neuropsychology tests: 43-45 presence of psychotic features, denial personality rating (carers)	-no correlation between denial and severity of dementia -denial associated with confabulation, delusions and misidentifications -denial more frequent when initial presentation was memory loss, behavioural disturbance
Vasterling et al. (1995)	AD: 43	a-awareness of deficits, degree of agreement between patients and carers b-memory, general health, self-care ability, mood disturbance	discrepancy between ratings made by patients and carers on 5-point scale in each domain	MMSE, CDR, COR, PEAS, EMQ	-greatest unawareness in memory and self-care -moderate unawareness in anxiety and irritability -minimal unawareness in health and depression - unawareness associated with advanced disease - unawareness associated with cognitive impairment

Starkstein et al. (1995)	AD: 24 12-anosognosia 12-without anosognosia	a-anosognosia, unawareness, denial, mis-interpretation b-illness - intellectual function, interests, personality	Anosognosia questionnaire for dementia (AQ-D) - 30 questions given to patients and carers. Final score is discrepancy between the two scores.	MMSE, HDRS, FIM, STC, neuropsychology tests: 4,19,35,39,40,41, 46-49 SPECT	-no correlations between anosognosia and depression, functional level, social ties, neuropsychology - significant relationship between anosognosia and blood flow deficits in frontal inferior and superior areas of right hemisphere

LEGEND

Abbreviations: AD-Alzheimer's disease; MID-Multi infarct dementia; HD-Huntington's disease; ADL-Activities of Daily Living; MMSE-Mini-Mental State Examination; HDRS-Hamilton Depression Rating Scale; GDS-Global Deterioration Scale; BDRS-Blessed Dementia Rating Scale; BPRS-Behavioral Pathology Rating Scale; CDRS-Clinical Dementia Rating Scale; GerDS-Geriatric Depression Scale, COR-Cornell Depression Scale; DDQ-Daily Difficulties Questionnaire; CTPP-Cognitive Tasks Performance Predictions; MTPP-Motor Tasks Performance Predictions; EMQ-Everyday Memory Questionnaire; PEAS-Performance of Everyday Activities Scale; FIM-Functional Independence Measure; STC-Social Ties Checklist

Motor tasks: a- write word list, b- grooved pegboard, c- walk on line, d- catch ball, e- finger tapping, f- pronounce words

Neuropsychology tests: 1-Benton Orientation Questionnaire, 2-Wechsler Adult Intelligence Scale-Revised, 3-Rey Auditory-Verbal Learning Test, 4-Benton Visual Retention Test, 5-Rey-Osterrith Complex Figure Recall Test, 6-Multilingual Aphasia Examination, 7-Test of Facial Recognition, 8-Judgement of Line Orientation, 9-Logical Memory [from Wechsler Memory Scale], 10-Paired Associates [from Wechsler Memory Scale], 11-Word Recall-immediate, 12-Word Recall-delayed, 13-Picture Recall-immediate, 14-Picture Recall-delayed, 15-Picture Recognition-immediate, 16-Picture Recognition-delayed, 17-Word Recognition-immediate, 18-Word Recognition-delayed, 19-Digit Span, 20-Verbal Span, 21-Spatial Span, 22-Verbal Fluency, 23-Continuous Performance Test, 24-Alternating Sequences Test, 25-Go-No-Go Paradigm, 26-Alzheimer's Disease Assessment Scale, 27-Ideomotor Praxis Test, 28-Ideational Praxis Test, 29-Constructional Praxis Test, 30-Visual Reproduction [from Wechsler Memory Scale], 31-Right-Left Differentiation Test, 32-Spatial Relationship Test, 33-Word List Generation, 34-Wechsler Memory Scale, 35-Wisconsin Card Sorting Test, 36-Graphic Series, 37-Frontal Behaviours, 38-California Verbal Learning Test, 39-Boston Naming Test, 40-Controlled Oral Word Association Test, 41-Block Design [from WAIS-R], 42-Assessment of Cognitive Abilities in Dementia, 43-Clock Drawing, 44-Face-Hand Test, 45-Immediate Recall of Test Story, 46-Token Test, 47-Raven's Progressive Matrices, 48-Apraxia Subtest of Western Aphasia Battery, 49-Selective Reminding Test of Buschke and Fuld.

APPENDIX B

Insight Instrument
(observer-rated or self-administered)

1. I have come into hospital for a rest	yes	no	I don't know
2. I have never been so ill in my life	yes	no	I don't know
3. Mental illness does not exist	yes	no	I don't know
4. I am here because I was asked to come	yes	no	I don't know
5. My condition can be treated with medicines	yes	no	I don't know

6. Why have you come to hospital?
(you can ring more than one)
a. My doctor asked me to
b. I am ill and need treatment
c. My wife/husband might leave me if I didn't
d. I feel nervous but not ill
e. I was forced

7. Should anyone be here instead of you?	yes	no	I don't know
8. To feel well I only need some advice and talking to	yes	no	I don't know
9. I have been having some silly thoughts	yes	no	I don't know
10. Nothing is the matter with me	yes	no	I don't know
11. The mind cannot become ill, only the body	yes	no	I don't know
12. I shall sue the hospital if I am not allowed out	yes	no	I don't know
13. No one believes I am ill	yes	no	I don't know
14. Something very strange is happening to me	yes	no	I don't know
15. My neighbours are after me	yes	no	I don't know
16. I feel my mind is going	yes	no	I don't know
17. I know that my thoughts are silly but I can't help it	yes	no	I don't know
18. I cannot stop worrying about things	yes	no	I don't know
19. The voices I hear are not in my mind	yes	no	I don't know
20. Someone is controlling my mind	yes	no	I don't know
21. All I need is to pull myself together	yes	no	I don't know
22. I feel different from my normal self	yes	no	I don't know
23. I am losing contact with my environment	yes	no	I don't know
24. I am losing contact with myself	yes	no	I don't know

25. I understand why I am in hospital	yes	no	I don't know
26. I understand why other people think I should be in hospital	yes	no	I don't know
27. I feel in control of my thoughts	yes	no	I don't know
28. I feel in control of my feelings	yes	no	I don't know
29. I could have prevented this situation	yes	no	I don't know
30. I find it difficult to explain how I feel	yes	no	I don't know
31. I want to know what is happening to me	yes	no	I don't know
32. I want to know why I am feeling like this	yes	no	I don't know

APPENDIX C

Semi-structured interview - Insight

1. What do you think about coming in to hospital?

Do you think it is appropriate? Elaborate.

Rating:

0 _____ 10
not appropriate entirely appropriate

2. What do you see as being the problem?

What is causing this?

Do you think you are ill? To what extent?

Do you feel any different from your normal self? In what way?

Rating:

0 _____ 10
totally different normal self

3. Do you think you could have prevented this from happening? How?

4. How do you think other people view you? Strangers/relatives/friends?

5. Anything else you would like to add to this?

APPENDIX D

TO BE COMPLETED BY THE **PATIENT**
(WITHOUT HELP OR PROMPTING BY OTHERS)

MEMORY QUESTIONNAIRE

Self-administered version (Marková & Berrios 1996)

Name **Age** **Date**

==========

FOR EACH ITEM (19 ALTOGETHER) PLEASE **CIRCLE** THE LETTER (a *or b or c,* etc.) CORRESPONDING TO THE ANSWER THAT **BEST** DEALS WITH THE QUESTION:

==========

1) Compared with 10 years ago, my memory now is:

a. better than before
b. the same
c. worse than before
d. much worse

2) Compared with members of my family, my memory is:

a. better
b. much the same
c. worse
d. much worse

3) Concerning my health:

a. there is nothing wrong with me, I feel very well
b. I do not feel any different from my normal self
c. in general, I am feeling different, less sure/confident, uneasy
d. I feel ill, there is something wrong with me

4) When I think back to the past (e.g. my childhood, school, friends etc.):

a. I can remember most events in detail, clearer than ever
b. my recollection of events is much the same as usual
c. I can remember main things, but find that the details are not as clear or vivid
d. things that happened in the past are very unclear, I notice I have gaps/blanks for events /people

5) When thinking back to events in the past:

a. it is easier now to remember all details
b. it feels no different than ever
c. I have noticed that it takes more effort to recall certain things
d. I have to put in much more effort and work to remember anything

6) When I try and recall events happening recently, in the last day or so:

a. I can remember most things much more clearly
b. my recollection of things is much the same as usual
c. I can remember the main things, but find that the details are not as clear
d. I find that most things happening recently are very unclear, I can forget some things completely

7) Remembering things that happened recently e.g. yesterday or in the last week:

a. is much easier than before
b. feels no different now than it has always been
c. I have noticed that it takes more effort to recall certain things
d. I have to put in much more effort and work to recall anything

8) With respect to various events in my life:

a. things that have happened recently are much clearer in my mind than those that happened long ago
b. events which happened long ago are just as clear to me as those happening recently
c. events from the distant past are much clearer in my mind than those occurring recently

9) In relation to remembering the names of people or places:

a. I have no difficulties at all
b. I have not noticed any change in doing so
c. I have noticed some difficulties and/or am slower in doing so
d. I have considerable difficulties

10) Concerning the reason I am here today:

a. I am unsure why I am here
b. I was asked to come by my doctor/family/friends
c. I need help because I feel there is something wrong with my health
d. I need help because I think that I may have a condition such as dementia

11) When I am talking with other people:

a. I never have difficulty in expressing myself
b. I talk in much the same way as usual
c. I have noticed some difficulties in expressing myself
d. I have difficulties in remembering the words I want to use

12) When talking with other people or watching T.V.:

a. I find it easy to understand everything
b. I understand and follow conversations in much the same way as always
c. I have noticed it takes more effort to follow conversations/plots etc.
d. I have difficulty in understanding much of what is going on

13) With respect to household tasks/gardening/other activities:

a. I can do things better than ever
b. I do things as well as I ever did
c. I have noticed some difficulties in doing these things
d. I have great difficulties in doing things the way I used to

14) With respect to household tasks/gardening/other activities:

a. I feel more confident than ever in carrying out my tasks
b. I feel as confident as always in doing such things
c. I am not as confident as I used to be in doing these things
d. I have lost a lot of confidence in my ability to do these things

15) In terms of some/particular tasks/jobs:

a. I have no difficulties in working out how to do things
b. I am much the same as I ever was in working things out
c. It seems to take more effort in working out how to do certain things
d. I have difficulties in working most things out

16) Compared with my friends, my memory is:

a. better
b. much the same
c. worse
d. much worse

17) When planning/organizing events e.g. people coming for a meal or going out, etc.:

a. I have no difficulties at all
b. I am much the same in this respect as I always have been
c. It seems to take more effort/I am not as confident in these things
d. I have great difficulties in doing such things

18) When I see other people, friends/family:

a. I have no difficulties in talking with them
b. I feel no different in talking to them than I ever did
c. I feel a little less confident/uncomfortable with them
d. I find it difficult, and try and avoid them

19) Concerning any current problems:

a. I don't have any problems at present
b. in general, my problems are much the same as usual
c. I have some difficulties, but these are normal as one gets older
d. my problems are related to the difficulties I have with my memory/thinking

(THANK YOU FOR COMPLETING THIS QUESTIONNAIRE !!)

APPENDIX D

TO BE COMPLETED BY RELATIVE OR FRIEND

MEMORY QUESTIONNAIRE (Marková & Berrios, 1996)

Name **Age** **Date**

Carer's name

==========

FOR EACH ITEM (19 ALTOGETHER) PLEASE **CIRCLE** THE LETTER (a *or b or c,* etc.) CORRESPONDING TO THE ANSWER THAT **BEST** DEALS WITH THE QUESTION:

==========

1) Compared with 10 years ago, his/her memory now is:

a. better than before
b. the same
c. worse than before
d. much worse

2) Compared with members of the family, his/her memory is:

a. better
b. much the same
c. worse
d. much worse

3) Concerning his/her health:

a. there is nothing wrong with this, he/she seems very well
b. he/she does not seem different from his/her normal self
c. in general, he/she seems to be different, less sure/confident, uneasy
d. he/she is ill, there is something wrong with him/her

4) When talking about the past (e.g. childhood, school, friends etc.):

a. he/she can remember most events in detail, clearer than ever
b. his/her recollection of events is much the same as usual
c. he/she can remember main things, but find that the details are not as clear or vivid
d. he/she has major difficulties in recollecting most things, he/she seems to have gaps/blanks for events /people

5) When thinking back to events in the past:

a. he/she finds it easier now to remember all details
b. he/she is much the same as ever
c. It seems to take him/her more effort to recall certain things
d. he/she has to put in much more effort and work to remember anything

6) When trying and recall events happening recently, in the last day or so:

a. he/she can remember most things much more clearly
b. his/her recollection of things is much the same as usual
c. he/she can remember the main things, but the details are not as clear
d. he/she is very unclear about most recent things, he/she can forget some things completely

7) Remembering things that happened recently e.g. yesterday or in the last week:

a. he/she finds this much easier than before
b. he/she is much the same as ever
c. it seems to take him/her more effort to recall certain things
d. he/she has to put in much more effort and work to recall anything

8) With respect to various events in his/her life:

a. things that have happened recently are much clearer in his/her mind than those that happened long ago
b. events which happened long ago are just as clear to him/her as those happening recently
c. events from the distant past are much clearer in his/her mind than those occurring recently

9) In relation to remembering the names of people or places:

a. he/she has no difficulties at all
b. he/she is much the same as usual
c. he/she has some difficulties and/or is slower in doing so
d. he/she has considerable difficulties

10) Concerning his/her understanding about coming here today:

a. he/she does not know why he/she is here today
b. he/she has agreed to come at the request of the doctor/family/friends
c. he /she is concerned about his/her health
d. he/she is concerned about the possibility of suffering from a condition such as dementia

11) When he/she is talking with other people:

a. he/she never has difficulty in expressing his/herself
b. he/she talks in much the same way as usual
c. he/she has some difficulties in expressing his/herself
d. he/she has major difficulties in remembering the right words

12) When talking with other people or watching T.V.:

a. he/she has no difficulty in understanding everything
b. he/she understands and follows conversations in much the same way as always
c. he/she seems to have more difficulties in following conversations/plots etc.
d. he/she has great difficulty in understanding much of what is going on

13) With respect to household tasks/gardening/other activities:

a. he/she can do things better than ever
b. he/she does such things as well as eve
c. he/she seems to have some difficulties in doing these things
d. he/she has great difficulties in doing things the way he/she used to

14) With respect to household tasks/gardening/other activities:

a. he/she seems more confident than ever in carrying out such tasks
b. he/she seems as confident as always in doing such things
c. he/she has lost some confidence in doing these things
d. he/she has lost a great deal of confidence in these things

15) In terms of some/particular tasks/jobs:

a. he/she has no difficulties in working out how to do things
b. there is no difference in his/her ability to work things out
c. It seems to take him/her more effort in working out how to do certain things
d. he/she has great difficulties in working most things out

16) Compared with friends, his/her memory is:

a. better
b. much the same
c. worse
d. much worse

17) When planning/organizing events e.g. people coming for a meal or going out, etc.:

a. he/she has no difficulties at all
b. he/she is much the same in this respect as always
c. It seems to take him/her more effort, he/she is not confident in these things
d. he/she has great difficulties in doing such things

18) When seeing other people, friends/family:

a. he/she has no difficulties in talking with them
b. he/she talks with them in much the same way as usual
c. he/she seems less confident, appears uncomfortable with them
d. he/she seems to find it difficult, and tries to avoid them

19) Concerning any current problems:

a. he/she doesn't have any problems at present
b. in general, his/her problems are much the same as usual
c. he/she has some difficulties, but these are normal as one gets older
d. his/her problems are related to the difficulties with his/her memory/thinking

(THANK YOU FOR COMPLETING THIS QUESTIONNAIRE !!)

APPENDIX E

Table 8

Item analysis of self-administered version of the MIQ (n=100)

Item Number (patient-answered)	Range	Minimum Value for Item	Maximum Value for Item	Mean Value (s.d.)	Skewness
1	3	1	4	3.13 (0.69)	- 0.551
2	3	1	4	3.01 (0.75)	- 0.464
3	3	1	4	2.67 (0.82)	- 0.453
4	3	1	4	2.69 (0.88)	- 0.060
5	3	1	4	2.77 (0.78)	- 0.101
6	3	1	4	3.17 (0.82)	- 0.665
7	3	1	4	3.03 (0.76)	- 0.476
8	2	1	3	2.36 (0.66)	- 0.545
9	3	1	4	3.14 (0.70)	- 0.380
10	3	1	4	2.56 (0.84)	+ 0.475
11	3	1	4	2.98 (1.02)	- 0.534
12	3	1	4	2.38 (0.84)	- 0.189
13	3	1	4	2.72 (0.74)	+ 0.196
14	3	1	4	2.76 (0.77)	+ 0.304
15	3	1	4	2.59 (0.79)	- 0.613
16	3	1	4	2.88 (0.76)	- 0.226
17	3	1	4	2.60 (0.74)	- 0.430
18	3	1	4	2.27 (0.94)	+ 0.247
19	3	1	4	3.19 (0.97)	- 0.865

Table 9

Item analysis of carer's version of the MIQ (n=100)

Item Number (carer-answered)	Range	Minimum Value for Item	Maximum Value for Item	Mean Value (s.d.)	Skewness
1	2	2	4	3.24 (0.65)	- 0.288
2	3	1	4	3.08 (0.79)	- 0.270
3	3	1	4	2.84 (0.75)	- 0.319
4	3	1	4	2.61 (0.84)	+ 0.010
5	3	1	4	2.72 (0.74)	+ 0.196
6	2	2	4	3.28 (0.77)	- 0.528
7	3	1	4	2.96 (0.68)	- 0.147
8	2	1	3	2.35 (0.64)	- 0.471
9	3	1	4	3.00 (0.85)	- 0.598
10	3	1	4	2.76 (0.82)	+ 0.246
11	3	1	4	2.48 (0.88)	- 0.209
12	3	1	4	2.24 (0.85)	- 0.089
13	2	2	4	2.70 (0.78)	+ 0.588
14	3	1	4	2.74 (0.75)	+ 0.169
15	3	1	4	2.47 (0.85)	- 0.465
16	3	1	4	2.87 (0.79)	- 0.145
17	3	1	4	2.56 (0.81)	- 0.316
18	3	1	4	2.09 (0.82)	+ 0.397
19	3	1	4	3.27 (0.96)	- 0.847

APPENDIX E

Table 10
Reliability analysis for self-administered version of the MIQ (n=100)

Item Number	Mean Value (s.d.)	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Alpha Value if Item Deleted
1	3.13 (0.69)	49.77	65.27	0.8650
2	3.01 (0.75)	49.89	64.50	0.8640
3	2.67 (0.82)	50.23	66.70	0.8722
4	2.69 (0.88)	50.21	66.05	0.8722
5	2.77 (0.78)	50.13	64.05	0.8634
6	3.17 (0.82)	49.73	64.02	0.8644
7	3.03 (0.76)	49.87	64.13	0.8632
8	2.36 (0.66)	50.54	69.40	0.8759
9	3.14 (0.70)	49.76	65.15	0.8648
10	2.56 (0.84)	50.34	67.36	0.8747
11	2.98 (1.02)	49.92	64.90	0.8733
12	2.38 (0.84)	50.52	65.30	0.8688
13	2.72 (0.74)	50.18	66.12	0.8686
14	2.76 (0.77)	50.14	66.61	0.8707
15	2.59 (0.79)	50.31	64.56	0.8654
16	2.88 (0.76)	50.02	63.51	0.8612
17	2.60 (0.74)	50.30	64.23	0.8630
18	2.27 (0.94)	50.63	63.27	0.8657
19	3.19 (0.97)	49.71	63.86	0.8685

Reliability Coefficients 19 items:
Alpha Cronbach = 0.8738
Standardised item alpha = 0.8778

Table 11
Reliability analysis for carer's version of MIQ (n=100)

Item Number	Mean Value (s.d.)	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Alpha Value if Item Deleted
1	3.24 (0.65)	49.02	74.75	0.8951
2	3.08 (0.79)	49.18	73.18	0.8944
3	2.84 (0.75)	49.42	75.82	0.8993
4	2.61 (0.84)	49.65	73.34	0.8960
5	2.72 (0.74)	49.54	73.48	0.8941
6	3.28 (0.77)	48.98	73.66	0.8950
7	2.96 (0.68)	49.30	73.63	0.8932
8	2.35 (0.64)	49.91	77.48	0.9007
9	3.00 (0.85)	49.26	72.17	0.8937
10	2.76 (0.82)	49.50	78.45	0.9061
11	2.48 (0.88)	49.78	73.65	0.8977
12	2.24 (0.85)	50.02	73.35	0.8964
13	2.70 (0.78)	49.56	73.52	0.8951
14	2.74 (0.75)	49.52	72.88	0.8929
15	2.47 (0.85)	49.79	71.78	0.8927
16	2.87 (0.79)	49.39	71.55	0.8907
17	2.56 (0.81)	49.70	71.14	0.8902
18	2.09 (0.82)	50.17	74.75	0.8986
19	3.27 (0.96)	48.99	70.74	0.8933

Reliability coefficients 19 items:
Alpha Cronbach = 0.9006
Standardised item alpha = 0.9015

APPENDIX E

Table 12

Reliability analysis (split-half) for self-administered version of the MIQ (n=100) (10 items in part 1; 9 items in part 2)

Scale Items	Mean Value (s.d.)	Variance	Item Mean	Item Range (min. - max.)	Item Variance
Part 1 (10 items)	26.87 (4.87)	23.22	2.69	2.27-3.13	0.07
Part 2 (9 items)	26.03 (4.27)	18.27	2.89	2.36-3.19	0.08
Total Scale (19 items)	52.90 (8.49)	72.15	2.78	2.27-3.19	0.08

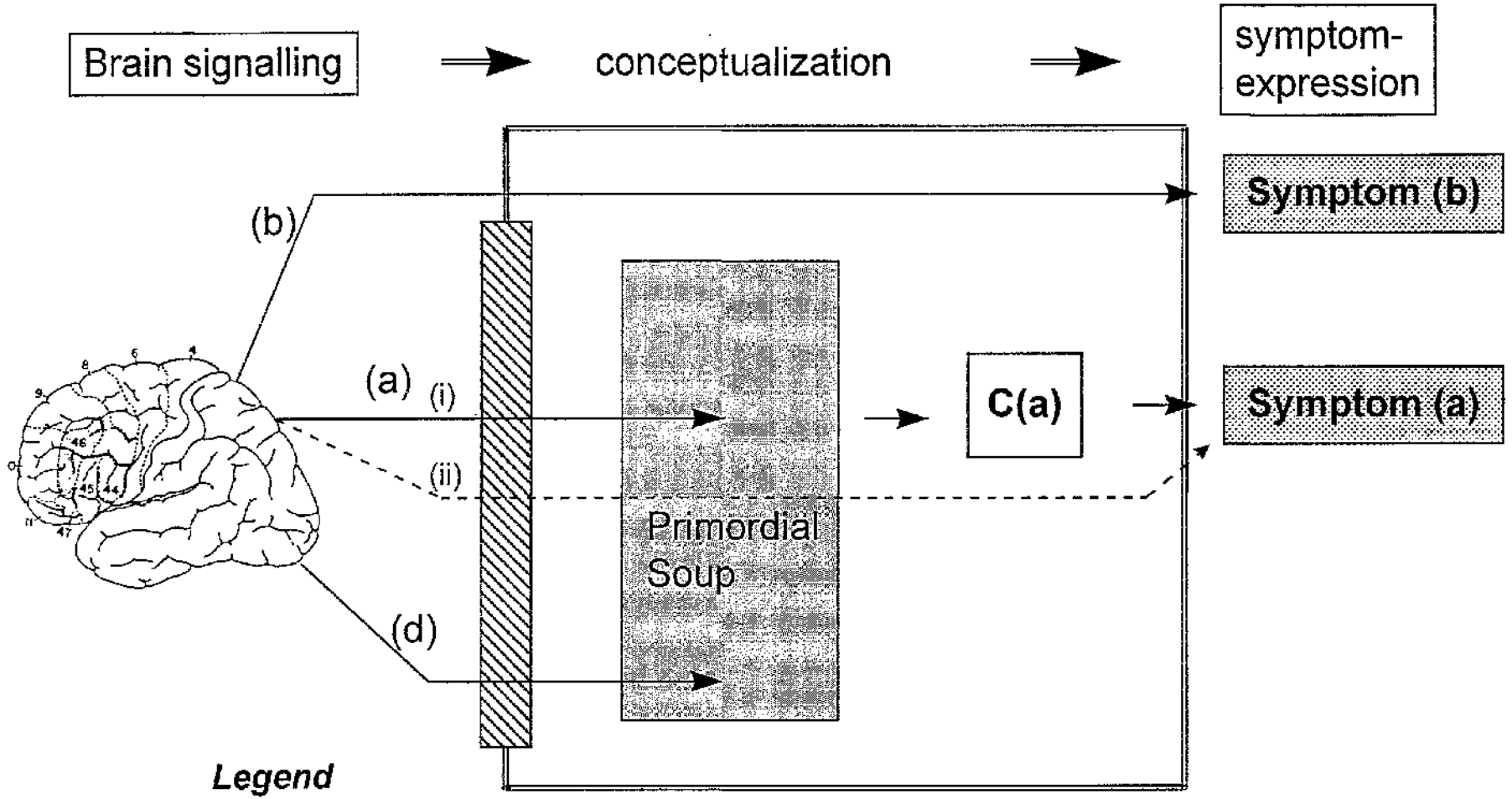
Alpha for part 1 = 0.7901 Alpha for part 2 = 0.7732

Table 13

Reliability analysis (split-half) for carer's version of the MIQ (n=100) (10 items in part 1; 9 items in part 2)

Scale Items	Mean Value (s.d.)	Variance	Item Mean	Item Range (min. - max.)	Item Variance
Part 1 (10 items)	26.15 (5.10)	25.99	2.62	2.09-3.24	0.11
Part 2 (9 items)	26.11 (4.57)	20.91	2.90	2.35-3.28	0.09
Total Scale (19 items)	52.26 (9.03)	81.61	2.75	2.09-3.28	0.12

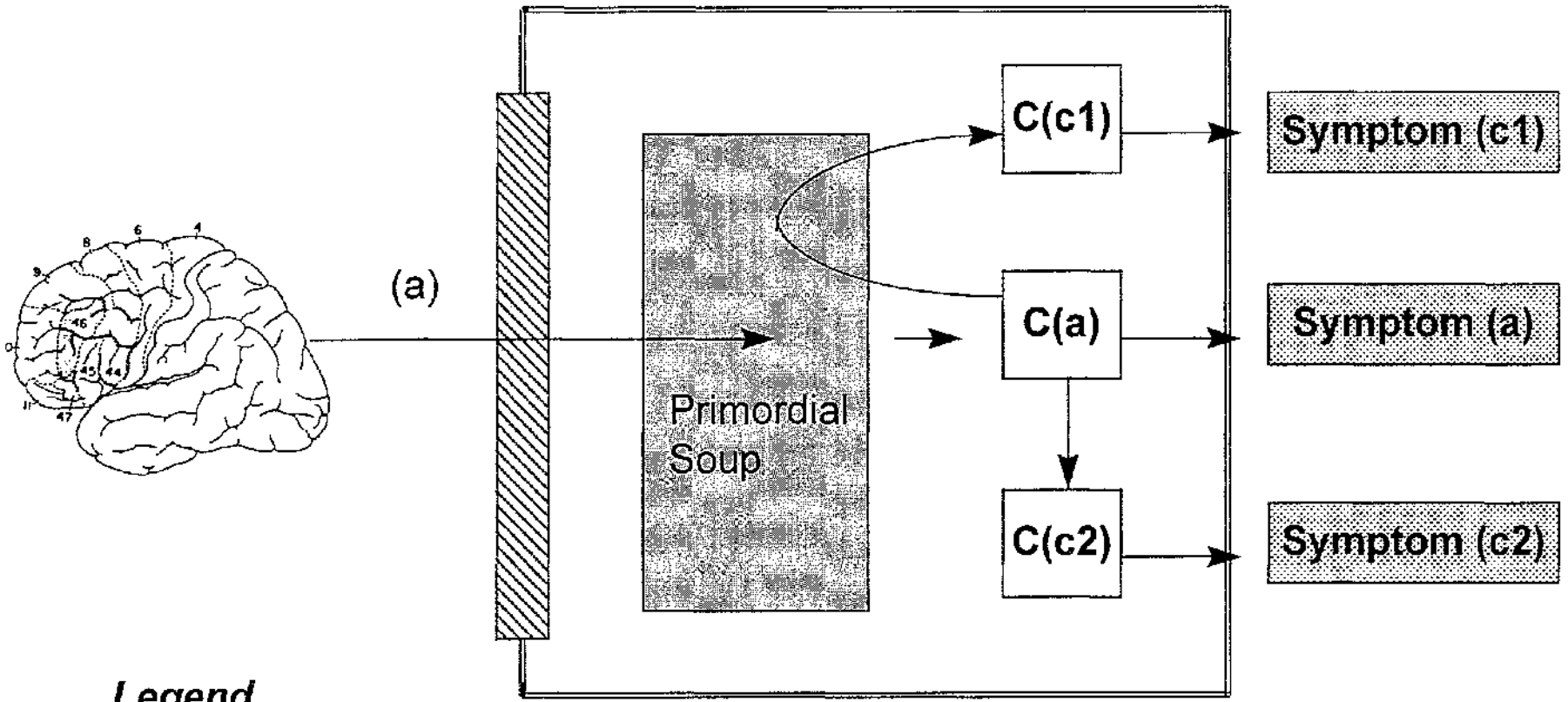
Alpha for part 1 = 0.8360 Alpha for part 2 = 0.8265



Legend

a) pathway (a):	construction of subjective mental experiences (i) process itself; (ii) 'echoing' pathway: awareness of (i)
(b) pathway (b):	construction of experience, bypassing conscious awareness
(d) pathway (d):	primordial soup not conceptualized
c (a):	initial concept (or formatting) of symptom formed via (a)

FIGURE 1



Legend

Secondary Constructions

(a): Pathway (a)
c(a): initial concept formed via (a)
c(c1): subsequent concept formed by secondary construction of c(a) via PS
c(c2): subsequent concept formed by secondary construction of C(a)

FIGURE 2

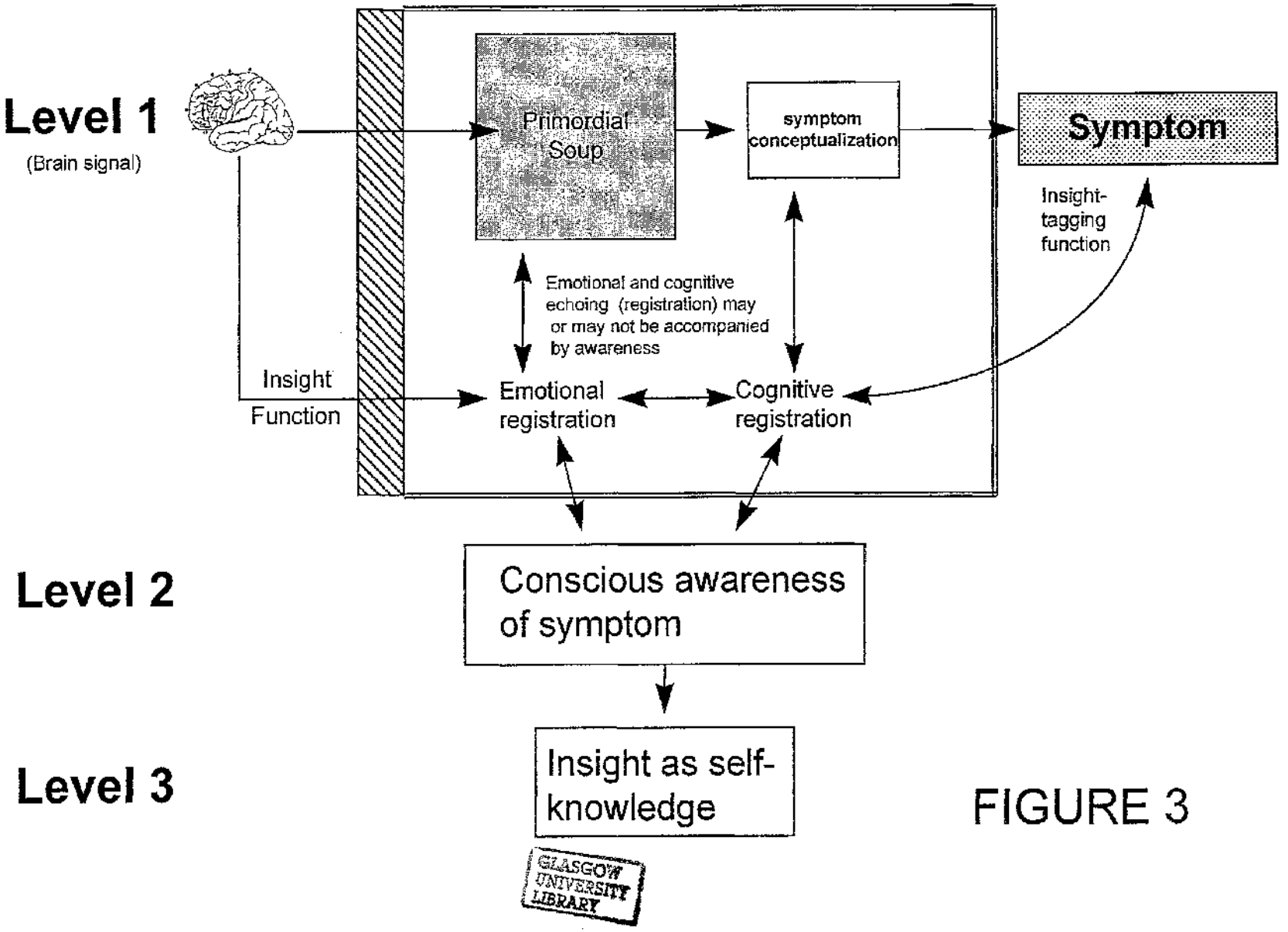


FIGURE 3

(ii) Relationship between the severity of the mental disorder and insight

Correlations were calculated between insight scores at 1st and 2nd interviews and severity of mental disorders at both times, as measured by the BPRS and the HRSD. The results at first interview showed a negative correlation (Pearson's) between the severity of psychotic disorder (BPRS scores) and the overall positive insight score ($r = -0.9205$; $P < 0.01$); patients with higher BPRS scores at initial interview showed lower levels of insight. The results at second interview also showed a negative correlation ($r = -0.9498$; $P < 0.01$) between severity of depressive illness (HRSD scores) and the overall positive insight score; i.e. patients showing a greater degree of severity of depression around the time of discharge from hospital had lower levels of insight at that time.

Table 6

Organic and psychiatric groups compared on main psychiatric measurements

Psychiatric Measure[1]	**Organic Group** median value (inter-quartile range)	**Psychiatric Group** median value (inter-quartile range)	**Mann-Whitney** U	**Significance**[2] 2-Tailed
Beck Depression Inventory	6 (2.25-12) (n=44)	10.5 (6-19) (n=44)	570.0	P< 0.0135
Carers' Checklist (TRIMS-BPC)	47 (26-82) (n=47)	73 (24.5-122.5) (n=29)	579.5	NS
Cognitive Failures Questionnaire	93 (75-98) (n=39)	73.5 (58.25-82.75) (n=44)	422.5	P< 0.0015
Dissociation Questionnaire	7.5 (6-12) (n=24)	10 (8-11) (n=31)	329.0	NS
General Health Questionnaire 28	4 (1-8.75) (n=48)	8.5 (2.25-14) (n=44)	766.5	NS
Maudsley Obsess.-Compulsive. Inventory	6.5 (3.25-9.25) (n=8)	7 (4-14) (n=19)	67.0	NS
Personality Invent. - dominance subscale	29 (27-30) (n=31)	29 (26.75-31) (n=34)	514.0	NS
Personality Invent. - extrapunitive subscale	27 (25-29) (n=31)	27.5 (25-30) (n=34)	479.0	NS
Personality Invent. - intropunitive subscale	32 (30-33) (n=31)	30.5 (29-32.25) (n=34)	394.5	NS
Signal Detection Memory - ß value	1.31 (0.7-3.08) (n=44)	3.66 (1.49-8.38) (n=44)	572.5	P< 0.015
Signal Detection Memory - d' value	1.27 (0.63-1.67) (n=44)	1.9 (1.54-2.28) (n=44)	436.5	P< 0.0015
Snaith's Irritability Questionnaire - anxiety subscale	3 (2-5) (n=34)	5 (3-9) (n=35)	411.5	NS
Snaith's Irritability Questionnaire - depress. Subscale	3 (2.75-5) (n=34)	5 (2-8) (n=35)	478.0	NS
Snaith's Irritability Questionnaire - inward irritability	3 (1-4) (n=34)	3 (1-4) (n=35)	566.0	NS
Snaith's Irritability questionnaire - outward irritability	3 (1-5) (n=34)	4 (3-6) (n=35)	457.5	NS

[1] = References for psychiatric measures are in section on Methods
[2] = Bonferroni corrected

Table 7

Organic and psychiatric groups compared on main neuropsychological measurements

Neuropsychology Measure[1]	Organic Group median value (inter-quartile range)	Psychiatric Group median value (inter-quartile range)	Mann-Whitney U	Significance[2] 2-Tailed
Verbal IQ	96.5 (85.25-106.75) (n=44)	103 (90-112) (n=31)	518.5	NS
Arithmetic	9 (7-12) (n=46)	11 (8-13) (n=31)	565.5	NS
Block Design	9.5 (7-12.25) (n=50)	12 (9-14) (n=31)	525.5	NS
Digit Span	9 (7-11) (n=51)	10 (7-11) (n=32)	688.0	NS
Fragmented Letters (VOSP)	19 (18-19) (n=47)	20 (19-20) (n=28)	355.5	P< 0.0075
Similarities	8.5 (6-11) (n=50)	11 (9-13) (n=32)	479.0	P< 0.03
Vocabulary	9 (8-12) (n=50)	11 (8-13) (n=32)	612.5	NS
NART IQ	106 (96-116) (n=50)	111.5 (97.25-117.25) (n=32)	735.5	NS
McKenna Naming Test (raw score)	17 (9-21) (n=47)	24 (19.75-26.25) (n=30)	260.5	P< 0.0015
Verbal Fluency (using 'S')	12 (7-18.5) (n=41)	16 (10.5-17) (n=29)	431.5	NS
Wechsler Memory Scale: Passages - immediate recall[3]	16.5 (4-38.5) (n=32)	63 (28-86) (n=27)	185.5	P< 0.003
Wechsler Memory Scale: Passages - delayed recall[3]	8 (2-35) (n=29)	51 (35.5-78.5) (n=25)	110.5	P< 0.0015
Wechsler Memory Scale: Design - immediate recall[3]	31.5 (11.25-69.25) (n=26)	94 (57-99) (n=19)	85.5	P< 0.003
Warrington Recognition Memory Test: Words-50[3]	3 (3-9) (n=42)	10 (6-12) (n=30)	334.5	P< 0.0135
Warrington Recognition Memory Test: Faces-50[3]	5 (3-8) (n=32)	8 (7-9) (n=28)	223.0	P< 0.009

[1] = References for the neuropsychological tests are in section on Methods

[2] = Bonferroni corrected

[3] = raw scores have been age adjusted to give scale scores (Warrington) & percentiles (Wechsler)

The 'organic' sample showed significantly lower mean scores on the Beck Depression Inventory ($p < 0.0135$). They also had significantly worse scores on the Cognitive Failures Questionnaire ($p < 0.0015$) and on the Signal Detection Memory Test (d' scores - $p < 0.0015$; ß scores - $p < 0.015$).

With respect to neuropsychological performance, the organic patient group performed significantly worse on a number of measurements, particularly on the memory tests for recognition and recall but also on Mckenna Naming Test, fragmented letters and similarities. The organic patients were also significantly worse in tests of frontal lobe dysfunction, i.e. the Wisconsin Card Sorting Test and/or the Weigl (Chi-Squared = 9.57, $P < 0.001$).

Table 14

Comparison of total insight scores (as functions of discrepancy values on the MIQ) between organic patients and psychiatric patients

Discrepancies on MIQ	Organic Group (n=56) median value (inter-quartile range)	Psychiatric Group (n=44) median value (inter-quartile range)	Mann-Whitney U	Significance[1] 2-Tailed
Total discrepancy score	10.50 (7.00-15.00)	11.00 (7.25-16.00)	1143.5	NS
Total positive discrepancies	5.00 (2.25-11.75)	3.00 (1.25-5.00)	773.0	P< 0.003
Total negative discrepancies	3.00 (1.00-5.00)	7.00 (3.00-12.50)	662.5	P< 0.0003

[1] = Bonferroni corrected

Table 16

Organic and psychiatric patients compared on insight scores in relation to the 4 subdivisions of memory function: general, memory, language and cognitive.

Supervariable (items, whose discrepancy values, are added are in brackets)	**Organic Group** (n=56) median value (inter-quartile range)	**Psychiatric Group** (n=44) median value (inter-quartile range)	**Mann-Whitney** U	**Significance** 2-Tailed
GENERAL (3,10,19)	1.00 (1.00-3.00)	1.00 (1.00-2.00)	1025.5	NS
MEMORY (1,2,4,5,6, 7,8,16)	3.00 (1.00-6.00)	3.00 (1.00-5.00)	1141.0	NS
LANGUAGE (9,11,18)	1.00 (0.25-2.00)	2.00 (1.00-3.00)	952.0	NS after Bonferroni correction: P< 0.16
COGNITIVE (12,13,14, 15,17)	2.00 (1.00-2.00)	2.00 (1.00-5.00)	1154.5	NS

In quantitative terms (table 16) again both groups appear to be showing similar degrees of impaired insight (i.e. no significant difference in size of discrepancies) in each area. There is a trend, not reaching significance levels following Bonferroni correction ($p < 0.16$), for the 'psychiatric' patients to show a greater extent of discrepancy in the language area, suggestive of less insight into these problems.

The only area in which the 2 patient groups showed some difference, albeit not at a significant level following Bonferroni corrections, in terms of a quantitative measure of insight was language. As is evident from the results in table 16, 'psychiatric' patients differed from the 'organic' patients not only in the type of insight but also in the amount of insight they held as determined by the greater discrepancy values on the MIQ. This indicates that 'psychiatric' patients appear to show less insight into their language function than do 'organic' patients. Although not statistically significant, the trend should be discussed in view of the supporting results concerning the language area and insight (tables 15 and 18). A number of reasons could account for this.

(4) Correlations between insight, psychiatric and neuropsychological variables

The total insight scores and positive and negative subscores were correlated with the computerised psychiatric tests and with neuropsychological performance. The results showed that total insight scores did not correlate significantly with any psychiatric or neuropsychological variable.

With respect to psychiatric measures, the total positive discrepancy scores showed negative correlations (Pearson's, Bonferroni corrections) with Beck Depression Inventory scores ($r = -0.2217$; $P < 0.05$), GHQ28 scores ($r = -0.2606$; $P < 0.05$) and the Signal Detection Memory score (d') ($r = -0.3303$; $P < 0.04$). There was a positive correlation with the Cognitive Failures Questionnaire score ($r = 0.3308$; $P < 0.04$). This shows that the greater the positive discrepancy, indicating greater underestimation of memory problems, the less depressed and/or less emotionally disturbed were the patients (as determined by the BDI and GHQ) and the worse they performed on the Signal Detection Memory test (indicating organic impairment) and on the Cognitive Failures Questionnaire (indicating attentional difficulties). In contrast, the total negative discrepancy scores showed only a significant negative correlation with the Cognitive Failures Questionnaire ($r = -0.4219$; $P < 0.01$). This shows that the higher the negative discrepancy, indicating greater overestimation of memory problems, the lower the score on the Cognitive Failures Questionnaire.

With respect to neuropsychological measures, the total positive discrepancy scores showed significant negative correlations with Similarities ($r = -0.2955$; $P < 0.05$), the Wechsler Memory Scale for Passages (1) immediate recall ($r = -0.3554$; $P < 0.05$) and (2) delayed recall ($r = -0.3885$; $P < 0.05$), Warrington Recognition Memory Test ($r = -0.5098$; $P < 0.05$) and Warrington Recognition Test for Faces ($r = -0.4105$; $P < 0.05$). This shows that the higher the positive discrepancies, indicating greater underestimation of memory problems, the

worse the performance on these neuropsychological tests. The total negative discrepancy scores showed significant positive correlations with the Warrington Recognition Memory Test ($r = 0.3240$; $P < 0.02$) and McKenna's naming test ($r = 0.2791$; $P < 0.05$). This shows that the higher the negative discrepancies, indicating greater overestimation of memory problems, the better the performance on these particular neuropsychological tests.

(5) Relationship between neuropsychological performance, patients' self-evaluations and carers' evaluations

In order to get an indication of whether patients' self-evaluations of their memory problems and carers' assessment of patients' memory problems bore any relationship to actual memory impairment as elicited on neuropsychological testing, further analyses were carried out. In this case, discrepancy values were not used and instead, the total scores obtained by patients on the MIQ were correlated with neuropsychological performance. Similarly, the total scores given by carers on the MIQ were correlated with the patients' neuropsychological performance. It was predicted that carers' assessments were more likely to correlate with degree of memory impairment as determined by the neuropsychology results. Results showed this to be the case. There were no significant correlations (Pearson's, Bonferroni corrections) found between patients' self-assessments and their performance on neuropsychology tests. In contrast, there were significant correlations between carers' assessments and neuropsychology results. The strongest correlations were with Similarities ($r = -0.3015$; $P < 0.03$), Warrington Recognition Memory Test ($r = -0.4086$; $P < 0.03$) and Block design ($r = -0.2797$; $P < 0.03$).

Addendum

The thesis sets out to explore the concept of insight. Analysis of the development of the concept in relation to mental illness (chapter 1) together with the analyses of studies examining insight in psychology (chapter 2), in relation to functional psychiatric disorders (chapter 3), neuropsychological deficits (chapter 4), and chronic organic brain syndromes (chapter 5), all point towards the conclusion that insight as evaluated within the mental state examination cannot validly be considered a symptom, one that is moreover assessed as present, partially present or absent. What has been attempted in the thesis is to indicate in different ways the complex nature of the phenomenon and to identify some of its possible components and their interrelationships within an overall structure. What is shown clearly is that the nature of this complex, multifaceted concept has resulted in different aspects of the phenomenon being explored in the numerous studies in this area and from different perspectives. This has also resulted in the inconsistent and inconclusive results pertaining to insight and clinical variables. It is also clear from this work that it is the nature of the subject that precludes individual empirical studies from contributing more than a fraction towards the understanding of the components underlying insight as a whole. In other words, individual empirical studies can only explore specific aspects of insight and it would take a large number of individual studies to empirically determine all possible components of insight.

In formulating a structure for the concept of insight, chapter 8 therefore had to draw on all the preceding work to firstly, identify the perspectives from which insight could be assessed, secondly to identify the possible structural components of insight and, thirdly, to build these up in a systematic way for the conceptualisation of the overall framework. Thus, the whole chapter apart from the few pages dealing speculatively with symptom 'formation', is intrinsically

linked with the conceptual and empirical work carried out in the previous chapters. Each of the chapters contributes in a different way to the understanding of the structure of insight as a whole. Chapter 1, in examining the development of the concept as an independent phenomenon in relation to mental illness, brings out some of the complexities in the definition of the term and possible components (particularly, awareness/consciousness and judgement/knowledge) hinted at in the debates held by the psychopathologists of the 19th century. Chapter 2 explores insight from the psychological perspective and emphasises the specific narrower definitions in the Gestalt sense and highlights emotional and perceptual components. In addition, unconscious components within the structure of a 'deeper' knowledge or insight are raised, all such factors important in the development of the model of insight. Chapters 3,4 and 5 analyse the numerous studies on insight in relation to functional psychiatric disorders, neuropsychological deficits and chronic organic brain syndromes respectively. Most evident here is that different definitions are employed, different instruments used, and different components of insight are captured. Whilst token acknowledgement of such differences have been made, these have not, until now, been empirically explored. The analyses here also raise the complex relationship between insight and the 'object' of insight assessment, be it psychiatric illness, symptoms or neurological deficit. Again this interdependency becomes important in the construction of the model of insight. Chapters 6 and 7 attempt in different ways to examine empirically some of the specific possible components of insight as suggested by the preceding conceptual work. The first study was able to identify some of the qualitative aspects to judgements made by patients in relation to their mental illness. The difference between awareness of experienced change and the attribution of such experience to psychopathology was also highlighted and is important in the development of the model of insight, particularly in relation to levels 2 and 3 of the model. The study in chapter 7 is not designed to follow logically from the previous study. Instead, it aims to approach insight from a

different perspective in order to emphasise the multifaceted nature of the phenomenon of insight. It is crucial in the empirical validation of the distinction between primary awareness and secondary judgement that had been identified from the preceding conceptual analyses. This distinction forms an essential part of the model of insight presented in the last chapter and without this empirical support, the discussion would be purely speculative. The empirical studies and the model of insight itself raise many more questions but also help indicate the direction of further empirical work.