

A PSYCHOMETRIC STUDY OF UNIPOLAR AND BIPOLAR AFFECTIVE DISORDERS

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SUMMARY OF THESIS

A Psychometric study of Unipolar and Bipolar Affective Disorders

This study first looks into the development of psychiatric and psychological concepts of affective illness. After an overview of the historical background, the debates about classification in affective illness are examined and it is concluded that a classification in terms of bipolar (manic-depressive) and unipolar (recurrent depressive) types seems valid, specially from the genetic viewpoint, and needs further definition.

The psychological literature in the field of affective disorders is surveyed and found not to be extensive particularly with regard to mania, and to have produced, on the whole, contradictory results because of the uncertainty of nosological systems.

This study aims to describe and define homogeneous groups of affective disordered patients in terms of bipolar and unipolar illness, by objective psychological methods.

Patients from both poles of bipolar affective illness are studied, i.e. manic and depressed manic depressives and also depressed unipolar patients. In addition, patients having recovered from each of these 3 illnesses are also studied. Thus, six groups are examined in a cross-sectional design, under strict clinical criteria. There are 18 subjects in each group, except for the depressed bipolars of whom there are 17.

The parameters on which the groups are compared are: signs and symptoms of illness (individual symptoms, a-priori scales of different psychiatric syndromes, a scale of personal disturbance), 4 measures of personality traits and attitudes (anxiety, extraversion, intropunitiveness, extrapunitiveness), 4 measures of thought process (intensity and consistency of thought, number of normal and abnormal responses on an object-sorting test), 3 measures of psycho-motor speed (speed of maze tracing, speed of maze tracing with an 'internal' distraction, speed of maze tracing with an 'external' distraction), and 3 measures of mental speed (speed of problem solving at preferred speed of work, speed of problem solving with stress, gain in speed of problem solving with stress).

The particular aims are to find out: how mania differs from bipolar and unipolar depression; how the two types of depression differ, if at all; how the recovered groups differ, that is, are there 'premorbid' differences in people who develop bipolar or unipolar affective illnesses; and finally, what is the effect of illness in each group.

The general hypotheses tested are:

1. Manics will differ from bipolar and unipolar depressives on several parameters: signs and symptoms of illness, personality traits and attitudes and cognitive factors.
2. Bipolar depressives will differ from unipolar depressives, but the differences will not be as pronounced as those between

manics on the one hand and the two depressive groups on the other.

3. Patients having recovered from a bipolar affective illness will differ from patients having recovered from a unipolar affective illness, mainly in personality characteristics.

4. The effects of illness will be marked in each illness group, affecting both personality and cognitive factors, and will be illness specific, that is, each illness will bring about different changes rather than a general change common to all groups.

These hypotheses are all borne out in the main findings which are reached at statistically.

The general conclusion is that bipolar and unipolar affective disorders differ not only in that one consists only of recurrent depression and the other of recurrent depression and mania, but also the depressive illnesses of each disorder are different on several important parameters, and people who develop one or the other disorder differ in 'premorbid' personality traits.

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"And though we must endeavour to render all our principles as universal as possible, by tracing up our experiments to the utmost, and explaining all effects from the simplest and fewest causes, it is still certain we cannot go beyond experience; and any hypothesis, that pretends to discover the ultimate original qualities of human nature, ought at first to be rejected as presumptuous and chimerical."

David Hume, Introduction to a "Treatise of Human Nature"

(Everyman's Library, 1959).

CHAPTER 1

INTRODUCTION

Scope of the Study:

It is often said that to look at the history of psychiatric thinking about depression is to look at the development of psychiatry itself. This would indicate the importance of depression in the study of mental illness. It certainly seems to account for a high proportion of in-patient and out-patient cases in psychiatric hospitals, even though since the advent of effective anti-depressant drugs general practitioners now treat a number of cases. For example, the 1970 admission figures for the whole of the Royal Edinburgh Hospital show that, of 2058 admissions, 563 or 27 per cent had been classified as depressive or affective illness according to the International Classification of Diseases codes (1965). Depression or elation also accompany several other primary psychiatric conditions: organic psychoses, schizophrenia, puerperal psychoses, etc.

Yet in spite of the long history of psychiatric interest in the affective disorders, this field of mental illness is still fraught with disagreement and semantic, sociological and aetiological problems. The very term "affective disorders" is controversial. D. Hill (1968) points out: "The solution proposed long ago - to group all illnesses in which alteration of mood is the major symptom under the general heading of

'affective disorders' - whitewashes the problem but in fact solves nothing." Some of the alternative terms for, or subclasses of, the affective disorders are: melancholia, manic-depressive illness, endogenous depression, psychotic depression, reactive depression, exogenous depression, neurotic depression, mania, hypomania, bipolar and unipolar recurrent depressive psychosis and involuntional melancholia. Anxiety states are also usually included under the rubric of affective disorders. All these terms have, in turn, been used for classificatory purposes at different levels of discourse, descriptive or aetiological: sometimes these two levels have become irretrievably mixed in the course of discussion.

The importance of classification and the order of priority in the field of psychiatry is well indicated by Cattell's dictum (1940) that "nosology necessarily precedes aetiology". Eysenck (1960) also points out: "Before we can reasonably be asked to look for the cause of a particular dysfunction or disorder, we must have isolated, however crudely, the dysfunction or disorder in question and we must be able to recognise it and differentiate it from other syndromes." The confusion is further aggravated in the field of the affective disorders by "the multiple use of the term 'depression' to describe a mood, a symptom, a syndrome, and a specific disease entity" (Mendels, 1968). Sains and Bigelow (1961) state that the term 'depression' is becoming more and more nebulous despite its illusory clarity and simplicity".

This study looks into the historical background of the concept of affective disorders, indicating how the modern controversies have arisen. The more recent literature in the field can be divided into two main parts: The polemics about classification, where very often the emotions of the writers have had the better of their logical thinking, and the aetiological studies which, in turn, have suffered from the shakiness of the underlying classification.

Recent studies, particularly those of Leonhard (1959), Perris (1966), and Winokur et al. (1969), have appeared to show that it is legitimate to distinguish between two types of affective disorder: recurrent or unipolar depression, and manic-depressive or bipolar illness. Many studies have often included both types in one broad group of psychotic or manic-depressive illness, in the Kraepelinian tradition. If it is true that these two groups are different, it would be most important in future biochemical or other aetiological research to study them separately.

This study sets out to consider these two broad groups of affective illness, during illness and after recovery, to see whether they differ on various psychological parameters. The literature is sadly lacking in descriptive studies of well-defined homogeneous groups of this kind. Clinical psychologists seem to have devoted their energy mostly to the study of schizophrenia or brain-damage and to have disregarded the affective disorders. Mania has been especially disregarded

in the past. In the introduction to the 1968 R.M.P.A. Symposium "Recent Developments in Affective Disorders", A. Coppen writes: "Although this symposium is devoted to the affective disorders, it is clear that most work has been carried out on depression and that mania is a relatively neglected field. This is undoubtedly due to the relative rarity of mania and the difficulties of studying patients with this condition."

In view of its special interest in affective disorders, the MRC Brain Metabolism Unit in Edinburgh has provided a unique opportunity to study both depressed and manic patients and has made this study possible.

CHAPTER 2

HISTORICAL BACKGROUND

I. In the Beginning:

Man has probably always known depression. The biblical story of King Saul (ca. 1033 B.C.) presents a quite detailed clinical account of what appears to be recurrent depression, with homicidal attempts and finally suicide (Whitwell, 1936).

The term "melancholia", meaning black bile, was introduced by Hippocrates and the School of Cos (ca. 460-367 B.C.). Hippocrates classified mental illness into: epilepsy, mania, melancholia and parancia. His views were in the main physiological: a super-abundance of black bile causes melancholia; on the other hand, a state of exaltation is due to the predominance of warmth and dampness in the brain. He considered that seasonal climatic conditions are of some importance: mania and melancholia are diseases of Spring. Though these same Hippocratic terms are still used, they covered far more diverse conditions than are understood by them today.

Plato (427-347 B.C.) partly followed the view of morbid humours as being the cause of madness, but deviated from the empirical attitude of Hippocrates and turned to the inspired views of the past: the soul consists of two parts, the rational and the irrational. The rational soul presides over the others, its seat is in the brain, it is immortal and divine. The irrational soul may become ill, i.e. it may sever its ephemeral

union with the rational soul. Man under these circumstances becomes mad. He proposed three kinds of madness: melancholia, mania and dementia. (Michéa, 1843).

Aristotle (384-322 B.C.) ascribed to the heart the role which Plato ascribed to the brain. He maintained that it was not the black bile, as Hippocrates had proposed, which in itself carried the cause of mental disease, but warmth or cold. The black bile is merely a carrier of heat and cold. If it is moderately cold it produces vertigo, apprehensiveness, or a state of being stunned (melancholia?), if it is warm, gaiety and carefree joy appear (hypomania?). Very cold bile makes man cowardly and stupid, very hot bile generates sexual desires, cleverness, loquacity and suicidal impulses. However, Aristotle could not leave the brain entirely out of his psycho-physiological system and assigned to it a special but passive role: "To him the brain, an excremental and almost inorganic part of the body, devoid of blood, warmth and sensibility, in its position at the top of the body, presided over only one function - that of condensing, by means of its cold consistency, the vapours which arise from the heart." (Michéa, op.cit.).

At the time of Aristotle, Greece had passed its peak and had started its decline, and the seat of learning moved to Alexandria and Egypt and then to Rome. Nothing original was contributed to mental science, however, until the appearance of Asclepiades towards the middle of the first century B.C. He

was the first to divide diseases into acute and chronic and to differentiate delusions from hallucinations. The next important contribution to the specific field of the affective disorders, however, came from Aretaeus of Cappadocia (ca. 30-90 A.D.). He was inclined to consider mania and melancholia as expressions of one illness, thus adumbrating the future concept of manic-depressive illness. Aretaeus was the first, or at any rate the first known, to become interested as we are today in the personalities of the people who later developed severe mental diseases, the so-called pre-psychotic personalities. In doing this, Aretaeus characteristically abandoned the humoralistic terminology ("Phlegmatic", "choleric" temperaments) and limited himself to clear description. Persons who are subject to furor or mania, says Aretaeus, are "naturally irritable, violent, easily given to joy, have a facile spirit for pleasantry or childish things". "Those who are prone to be of depressive proclivities are apt to develop melancholia." (Trélat, 1839). This is the first hint that certain mental diseases are but a psychological extension of the so-called normal personality traits of the individual.

Aretaeus also pointed out that melancholia "does not affect the intellectual abilities" (Trélat, op.cit.), thus foreshadowing what the French later called "folie raisonnante". The melancholic patients, he continues, are "restless, sad, dismayed, sleepless": "They are seized with terror if the affection makes progress": "They become thin by their agitation and loss of

refreshing sleep": "At a more advanced stage they complain of a thousand futilities and they desire death". This is a fairly accurate clinical picture of even a present-day "melancholic". Later writers, such as Soranus and his pupil Caelius Aurelianus, did not have much to say about melancholia or mania but devoted much time to therapeutics, criticising the practices of the day and bringing in "a humanitarian tone of practical justice, sensitive comparison and psychological sobriety" (Zilboorg et al. 1941, p80) rare among the practitioners of these days.

The end of this period takes us to Galen (130-200), seven centuries after Hippocrates. His was an eclectic system, a kind of summary as well as epilogue to the classic Greco-Roman period in medicine. He accepted the Hippocratic theories but often failed to apply them. He spoke of the febrile delirium as caused by yellow bile and also considered yellow bile responsible for the irritability and outbursts of anger seen in mania. Galen thought of a melancholic humour (succus melancholicus) as a waste product of the liver and spleen. The brain is affected by "consensus" or sympathy. The melancholic is sad because his sensual soul (one of the three souls) is affected and he is thereby deprived of love and joy, the two chief characteristics of the sensual soul, the seat of which is the heart.

After Galen the medical world suffered the great decline

of the Dark Ages. The decline of the classical world, the influence of the Orient and the advent of the Christian Church did not help. The whole field of mental diseases was torn away from medicine and became the province of magic and the Church. Interestingly, Szasz (1961) attacks as a "demonology" the medical model in relation to mental illness, whereas in fact demonology thrived when the study of mental illness became non-medical. Psychiatry really became a study of the ways and means of the devil and his cohorts. Exorcism was the treatment method. Demonology, with its stress on "stigmata diaboli, incubi and succubi", lycanthropy and witchcraft, became the order of the day. By the middle of the 15th century the darkest ages of psychiatry set in - on the very eve of the Renaissance. The most authoritative and most horrific document of that age was the "Malleus Maleficarum" - "The Witches Hammer" (1487-1489) - by two Dominican monks, Sprenger and Kraemer. This became the textbook of the Inquisition. The psychopathological theory adopted by the "Malleus" does not fully discard the remnants of the Galenic tradition, but its authors are careful to avoid any undue emphasis on medical authority, for "no witchcraft can be removed by any natural power, although it may be assuaged" (English edition).

II. The 16th and 17th Centuries:

By the 16th century there is a gradual revival of empirical medicine in the study of insanity, of interest in the individual

and in humanism. For the first time the word "psychologia" is used. In 1590 Rudolf Goeckel published his "Psychologia - Hoc est de Hominis Perfectione" - "Psychology or the improvement of man". Reactions against the demonology of the time and a recognition of natural causes in mental illness are associated with the names of Vives (1492-1540), Paracelsus (1493-1541), Cornelius Agrippa (1486-1535) and especially Weyer (1515-1588). Although nothing new was added to the knowledge of the affective disorders, and the majority of writers were content to repeat what Galen had said, we find very clear descriptions and clinical illustrations which form the basis of a new psycho-pathology. Weyer, for example, writes: "I have seen a man who stubbornly refused to eat and drink, thinking he was condemned. There are people who are so miserably tormented by little scruples of conscience that they look for five legs in a ram when a ram has but four, they imagine mistakes where there are none and, uncertain of the divine clemency, they weep day and night thinking themselves damned." (Weyer, 1579).

Throughout the first quarter of the 17th century demonological literature continued to appear, while the physicians quietly continued to observe mental disease. Felix Plater (1556-1614), the Basle professor, attempted to build up an empirical psychiatry by classifying the diseases according to their nature and setting up empirically recognised varieties. Of his four divisions of insanity, the third, "mentis alienatio"

includes melancholy and hypochondriasis among the subdivisions. He was unable to deny the devil or Galen: he used purgative measures freely, and spoke of the dryness of the brain as a cause of mental diseases. Riverius of Montpellier (1589-1655) wrote about a proximate cause of melancholia, a poison generated in the body, which can be taken up and best developed in the atrabiliar constitution. Waldschmidt (1644-1687), of the chemical school, thought melancholia arose from abnormal fermentation in the organism.

Despite this continuation of Galenism, the medical man of the 17th century did make a positive contribution. To him goes the credit for exploring the human body in search of the cause of mental disease. The age-long persistence in seeking for a "seat" of the soul and of mental disease was particularly accentuated in the 17th century. This was because the study of pathological anatomy soon convinced physicians that diseases are produced by diseased organs. Also, the recapture of the Hippocratic view that the seat of madness is in the brain led to a most enthusiastic and careful study of the brain.

Thomas Willis, whose "Opera Omnia" was published in 1681, was the most influential and important representative of this new branch of medicine. In his "Opera Omnia" he has chapters on melancholia and mania, but his excellent technique of dissection and powers of observation were far ahead of his psychological acumen. He would rather beat a mentally sick

man, or consider him possessed by the devil, than attempt through compassion to gain sympathetic understanding. However, he observed that mania and melancholia may merge, and suggested that alternations of excited and depressed states may be different forms of the same mental disease - a fact first pointed out by Aretaeus sixteen centuries before. Blood-letting was still a popular therapeutic technique and later on blood transfusion began to be advocated specifically by Moritz Hoffman (1662) who suggested it as a cure for melancholia and later by Denis (1667) and Sir George Ent (1667) who tried to introduce it in the treatment of mental diseases in England. In Germany, Klein recommended blood transfusion, as did Etmüller in his "Chirurgia Transfusoria" in 1682, particularly in cases of melancholia. The change of mood produced by the transfusion they explained easily: just as, according to Aristotle, an old man needs only the eye of a young man in order to look like a young man, so too will the blood of a young man make an old person keen and bright. Thus was Harvey's great discovery misused by those who purported to treat mental illness.

As mental disease was taken over by practical medicine and treated in a mechanistic, organistic way, so psychology lost favour with medicine, and was delivered into the hands of the purely speculative thinker. It was Francis Bacon, Descartes, Hobbes, Locke, Malebranche and Spinoza who carried the burden of wondering about the way in which the mind, volition and emotions

work and make man act. Apart from John Locke, none of these men was a physician, and they had little to offer to the understanding of mental illness. The century came to a close with a reaction against the mechanistic theories and practices which it established in the person of G. E. Stahl (1660-1734). He felt repelled by the increasing cleavage between body and mind, and considered that this dichotomy was unjustified and did harm to the understanding of disease in general and of mental disease in particular. Stahl, therefore, was a great pioneer in medicine in that he put squarely before the doctor the task of forming a synthesis of physical and mental phenomena, of the organic and the psychological. He pointed out the effect of the psychic on the organic due to the "anima sensitiva", or the life-force - a concept akin to Bergson's "élan vital". Stahl's views are based on the conception of "motus tonico-vitalis" which is responsible for all motions, i.e. functions of a living organism. Mental diseases occur when the soul is impeded in its free function. This impediment or inhibition is frequently due to a mood, or an idea, which is foreign or contrary to the life force (G. E. Stahl, 1708). It is not appropriate to discuss his views further here, except to point out that his influence was carried into the eighteenth century by Zückert (1737-78), Unzer (1727-99) and specially by the Montpellier school where Boissiers de Sauvages (1706-67) and Pinel (1745-1826) taught. Zückert described patients with strong "imagnations" in whom

all other feelings and senses are suppressed, thinking only of the subject which makes the imagination so lively: if this state be conjoined with lasting sadness, that is melancholia (Zuckert, 1764).

III. The Century of Enlightenment:

The 18th century, the century of enlightenment and rationalism, was the age of the great sensualist and materialist philosophers such as Berkeley (1685-1753), David Hume (1711-1776), Hartley (1705-1757), Condillac (1714-1780) and Diderot (1713-1784), but was also the age of neurology, of nosological systems and of hospital reform. The discussion of the relationship between body and mind and the philosophical speculations on the nature of the mind began to lead to the concept of functional as opposed to organic diseases, but Hippocratic and Galenic influences may still be seen in the classifications. For example, F. Hoffman (1660-1713) considered the proximate cause of melancholia to consist in a rush of thick blood to the brain, its stagnation there and impeded return (F. Hoffman, 1740). Hermann Boerhaave (1668-1738) defined melancholy in almost the same way as had Hippocrates: "Physicians call that disease a Melancholy in which the patient is long and obstinately delirious without a fever, and always intent upon one and the same thought." He adds: "If Melancholy increases so far, that from the great motion of the Liquid of the Brain, the patient be thrown in a wild fury, it is called madness." He observed that melancholia and mania

might be different phases of the same illness (Boerhaave, 1728).

George Cheyne published a book in London in 1733 entitled: "The English Malady: or a treatise of nervous diseases of all kinds: as spleen, vapours, heaviness of spirits, hypochondriacal and hysterical distempers."

Benjamin Fawcett, in his "Observations on the nature, causes and cure of melancholy, especially of that which is commonly known as religious melancholy" (1780), considered religious melancholy to be a sub-division of general melancholy and believed it to be as much a physical disease as other mental diseases.

Anne Charles Lorry (1726-1783) found it necessary to differentiate a "Melancholia Nervosa" from a "Melancholia Humoralis". J. Haslam (1764-1844) remarked that states of excitement and depression alternate in the same individual and that if these states continue to alternate the ultimate outcome is grave. This method of viewing a mental disease from the standpoint of its prognosis was destined to become an important aspect of psychiatry towards the end of the nineteenth century.

François Boissier de Sauvages (1706-1767), one of the leading nosographers of the day, in his "Nosologie Methodique", divided insanity into three groups. The first is "morbi deliri", and includes mania and melancholia. Their cause is a material one, located in the brain, the sense organs or the arrangement of the nerve fibres. Melancholia is a chronic, afebrile, brooding delirium fixed on a small number of objects.

Linnaeus, in the 17th century, had divided mental disorders on formal grounds into ideal, imaginary and pathetic types, melancholia being a disorder of the pathetic. Several writers followed such formal systems, especially the philosophical writers. Immanuel Kant, for example, in his "Anthropologie" (1798), considered man to possess the powers of perception, understanding and feeling; consequently he might become mentally ill when something went wrong with one of these powers or any combination of the three.

Dreyssig (1770-1809) collected all mental disorders into three forms: mania, melancholia, imbecility. Melancholia is a partial insanity or a partial failure of judgement and reasoning capacity, limited to one or a few subjects. It may be true or false: true melancholia is bound up with a lasting sad mood, false melancholia with indifference or cheerfulness; raging melancholia, as the most severe form, approaches mania. (Presumably he was discriminating between what came later to be called "simple depression" and "mixed states".).

Morgagni (1682-1771), the Italian pathologist, had reminded his medical colleagues of Homer's words: "In saying things that were probable, he uttered many falsities", indicating the world's new respect for facts. In his "De sedibus et causis morborum" (1761) he denied any complete distinction between melancholia and mania. He stated that mania is so akin to melancholia that these disorders often change from the one into the

other, and "so you may often see physicians doubting whether they should call a patient melancholic or manic, who alternate between talkative boldness and frightened silence". Lewis (1934) points out that "this sounds a little like a reference to catatonic excitement, rather than mania".

John Brown (1735-1788), following Haller's theory of the excitability of tissues, became the most influential exponent of the theory of irritability and exhaustion of the nervous system leading to asthenic states. His "Elementa Medicinae" (Edinburgh 1780) was widely read not only in Britain, but also on the continent, and became very influential, directly leading to such terms as "neurasthenia" (Baird) and "psychasthenia" (Pierre Janet) in the nineteenth century.

Alexander Crichton, in "An Inquiry into the Nature and Origin of Mental Derangement" (1798), said that the passions work on the nerves by means of the blood vessels, and melancholia is the outcome of vascular activity in the nervous system.

James Sims (1799) considered melancholia to be a condition where imagination of unpleasant experiences was mixed with correct recollections, the sufferer arriving from such faulty premises at formally correct conclusions, thus restating to a large extent the Lockean point of view.

The psychiatric literature of this period is very prolific. Several writers in Britain, France, Germany and Italy wrote about nosological systems of mental diseases, conforming to

the iatrophysical tradition put forward in the seventeenth century, or to current philosophical ideas. Many more wrote about hospital management and the new humane approach to mental patients, this trend being exemplified in the person of Philippe Pinel (1745-1826). In addition to his most famous work on hospital reform and reorganisation, Pinel is also the author of a great nosology based on his experience at the Bicêtre and the Salpêtrière: "Traité Medico-Philosophique sur l'aliénation mentale" (1809). He divides mental illnesses into: mania, melancholia, dementia and idiocy. He says: "I have kept the name melancholic delirium for the variety that was directed exclusively upon one object or particular series of objects, with dejection, gloom, and more or less tendency to despair, especially when it goes so far as to become incompatible with one's duties in society." He differentiated melancholia as a habitual temperament from melancholia as a mental disorder. He spoke of "degenerating" into mania (though his case history sounds more like a paranoid schizophrenic), and of melancholia leading to suicide, and illustrated his argument with case histories.

IV. Systematisation:

The 19th century has been called the "Era of Systems" (Zilboorg and Henry, 1941). They write: "The growing interest in the mentally ill, the study of mental illness, the building of hospitals and clinics, the foundation of psychiatric

societies and psychiatric periodicals, the publication of many and voluminous books on medicopsychological subjects make the psychiatry of the nineteenth century a confusing and complex structure of manifold aspects. It was a century teeming with activity, controversy and enthusiasm. The outlines of theories and practices coupled with the hospital reform and administration which took shape towards the end of the eighteenth century released an impetus long overdue, and in the course of the nineteenth century psychiatry became not only a separate branch of medicine but a potent force in the cultural development of Europe and the United States." (p. 379).

With specific relation to melancholia and mania, or the affective disorders, the most influential names are Esquirol, Janet, Falret, Griesinger, Baillarger, Hoch, Kahlbaum, and the greatest of them all, Kraepelin, who heralded this present century.

J. E. D. Esquirol (1772-1840), the pupil of Pinel, wrote about four varieties of mental disorder: Mania, monomania or fixed delusion, dementia and idiocy. He differentiated certain depressive states from the other psychoses and called them "lypemantias", a forerunner of the modern concept of the depressions. By Esquirol's time, the term "melancholia" was full of confusions and Esquirol helped to return it to its former clarity. Of lypemania, Esquirol wrote: "We believe that this is a good definition: melancholia with delirium, or lypemania is a chronic afebrile cerebral malady, with partial delirium, kept

up by a sad, debilitating or oppressive emotion." As to the relation to mania, he wrote: "Lypemania sometimes passes into mania; it is doubtless this change that has caused melancholia and mania to be confused." (Esquirol, 1838).

Esquirol surpassed his predecessors in the accuracy and completeness of his descriptions and became very influential. Pritchard dedicated his "Treatise on Insanity" (1835) to Esquirol: "The most distinguished writer of his age on the subjects which I have endeavoured to investigate". Pritchard, famous for his concept of "Moral Insanity", wrote that "A considerable proportion amongst the most striking instances of moral insanity are those in which a tendency to gloom or sorrow is the predominant feature".

G. Burrows (1828), the director of the Clapham Retreat, concluded that "mania and melancholia have one common physical origin, and are one and the same disease".

M. Allen (1837) regarded mania and melancholia as "effects of the same power being overactive in different directions". Thus most writers of the time seem in agreement with Esquirol about the relation between melancholia and mania and their clinical descriptions.

Jean-Pierre Falret (1794-1870), a pupil of Esquirol, became interested in those abnormal reactions which are accompanied by suicidal drives or which terminate in suicide. In his study of such abnormal depressions, he noticed that some of them wear off by turning into a state of abnormal elation and that some of

the elations, after running a certain course, turn into profound depression. It was a sort of closed emotional circle. He recognised in this cycle a separate type of mental disease and in 1854 he published "De La Folie Circulaire". This type was later called by Baillarger (1854) "Folie à Double Forme", a concept which was finally established in psychiatry under the name of manic-depressive psychosis in the last years of the 19th century by Kraepelin.

Studying the varieties of "folie à double forme", Baillarger noticed that certain depressions merge with states of stupor - an observation of great importance. August Hoche (1860-1919), in the United States, described the "benign stupors" as a form of manic-depressive psychosis.

By the middle of the century, psychiatry, particularly that of the French, seems to have abandoned its official dependence on Hartley, Hume, Berkeley, Condillac and Locke. The hospital and the clinic established themselves as the only reliable source and as the natural laboratory of human psychology. The trend away from psychology towards physical and physiological causes is seen in Morel (1809-1873) with his insistence on hereditary causes. Degeneration was the basis of his psychiatry. Magnan (1835-1916) followed the same trend and, at a session of the Société Medico-psychologique in 1886, remarked: "All the numerous conditions which are confused with consciousness under the name of insanity - folie raisonnante, mania without

delirium, pseudo-mania, etc., - are merely psychological stigmata of hereditary insanity."

With few exceptions, England occupied itself very little with the investigation of the nature of mental illness, or with the medico-psychological theories. The foundation of the York Retreat by William Tuke in 1792 opened an era of hospital reform, legislative reform and organisation to which most of the 19th century was devoted. Those who were interested in clinical investigations followed the tradition established by Thomas Willis and John Haslam and concentrated on the study of the brain and the blood vessels which fed it. The outstanding names of the time are: Prichard, whose notion of "moral insanity" was mentioned earlier on; David Skae (1814-1873), from Edinburgh, who propounded a scheme of classification, with aetiological bias, containing twenty-five separate diseases; and H. Maudsley (1835-1918) who brought together all the theories of the past which in his day had become crystallised almost as postulates. Anaemia, toxic states of the blood, other circulatory defects, infectious poison ; all were considered causative agents of mental illness. The only psychological causes which Maudsley was willing to recognise were overwork or over-exertion of some of our functions, which seems more of a physiological than a psychological point of view. Maudsley's classification follows the traditional division into the disturbances of emotions (depressions): affective or pathetic insanity, and disturbances

of imagination. In one place he describes the alternation of hypomania and mild depressions as an example of moral insanity, elsewhere he alludes to Falret's "folie circulaire" as the succession of true mania upon true melancholia.

In Germany, systematisation was the order of the day. By the middle of the century, German psychiatry asserted the supremacy of the brain over any other structure and proceeded systematically to produce a psychiatry without a psychology. The outstanding leader in this process was Wilhelm Griesinger (1817-1868). He insisted on the genetic viewpoint, by which he meant the understanding of the anatomical and physiological origin of our psychological attributes. He was strictly descriptive and seemed to abandon completely the idea that in mental diseases we deal really with a variety of diseases. His importance in the development of scientific psychiatry is cardinal, but this cannot be fully analysed here. With respect to melancholia, he accepted the view of two groups of mental disorders: in the first group are all the recoverable conditions, mania, depression and delusional insanity. Among the forms of depression are hypochondria, simple melancholia, melancholia with stupor, melancholia with destructive tendencies (suicidal or homicidal), and melancholia with persistent excitement of the will (folie raisonnante, moral insanity, psychopathic character). Schizophrenia in its earlier stages was regarded by him as one of the affective disorders.

The need for purely clinical methods of study impressed itself upon the 19th-century psychiatrist with particular intensity. There was no other way of bringing order into the welter of clinical material that was being accumulated. Clinicians began to appear who, unable to determine a physical or cerebrospinal, cause for the diseases observed, began to watch the course of the disease with greater interest. These men were gifted clinical phenomenologists, among whom the most famous were K. L. Kahlbaum (1828-1899) and E. Hecker (1843-1899). Having already published a monograph on "catatonia" in 1874, Kahlbaum wrote on "cyclic insanity" in 1882, describing a "symptom complex" (a term introduced by Kahlbaum) which follows a definite course. He introduced the term "cyclothymia" which is still used today to designate the predisposition to have definite alternating moods of cheerfulness and mild depression. Hecker (1898) emphasised the frequency with which anxiety attacks often occur in "genuine melancholia".

Emil Kraepelin (1855-1926), with whom we can say, as Sir Aubrey Lewis, "the modern period opens", typifies the concern of his time with classification based on detailed clinical observations. In the various editions of his text book of manic-depressive insanity, we see the influence of his day, especially that of Falret, Griesinger and Kahlbaum, yet his work stands out for its clarity, comprehensiveness and perceptiveness and has influenced the bulk of the literature on

manic-depressive illness to today, sometimes as the definitive work on the subject. Grinker et al. (1961), in the "Phenomena of Depressions", point this out with some regret, though praising Kraepelin's work. He insisted on the identity of causal factors, course and outcome as the criteria of a mental disease, abandoned the unitary concept of mental disease, establishing manic-depressive insanity and dementia praecox as the dominant sub-divisions.

In the fifth edition of his book in 1896, Kraepelin divides all mental disease into acquired disorders and those arising from morbid predisposition. Among the acquired disorders he describes melancholia as a disease of the involutinal period. Among the disorders arising from a morbid predisposition, "periodic insanity" is given as one of the constitutional mental disorders. In "periodic insanity", manic, circular and depressive forms are described. The independence of melancholia as a disease of the involutinal period was almost at once contested by Thalbitzer, Dreyfus, Hoche and others. This led Kraepelin to modify his views and Hoche (1910) points out that by the eighth edition of his book Kraepelin had relegated "melancholia" from a disease to a clinical picture - and that it no longer mattered whether there was mania or melancholia, occurrence once in life or many times, at regular or irregular intervals, whether late or early, with predominance of these or those symptoms - it was still manic-depressive insanity.

Bonhoeffer (1909) and Moebius (1893) described exogenous types of reactions and divided mental illness into two large classes of exogenous and endogenous diseases, which Kraepelin accepted.

In the eighth edition of his text book (Robertson and Barclay, 1921), Kraepelin states: "Manic-depressive insanity as it is to be described in this section, includes on the one hand the whole domain of so-called periodic and circular insanity, on the other hand, simple mania, the greatest part of the morbid states termed melancholia and also a not inconsiderable number of cases of amentia. Lastly we include here certain slight and slightest colourings of mood, some of them periodic, some of them continuously morbid, which on the one hand are to be regarded as the rudiment of more severe disorders, on the other hand pass over without sharp boundary into the domain of personal predisposition. In the course of the years I have become more and more convinced that all the above-mentioned states only represent manifestations of a simple morbid process". He then goes on to describe in detail the following clinical entities, under the heading of mania: hypomania, acute mania, delusional mania, delirious mania; under depressive states: melancholia simplex, stupor, paranoid melancholia, fantastic melancholia, delirious melancholia; under mixed states: depressive or anxious mania, excited depression, mania with poverty of thought, manic stupor, depression with flight of ideas, inhibited mania, partial inhibition or exaltation. He then refers to "fundamental

states" which are: the depressive temperament, the manic temperament, the irritable temperament, and the cyclothymic temperament.

He points out later than "under certain circumstances it may become very difficult to distinguish an attack of manic-depressive insanity from a psychogenic state of depression" and "as the slightest depression of manic-depressive insanity, as far as we are able to make a survey, may wholly resemble the well-founded moodiness of health, with the essential difference that they arise without occasion, it will sometimes not be possible straight away to arrive at a correct interpretation, without knowledge of the previous history in cases of the kind mentioned." (op.cit., p.200) He cautions, however, that even "genuine circular states of depression may be occasioned by emotional excitement", but these "patients are comparatively little affected by the further development of affairs, in especial not relieved even by a favourable turn of events." (op.cit., p.200)

Kraepelin's pupil J. Lange (1926) also made a study of depressive states and tried to save the concept of a pure endogenous melancholia by making more use of the somatic and genetic criteria of Kretschmer (1925) and placing all depressions preceded by any form of psychic trauma in three separate categories: psychogenic depressions, reactive melancholias, physically provoked melancholias identical with endogenous melancholias in

all but pathogenesis. Lange himself, however, was forced to admit that his four groups were arbitrary and not clearcut. Thus, as Kendell (1968) points out, the "seeds of future controversies were sown in part by Kraepelin himself, by accepting the role of exogenous types of reaction, as described by Bonhoeffer, and also failing to delimit the boundaries of the manic-depressive complex".

At this stage, at the turn of the century, a great American figure must be mentioned, as epitomising a different trend from the Kraepelinian approach, and as a great influencing factor in modern British and American psychiatry. Adolph Meyer (1922), at first working with the Kraepelinian groupings, gradually developed out of his dynamic-genetic interpretation a concept of reaction types. To him the total personality reaction in all its aspects is the only basis for a proper understanding of the patient. He felt that the term melancholia should be abandoned as it implied the knowledge of something that we did not possess and that we should apply the term depression to the whole class in an unassuming way, with distinctions made according to aetiology, the symptom complex, the course of the disease and the outcome. His psycho-biology prepared the way for the introduction of psychological and psycho-analytic concepts.

V. Conclusion:

This historical survey has indicated the slow clarification over the ages of the concepts of depression and mania as mental

disorders, and how some of the most famous names in the history of psychiatry have been associated with the study of these illnesses.

However, it is clear that the terms "melancholia" and "mania" were not always used in their present-day meaning. The great French and German nosologists of the 19th century, culminating in Kraepelin, helped finally in identifying and demarking the concept. This, as has already been noted, was to lead to a great deal of controversy about sub-classifications and aetiological factors. Already certain differentiating dichotomies were being used, such as endogenous/exogenous, manic-depressive psychosis/involitional melancholia, reactive melancholia/endogenous melancholia.

The next chapter will go briefly into these controversies and attempt to justify the classification used in this study.

CHAPTER 3

CONTROVERSIES ABOUT CLASSIFICATION

I. The Great Debates:

Thus the scene was set for the great debates which have raged through the last fifty years, sometimes bitterly, up to today, especially in Britain. On the one hand are the "separatists", those in the Kraepelinian tradition, who draw a sharp distinction between endogenous (or psychotic) depression and reactive (or neurotic) depression; on the other hand are those in the Meyerian tradition, the "gradualists", who maintain that clear-cut differentiation is impossible and fruitless, and uphold a more unitary view of depression.

Mapother (1926), in a lecture to the British Medical Association, was the first to openly challenge the predominant separatist view of the day, by refusing to admit any clinical distinction between a neurosis and a psychosis. "The distinction between neuroses and psychoses has grown out of practical difficulties particularly as regards certification and asylum treatment," he said, and he could "find no other basis for the distinction, neither insight, nor co-operation in treatment, nor susceptibility to psychotherapy will serve". He also added that the essence of an attack of depression "is the clinical fact that the emotions for the time have lost enduring relation to current experience, and whatever their origin and intensity they have achieved a sort of autonomy".

The discussions that have followed about the possibility of distinguishing clinically between psychotic and neurotic depressions, the necessity of performing such a task whether for therapeutic, academic or prognostic reasons, make up the most heated and confused argument in psychiatry. We need not go into this in detail here as we do not intend to deal with the psychotic-neurotic problem. The classificatory system used in this study largely by-passes this controversy.

It is interesting, however, to look at some of the chief contributions in this field to assess their usefulness, as the main bulk of the literature, especially in this country, has been concerned with it.

On purely phenomenological grounds, Buzzard (1926, 1930), Ross (1926), Gillespie (1926, 1930) and several others found that they could differentiate between the two types of depression. Gillespie (1926) stressed the factor of "reactivity" as of cardinal importance: the neurotic reacts to his environment, the psychotic does not. Hereditary factors, Kretschmerian diagnostic criteria of body build and character were also used: for example Strauss (1930) thought it inconceivable that a person of schizoid make-up could develop a genuine manic-depressive illness.

Lewis (1934, 1936, 1938) was the next to join the controversy in three masterly and scholarly papers. The first was a thorough historical review, then came a clinical survey of depressive

states in a detailed analysis of 61 cases, and then a prognostic study on the same material. The outcome of this research was damning for the separatists. The differential clinical criteria put forward by people like Ross, Gillespie, Buzzard, etc., in the great debates of 1926 and 1930 were not substantiated, and Lewis concluded that it was impossible to place the majority of cases in either group and that the term "reactive depression and the grouping it denoted" should be abandoned. He was particularly impressed by the fact that the more closely and the longer a patient was studied, the more difficult and impossible it became to make clear-cut, qualitative distinctions. Similarly his prognostic study led him to say: "It proved extraordinarily difficult to classify the patients in order of favourable results, or of duration of attack." In a later paper (1938) he states: "It is very probable that all the tables and classifications in terms of symptoms are nothing more than attempts to distinguish between acute and chronic, mild and severe: and where two categories are presented, the one - manic-depressive - gives the characteristics of acute severe depression, the other of chronic mild depression." He recognised, however, that this "rather fails to provide for the acute mild and the severe chronic cases, which are numerous". This last admission seems to cut the ground from under his own feet. More recently, Lewis (1971), in a review of the concepts "endogenous" and "exogenous" in the classification of depression, concludes that the terms "psychotic", "reactive" and "neurotic" best serve

clinical purposes, in spite of their lack of rigour and exactitude.

Curran (1937), Curran and Mallinson (1941), and Tredgold (1941) aligned themselves with Lewis's position, while Rogerson (1940) defended Gillespie's and Ross's position.

Independent support for the separatists' view was provided by the genetic studies which had begun to appear: Brown (1942) showed that neurotic illness depended at least partially on a hereditary genetic basis. Slater and Slater (1944) argued that this constitutional basis was likely to depend on a large number of genes, each of small effect. On the other hand, genetic studies of manic-depressive illness suggested that it was transmitted by a single dominant gene with incomplete penetrance (Slater, 1936).

It is interesting to note, when looking at the arguments put forward by the proponents on each side of the fence, that no side seemed to dispute that a "pure culture" psychotic depression differed from a "pure culture" neurotic depression, but the contention seemed to be more the existence of these paradigms in reality and the number of shades of grey between them. Lewis (1938), for example, says: "Actually it is a question of how many patients fit comfortably into either group, so characterised. As is fairly plain in the series I reported, I find that few do. Curran reaches the same conclusion. I think these groups are the extreme types rather than the clinical realities. A few others, however, find good reason to hold the contrary view."

The development of new treatment techniques, electroconvulsive therapy and pre-frontal leucotomy, seemed to make differentiation more pressing and less academic. Most writers, e.g. Cook (1944), Sargant and Slater (1946), and Sands (1949), agree that E.C.T. benefited the psychotic depressives only: "Some neurotic types of depression may be aggravated by very few convulsions" (Sargant and Slater, 1946). Partridge (1949) argued that if differentiation was valid in the light of response to electroplexy "and is of importance in deciding the suitability of a case of treatment, how much the more important must it be when considerations arise of a far more drastic treatment of irreversible kind?". He is referring there to pre-frontal leucotomy. Mayer-Gross (1954) states emphatically: "For rational therapy the reactive, neurotic form of depression has to be differentiated from endogenous depression with little or no environmental aetiology..... If there are important precipitating environmental circumstances, they may have to be dealt with, and the neurotic personality may, in given circumstances, respond well to psychotherapy, whereas the endogenous depression will remain uninfluenced until convulsion treatment is applied, or natural remission sets in with the passage of time."

Not surprisingly, however, dissident voices were still to be heard: E. Ascher (1952) wrote: "The apparently different responses of various depressive reactions to electroshock therapy is more dependent on the relative prominence of depressive mood in the total picture than on the neurotic or psychotic nature of

the condition." Similarly, Garmany (1958), after a study of 525 depressed out-patients, concluded: "The distinction traditionally made appears to be a distinction between those depressions which show more reactivity, are less severe, and infrequently require E.C.T. and those depressives sharing the reverse features. It is believed that this resolves itself into a distinction between mild and severe depression."

Response to E.C.T. has been used in several later studies to sustain the usefulness of differentiation, e.g. Rose (1963), Roberts (1959) and J. Mendels (1965).

II. Statistical Approaches:

More recently the advent of new anti-depressant drugs, and the development of computer science facilitating the statistical analysis of vast data, have brought about a recrudescence of interest in the nosological problems of depression. Graphs, histograms, frequency distributions and factor loadings have replaced the old arguments based on clinical experience, case histories and intuition, yet consensus is not much nearer, as the following short review will show.

Hamilton and White (1959) were the first to publish a factor-analytic study intended to provide classificatory help. Using Hamilton's (1960) rating scale for depressive states, they analysed the results of 64 male depressed patients. Four factors had been identified from the rating scale: Factor I was identified as retarded depression, comprising depressed mood,

guilt, retardation, loss of insight, suicide and loss of interest; Factor II with agitated depression; Factor IV with "psychopathic depression"; while Factor III was mainly related to outcome after treatment. Dividing the 64 patients into four groups, namely endogenous, query endogenous, reactive and query reactive, on aetiological grounds only, they demonstrated that "the first factor that appeared to be a measure of retarded depression, was also a measure of endogenous depression" and that the endogenous group had a higher total score on the rating scale than the reactive groups, thus being more severely ill. Calculating the distribution of scores of the 64 patients on Factor I, they found two "humps", suggesting that the endogenous depressives were different qualitatively from the reactive depressives. The bi-modal distribution was not clear-cut, however, suggesting that "the difference, if any, is not great". Eysenck (1970) has some criticisms to make of the statistical technique used. He writes: "Having determined the existence of two independent factors as giving rise to the observed intercorrelations of the symptoms, investigators cannot then turn round and construct a single continuum running from one factor to the other. This is strictly meaningless, and so is the nature of the distribution of scores on this continuum, at least as far as a check on the unitary v. binary nature of the surface is concerned.

The Newcastle group of Roth and his colleagues have produced several influential papers showing a differentiation between endogenous and neurotic or reactive depression. Kay (1959)

studied a large case material of depressions in late life and found a valid distinction between endogenous and neurotic depression. One group of cases, the endogenous, were characterised by retardation, severe agitation, ideas of guilt and nihilistic and hypochondriacal delusions, by stable personalities, good physical health and little stress at onset. The second group, neurotic depressives, had unstable pre-morbid personality, often had physical illness or social difficulties as precipitating factors and did not respond to physical type of treatment. Roth (1959) pointed out that when one uses the traditional division into endogenous and neurotic depression one finds that it correlates highly with the choice of E.C.T. or psychotherapy.

In the course of a double blind controlled clinical trial of the effects of imipramine on patients suffering from depressive conditions, Ball and Kiloh (1959) and Kiloh and Ball (1961) found that patients diagnosed as endogenous depressives responded significantly better to the drug than neurotic depressives. Kiloh and Garside (1962) carried out a discriminant function analysis on the data from 97 patients, all treated with imipramine, which showed two clusters of symptoms, the one correlated positively and the other negatively, with good outcome to treatment. The first cluster corresponded to symptoms usually accepted as endogenous and the second to symptoms usually accepted as neurotic.

This finding led to Kiloh and Garside's classic paper of 1963: "The independence of neurotic depression and endogenous depression". Adding a further 46 cases to the original 97,

they had 143 patients, these being "mostly patients that one felt could be diagnosed as suffering either from endogenous or neurotic depression". Selecting 35 items for study, a score of 1 or 0 was assigned to each clinical feature according to whether it was present or absent or in some cases whether moderate/severe or slight/absent. Product-moment correlations were calculated between each of the 35 clinical features and a simple summation factor analysis was carried out. Two factors were extracted: one general factor and a second bi-polar factor. The first factor loadings indicated "the extent to which each feature is related to all the features as a whole, that is to depressive illness as defined by the sum of the 35 features". The second factor loadings indicated that two separate depressive conditions existed, thus differentiating between neurotic and endogenous depression. This second factor was found to be more important than the first in producing the original correlations between the 35 features. 14 clinical features were found to correlate significantly ($P < .05$) with the diagnosis of neurotic depression: Reactivity of depression, precipitation, self-pity, variability of illness, hysterical features, immaturity, inadequacy, initial insomnia, reactive depression, depression worse in evening, sudden onset, irritability, hypochondriasis, obsessionality. 10 features correlated significantly with endogenous depression: early awakening, depression worse in morning, quality of depression, retardation, duration one year or less, age 40 or above, depth of depression, failure of concentration, weight loss 7 lbs. or

more, previous attacks.

This study seems to provide reasonably conclusive evidence of the validity of the distinction between endogenous and neurotic depression, although some obvious criticisms come to mind. These include the selection of patients, about which Kiloh et al. say very little, and observer bias in the original ratings. Also, seen in the differentiating features is the usual mixture of symptoms and traits. No discrimination is made between the essential features of a condition (ones without which one would not call it that condition) and ones which are merely correlated, frequently associated with that condition. Foulds (1965) has stressed the importance of distinguishing between symptoms and personality traits in the study of mental illness. Briefly, symptoms are distressing, not general, whereas personality traits are general, --- syntonic and enduring. These concepts are elucidated further in chapter 6 (p 97).

Several other studies followed both in this country and in America, supporting or disproving Kiloh's stand-point. The only novelties have been: sometimes the use of different statistical techniques (e.g. the principal component method of factor analysis instead of the simple summation method), sometimes the choice of different items for analysis, and sometimes the selection of different populations.

As a complete review of these studies is not entirely relevant to this thesis, it is intended to look only at some of the contradictory findings that such studies have fostered.

Three of the features identified by Kay, Garside et al. (1969), as part of the neurotic syndrome, are in direct contradiction to most other researchers' findings - early wakening, morning accentuation, and weight loss. Traditionally these features have been considered to be characteristic of psychotic depression. In factor analytic studies, Kiloh and Garside (1962) and Carney, Roth and Garside (1965), found high loadings for these three items on the endogenous factor. Rosenthal and Gudeman (1967) found morning insomnia to correlate highly with their endogenous pattern. However, some studies have shown that early waking does not discriminate between psychotic and neurotic depression. Foulds (1960) found early waking to be characteristic of psychotic depressives over 60 years but not of psychotic depressives under 60 years. Costello and Selby (1965) studied the sleep patterns of 28 reactive and 13 endogenous depressions by means of nurses' observations and patients' reports and found no significant differences. They suggest that studies such as that of Kiloh and Garside (1963), which report positive findings based on case material, would appear to reflect "the clinician's knowledge of clinical tradition and his need to arrive at a diagnosis rather than any real difference between reactive and endogenous depressions". Hinton (1963), using motility records, also reported no difference between the sleep patterns of his reactive and endogenous depressive groups. Oswald, Berger et al. (1963), using objective recordings of

E.E.G., eye movements and body movements, found that their endogenous depressives spent significantly more time awake at night than their control subjects, but that "wakefulness recurred frequently during the night rather than sound sleep followed by early final wakening. McGhie (1962) found early waking to be related to age in normals.

Another inconsistent finding has been the presence or absence of precipitating causes. Hamilton and White (1959, Kiloh and Garside (1963) and Rosenthal and Klerman (1966), found that the presence of a precipitant correlated negatively with their endogenous factors. Forrest et al. (1964), are in direct disagreement with this finding: studying the relationship between the occurrence of environmental stress and endogenous and neurotic depression in a group of 158 patients, they found that "neither a history of previous depression nor a pre-admission experience of adverse social factors discriminated between the groups". One is reminded here of Lewis's finding (1934), that the more one looked at individual cases, the more likely one was to find precipitating factors. The subjective element involved in assessing the presence of precipitating factors probably raises doubts about the validity of such a discriminator.

Other studies using multivariate analytical methods obtained completely different findings from the essentially dichotomous findings of the studies mentioned above .

McConaghy, Joffe and Murphy (1967) replicated the study of Kiloh and Garside (1963). They used the same 35 clinical

features as Kiloh and Garside, except for three items - married at any time, hysterical features, immaturity and inadequacy - which they dropped because of lack of data, and, in addition, included another eight items. They collected information on 100 out-patients and subjected the results to a principal component factor analysis. Neither of the factors obtained differentiated the clinical features considered to characterise neurotic and endogenous depression. They then carried out a factor analysis of the eight features which Kiloh and Garside found to be most likely to differentiate between the two types of depression:

1. Age 40 and over.
2. Depression worse in early morning.
3. Weight loss.
4. Early awakening.
5. Depression responsive to environmental changes.
6. Precipitating factors clearly related to onset and apparently important causally.
7. Self-pity present.
8. Initial insomnia.

Again neither of the first two factors that emerged showed differentiation.

The authors demonstrated that the presence of clinical features of one form of depression in a patient did not exclude the presence of clinical features of the other form: of the 100 patients, none showed all four features characterising endogenous

depression without showing at least one of the features characterising neurotic depression.

They attributed the difference between their results and that of Kiloh and Garside to two possible sources: interview bias and patient selection.

R. E. Kendell (1968), in "The Classification of Depressive Illnesses", did a detailed retrospective study of 1080 patients diagnosed as neurotic, psychotic or involuntional depression on the Maudsley Item Sheet, which is a standard interview form usually filled by junior registrars. 60 items relevant to depression were selected from the item sheet. The patients were divided into two groups: Group A consisting of 391 psychotics, 250 neurotics and 58 involuntionals, and Group B which was used for cross-validation and consisted of 242 psychotics, 132 neurotics, 10 involuntionals.

He then used a series of multivariate analytic techniques to find out whether psychotic and neurotic depressions can be differentiated. First, using a discriminant function analysis, he found a significant difference between mean scores of psychotic and neurotic depressives, and between the mean scores of involuntional depressives and neurotic depressives, but not between the involuntionals and psychotic depressives. The items with the largest psychotic loadings were: family history, retardation, agitation, insomnia, delusions, previous history. The items with the largest neurotic loadings were: psychogenic precipitation

and neurotic traits in childhood. Diagnostic index scores were calculated for each patient and, when these were plotted, a uni-modal distribution was obtained, indicating no clear-cut differentiation between the groups.

A canonical variate analysis was carried out and again the distribution of weights on the first canonical variate was uni-modal. Kendall comments that on both the discriminant function analysis and the canonical variate analysis, the uni-modal distribution obtained could be due to faulty allocation of patients as well as to the absence of differences between the groups.

Factor analysis is a better technique for identifying the underlying factors accounting for the variance of a correlation matrix. Kendall used 42 items, dropping those of the 60 original items which occurred too infrequently or too frequently (< 10% or > 90%) and then computed a principal component analysis. At the first order analysis, 12 factors emerged, giving no worthwhile differentiation between the groups. At the second order analysis, four factors were obtained representing recognisable diagnostic entities:

1. Neurotic depression.
2. Psychotic depression.
3. Suicidal feelings.
4. Previous instability.

The distribution of scores on the first two factors was uni-modal.

At the third order analysis, only two factors emerged:

1. A neurotic factor, combining factors 1 and 4 of the previous analysis.
2. A psychotic factor.

There was a significant difference between the mean scores of the psychotic and neurotic groups on both factors. However, although there was a tendency for items to form two clusters, the distribution of scores of patients on both factors was uni-modal.

At the fourth order factor analysis, a single bi-polar factor was obtained, very similar to Kiloh and Garside's bi-polar factor. Items with positive loadings, making the psychotic pole were: retardation, abnormal rate and quantity of speech, short duration before admission, perplexity, delusions of guilt and persecution, ideas of reference.

Items with negative loadings identified with the neurotic pole were: previous subjective tension, hysterical symptoms, childhood neurotic traits, previous anxiety, obsessional symptoms, mood variations, precipitating psychological causes: marital and social. But again the distribution of scores was uni-modal.

Finally, Kendell applied the criterion analysis technique developed by Eysenck (1950). His conclusions were that high correlations gave evidence that the constitutional basis of psychotic depression is also present in weaker form in neurotic depressives and conversely that the constitutional basis of neurotic depression is also present in some degree in psychotic depressives.

Studying 114 re-admission patients, and again calculating their diagnostic score, Kendell found that a change from a positive to a negative score, or vice versa, i.e. across the zero line occurred frequently, suggesting quantitative rather than qualitative differences.

Outcome of treatment showed that the psychotic and involuntional depressives have a more favourable outcome than neurotic depressives. There were no sex differences, but outcome is better with increasing age.

More of the psychotic and involuntional depressives were treated with E.C.T. These patients whose diagnostic index scores were higher were more likely to be treated with E.C.T., and had a better outcome to E.C.T. - these two latter dependent variables varying linearly with the index score. Kendell concluded: "If important variables vary linearly with the index score, then it is important to know the index score, and a psychotic-neurotic diagnostic dichotomy is a poor substitute."

Carney, Roth and Garside (1965) had come to the same conclusions.

Kendell ended his monograph with a clinical study of 100 patients, using ratings of the same 42 items and, in addition, having the raters make a decision as to whether the illness was psychotic or neurotic after completion of the ratings. He obtained essentially the same results as in his retrospective study. He also introduced an ingenious method of studying

rater's bias effect. After the ratings had been completed, each registrar was asked to state which of five alternative attitudes to the classification of depressive illness most clearly represented his personal views. The attitudes ranged from the most decidedly bi-polar view to the most decidedly uni-polar view. Deviation scores for each registrar were calculated from 0, the mid point of the scale. The outstanding result was that those registrars who were convinced of the necessity of distinguishing between psychotic and neurotic depressions rated their patients on average 2 or 3 points further from zero than Kendell. Those who had a strong bias against the distinction rated their patients, on average, one or two points closer to zero.

This result illustrates the dangers of "halo effect" in rating, and casts doubts on findings such as those of Kiloh and Garside where a diagnosis of psychotic and neurotic depression was made before rating. Kendell concludes that the way his own data were collated, namely from the item sheets filled routinely by uncommitted registrars, for no immediate research purpose, probably prevented the "halo effect" operating to any significant degree. The opposite criticism - that the unreliability and inaccuracy of the data of the item sheets produced Kendell's uni-modal distributions of factor scores and diagnostic index scores - can be raised. Kendell, however, argues that this criticism cannot apply to his clinical study when he himself rated a 100

consecutive patients under conditions very similar to the Newcastle studies.

In conclusion, he finds "no real evidence, either from this present study or elsewhere, for the existence of two distinct types of depressive illness". However, he does not agree with Mapother and Lewis that the differences between different depressions are simply ones of severity and chronicity. Physiological differences between groups of psychotic and neurotic depressions have been shown, also differences in response to therapeutic agents, differences of sex and age distribution, choice of treatment and outcome. Finally, the emergence of factors clearly identifiable with the neurotic and psychotic stereotypes in several studies, even in Kendell's studies which came from the stronghold of "unitary" thinking, indicates that important differences exist between the depressions. Kendell thinks that this does not imply that there are two different disease entities, but rather that "depressive illnesses are best regarded as a single continuum extending between traditional neurotic and psychotic stereotypes". He continues that a patient's position on that continuum, given either by the diagnostic index score or an analogous variable like the Newcastle diagnostic score, provides more information about symptomatology, treatment and prognosis than does assignment to a traditional diagnostic category. Moreover the concept of a continuum preserves the most important tenets of both the separatists and their opponents,

yet avoids the weaknesses of their respective standpoints. It preserves the traditional stereotypes as the two poles of the continuum and acknowledges that the differences between them are genuine and not simply questions of severity and chronicity. On the other hand it recognises the impracticability of drawing any clear-cut boundary between them. Admittedly it fails to do justice to the wealth of clinical variation which depressive illnesses exhibit but it does less violence to the facts than any simple alternative .

Kendell's work has been reviewed at some length because it has been highly praised by most reviewers and because it seems to epitomise the bulk of recent research in the affective disorders. His statistics have, however, been criticised by Hope (1969) and Eysenck (1970). The latter suggests an attractive two-dimensional model: neurotic and psychotic depressions are two separate and independent continua, so that two scores are needed to describe a patient, instead of the one score suggested by Kendell. He states that it is quite possible for a psychotic patient to have some neurotic symptoms and for a neurotic patient to have psychotic symptoms. What is not clear is when a patient should be labelled "psychotic" and when "neurotic". G. A. Foulds's (1965) model is tighter logically: all psychotics have neurotic symptoms, but neurotics do not have psychotic symptoms.

At least such a model would apply to other disorders apart from depression. Foulds also makes explicit his necessary

condition for calling an illness psychotic: the presence of delusions and/or hallucinations. As pointed out, such explicitness has not always been apparent in most of the work in this field.

Mendels and Cochrane (1968) after reviewing the endogenous-reactive concept as it originated from Moebius and Kraepelin, its development to present-day factor analytic studies, point out the possible reasons for disagreement among studies: "the terms may mean different things to different raters, if different variables are given the same name, there is no reason why results should agree". They also say that the results may be distorted if the variables are differentially related to sex, for example, agitation and initial insomnia show clear positive loadings in studies using only women: (Hordern, 1965; Rosenthal, and Gudeman, 1967; Rosenthal, and Klerman, 1966) but not so in studies using men or both sexes: (Carney, Roth and Garside, 1965; Hamilton and White, 1959; Kiloh and Garside, 1963). Other factors distorting the results may be rater bias, as pointed out in previous sections, different factor analytic models, specially rotation of factors, different variables and different populations studies.

III An alternative view:

C. Perris and his colleagues have published a series of articles, most of which were published in 1966, in the form of a monograph entitled "A study of Bi-polar (Manic-Depressive) and

Unipolar (Recurrent Depressive) psychosis". In the Introduction, Perris states: "The present work has been planned and carried out as a contribution towards a more precise nosography of depressive illnesses". Many authors, probably starting with Kraepelin's work, seem to use 'manic-depressive' illness as synonymous with 'endogenous' or 'psychotic' depression, i.e. to cover patterns of illness with both manic and depressive phases as well as those with one or more depressive phases only. It is felt that this has led to much confusion.

Perris's starting point is Leonhard's (1959) classification: Leonhard classified the endogenous psychoses into bipolar (manic-depressive) and unipolar recurrent depressive psychoses. Polarity is thus the decisive factor in differential diagnosis: bipolar psychosis is characterised by the occurrence of both manic and depressive episodes, unipolar psychosis by the occurrence of depressive episodes only. Leonhard demonstrated differences in heredity, personality traits and symptom patterns between these two groups. Other authors have shown an interest in Leonhard's classification, especially on the continent: Astrup et al. (1959), Stenstedt (1959) and Lundquist (1965).

Perris and his colleagues set out to make a systematic study of homogenous groups of bipolar and unipolar depressives and succeed in presenting very convincing evidence of important differences between them. Operationally the recurrent depressives (unipolars) had had at least three episodes of depression with



free intervals in between. The minimum requirement for the diagnosis of psychotic depression was "globality of depressive pattern and impaired reality confrontation severe enough to warrant hospital admission. The manic-depressives (bipolar) had "suffered from both manic (or hypomanic) and depressive phases, irrespective of whether they were treated in hospital for both manic and depressive phases, or exclusively for one of them" "Short euphoria in direct connection with treatment has not been taken into account." Perris found that with the criterion of three discrete depressive episodes without mania, the chances of unipolars later becoming bi-polars were minimal. The differences found were in: genetic factors, childhood environment and precipitating factors, male celibacy rate, personality traits, flicker threshold, sedation threshold, response to therapy, treatment time, relapse rate, mortality rate (Perris, op.cit. Table 1 p.186).

Perris concludes from his evidence that the differences in test results between the bi-polar and the unipolar groups could perhaps be accounted for by personality differences. Testing personality after remission he found the bi-polars to be more cyclothymic and extraverted ("sub-stable" in the terminology he adopts from Sjobring (1958)) and the unipolars more introverted, "psychoasthenic" or "subvalid" (again in Sjobring's terminology). The finding that the bi-polars (extraverted group) have a lower flicker threshold during remission, relapse more often, respond more quickly to treatment, have a higher mortality rate than the

unipolars (introverted group) could be attributed to personality differences: "Without additional information, bi-polar and unipolar depressive psychoses could be regarded as expressions of the same illness with different colouring due to the pathoplastic influence of personality." However, he finds the evidence from genetic studies, that the "heredity is different between the two groups and, besides, specific within each group", a strong argument in favour of two separate disease entities. In a careful family study, Perris found that, among 138 bi-polar (manic-depressive) probands, there was bi-polar heredity in 16% of cases and unipolar heredity in 0.8% of cases; among 139 unipolar (recurrent depressive) probands there was unipolar heredity in 11% of cases but bi-polar heredity in only 0.5% of cases. Like Leonhard, he found that the morbidity risk in first degree relatives was greater for bi-polar than for unipolar patients. Angst (1966) also found a higher familial incidence in the bi-polar patients and like Perris, he showed that bi-polar illness was extremely rare in the families of unipolar patients.

Winokur, Clayton and Reich (1969) also found that the first degree relatives of manic patients, when compared with the relatives of patients in whom depression alone is found, have a higher incidence of affective illness, and manifest mania more frequently.

Perris's findings about differences in personality between bi-polar and unipolar depressives will be covered in more detail

in the next section. In view of his striking findings, it was felt that his method of classification was very promising and that more fundamental work should be done on homogenous groups of this type to clarify and extend differentiation, if any.

IV. Conclusion:

It can be seen from the above review that to divide a group of depressives into "psychotic" and "neurotic" categories involves a lot of error, and uncertainty. It may be that such a categorization is too sophisticated for our present state of knowledge, and yet in empirical research, some sort of public and practical classification system is required. A bi-polar - unipolar dichotomy, on the other hand, seems a more objective classification which should be explored further. The study reported in this thesis, follows this latter method of classification.

CHAPTER 4

PSYCHOLOGICAL STUDIES

In addition to the prolific nosological literature, there have been interesting studies looking at depression in the light of different disciplines or methods: for example, phenomenology: (Grinker et al. 1961, and particularly the existential literature: Ey, 1954, Binswanger, 1931, 1932), epidemiology (I. K. Rawsley, 1968), biochemistry (Gibbons, 1968, Coppen, 1967) and psychodynamics (Freud, 1917).

Here it is intended to review only such of the psychological and psychometric studies as are relevant to the study.

I. Psychodynamic and Psychoanalytic Studies:

Abraham, in 1911, was the first to apply systematic psychoanalytic thinking to the understanding of affective illness. Two later papers followed, in 1916 and in 1924, in which depression is considered to be a regression to the oral level of libido development, with the typical oral features of impatience and envy, increased egocentricity and ambivalence. Hate and hostility paralyse the depressed patient's capacity to love, leading to feelings of impoverishment. He likened the depressive stupor to a form of dying. In the 1924 paper, manic-depressive psychosis is compared with obsessional neurosis. Abraham considers the indecision of ambivalence close to the doubts of the compulsive neurotic. While the obsessional tries to retain and control

his object, the melancholic has regressed to an anal-sadistic stage when he tries to expel and destroy the object. He then feels ambivalent about the lost object and tries to introject it by oral incorporation. Abraham speaks about the oral sadistic tendencies revealed by the symptoms, dreams and fantasies of depressed and manic patients, e.g. cannibalistic fantasies, and suggests that beneath these hostile impulses "there lurks the desire for a pleasurable sucking activity".

Freud (1917), in "Mourning and Melancholia", compared melancholia to normal mourning. Both may occur as a reaction to the loss of a loved object, but in melancholia the loss which may take the form of separation, frustration or disappointment, remains unconscious. Thus, in normal mourning, confrontation with reality leads to gradual rechannelisation of the libido towards other new objects.

In melancholia, the whole struggle of ambivalence is internalised: The intense self-accusations are expressions of hate towards the ambivalent internalised object. Freud explained this as the narcissistic identification of the ego with the object through introjection, a regression to the oral stage of libidinal development.

In 1922 Freud added some comments about mania to his original statements about depression. He suggested that mood swings, in general, are caused by the tensions between ego and ego ideal: "The manic phase represents a triumphant reunion between ego and

ego ideal; in the sense of expansive self-inflation, but not in the sense of a stabilised equilibrium."

Lewin (1950), in "The Psycho-Analysis of Elation", is one of the few psycho-analysts to have turned his attention to mania. He thinks of the manic state as a re-living of the nursing experience, and of the oral triad - wishes to eat, to be eaten and to sleep - as a point of fixation. Sleep can be likened to death and the wish-fear of being eaten (engulfed by the breast), which can be avoided by a super vigil. This super vigil consists of mania or hypomania.

Fenichel (1945) takes up Abraham's point about hostility in depression. He feels that depressive patients react to frustration with ever-ready hostility which they deny. The self-blame of the melancholic is a letting loose on the ego of the hostility unconsciously felt for the object.

Rado (1927) took the theory of identification a step further than Abraham and Freud. The latter had implied the incorporation of the lost or frustrating object in both the ego and ego-ideal or superego. Rado postulates the splitting of the object into a "good", i.e. gratifying object, and a "bad", i.e. frustrating object. The "good" object is incorporated into the superego, punishing the "bad" object in the "ego", the ultimate goals being expiation, reconciliation and synthesis.

Deutsch (1933) agrees with Rado that depression can be the rebellion of the ego against a cruel superego. The unconscious

wish is to bribe the superego and thus gain forgiveness.

Gero (1936), in the detailed presentation of two case histories, disagreed with Abraham about the universality of the obsessional character in depressives, and found no evidence of Rado's theory of intra-psychic propitiation. However, he agrees with both writers that "oral eroticism is the favourite fixation point in the depressive".

More recently, Bibring (1952) and Jacobson (1953, 1954) both speak of depression as a loss of self-esteem. Bibring found the common denominator in all types of depressive illness to be the lowering of self-esteem and the loss of self-love. Early childhood traumatic experiences as well as frustration of other aspirations may predispose individuals to depressive illness. Jacobson considered self-esteem as "the degree of discrepancy or harmony between the self-representations and the wished-for concept of the self". She thought of denial as the typical defence mechanism of manic-depressives. At an extreme level, denial can lead to a loss of touch with reality and to mania.

Katan (1953) views mania as a restitutive attempt aimed at getting as much pleasure as possible and avoiding conflict. The manic patient engages in continuous activity to keep the depriving environment out of his awareness. "Mania is not a process of discharge of destructive aggression, but an attempt to control this destructive drive."

D. A. Schwartz (1961) proposes "a unitary formulation of the manic-depressive reactions". Like Jacobson, he views denial

as the defence mechanism against aggressive impulses in both mania and depression: "The manic denies the impulse by denying a motive for it. The melancholic denies it by denying the capacity to carry it into action."

Schwartz's hypothesis is that manic-depressive reactions occur in people who at their late oral stage of development introjected the attitudes of people perceived as excessively depriving and towards whom unacceptable aggressive and retaliatory impulses were felt. Schwartz concludes that therapy in these illnesses would benefit if this same deprivation was regarded as the core of both reactions. Gibson, Cohen and Cohen (1959) also speak of denial as a common defence mechanism.

This brief overview of psychoanalytic thinking may give an idea of some of the main contributions to the field of affective illness. The main themes seem to be: problems of identification, regression to an earlier stage of libidial development (usually oral), defence mechanisms (usually denial) against aggression and intrapsychic struggles between the ego and super-ego. Many of these conjectures are teleological, unproven and unprovable, but may give insight into some aspects of the illness, and suggest hypothetical constructs for further testing. The importance of aggression is one such construct which will be taken up in this study.

II. Early Parent-Child Relationships:

Since the mainstream of psychoanalytic thought on the affective illnesses views the parent-child relationship as crucial, the

works of child psychoanalysts and related psychodynamic exposés are here treated separately.

Melanie Klein (1934) pushed back psycho-analytic speculations to the infant's first year of life. She believed that the infant was not merely narcissistically orientated but was object-orientated right from the start of extra-uterine life. Thus the mother-child relation in the first year of life is all important. This first year of life contains the fixation points to which the individual will regress later under stress and strain. These fixation points Klein calls the "paranoid" and the "depressive position". The paranoid position develops first, as defence against pain, in the form of projection, then comes the depressive position at about the time of weaning, around the first half-year of life. The child can only see the mother as all "good", i.e. gratifying, or all "bad", i.e. depriving. The internalised "good" object makes the child feel good himself, but the internalised "bad" object makes the child feel bad himself and hateful. In this inner conflict characteristic of the depressive position, Klein sees the first guilt feelings arise. The need of the mother for survival and the guilty anxiety prompt the child into repair actions, the magic of self-punishment, such as crying spells and rage directed against the child's own body. When repair succeeds and the guilty anxieties are surmounted this leads to a more integrated ego and more realistic object relations. But an excess of the depressive anxieties without successful experiences of repair leads to a fixation to

the depressive position. The adult regresses to this position whenever excessive stress overtakes the integration of his ego. The manic reaction is an attempt at integration and repair by the denial of the frustrating, depriving aspect of objects.

Klein's theories are partially deviant from classical psychoanalytic theory and probably sound fantastic to psychiatrists unwilling to speculate on the thoughts and fantasies of the pre-verbal child.

Spitz, R. A. (1946) in his well known paper "Anaclitic Depression" describes a "striking syndrome" which affected 19 out of 123 unselected infants in a nursery: "In the second half of the first year, a few of these infants developed a weepy behaviour that was in marked contrast to their previously happy and outgoing behaviour. After a time this weepiness gave way to withdrawal. The children in question would lie in their cots with averted faces, refusing to take part in the life of their surroundings". In addition to weepiness and withdrawal, these infants showed retardation of development, slow reactions, retardation of movement, sometimes stupor, a fall in their developmental quotient, loss of appetite, loss of weight, insomnia. Spitz comments that the physiognomic expression "would in an adult be described as depression". Aetiologically, race, sex, age, developmental and intellectual level were not important, the one significant aetiological factor being that "the mother was removed from the child somewhere between the sixth and eighth month for a practically unbroken period of three months, during which the child

either did not see its mother at all, or at best once a week". The better the relationship between mother and child was before separation, the worse the depression would be.

The precipitating factor, therefore, seems to be the loss of the love object, as described by Abraham and Freud. Spitz also thinks that he has provided clinical evidence for Fenichel's (1945) assertion that: "Actually traumatic experiences in the nursing period can be found more often in subsequent manic-depressive patients than in schizophrenics." However, he states that he is describing something quite different from Melanie Klein's "depressive position" as an inescapable stage in infantile development, irrespective of individual circumstances. Spitz's "anaclitic depression" has sufficient and necessary causes which are not the common experiences of all infants.

Bowlby (1952, 1953), following up Spitz's lead, put forward the influential thesis of maternal deprivation: "What is believed to be essential for mental health is that the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother substitute) in which both find satisfaction and enjoyment." Bowlby regards complete separation from the mother as the worst type of deprivation, and institutional care as the most common example of it. He considers the effects of complete deprivation to be severe and long-lasting "leading to anxiety, excessive need for love, powerful feelings of revenge and, arising from these last, guilt and depression". The extreme example is the "affectionless"

character who cannot accept or reciprocate love and who very often develops anti-social behaviour. Bowlby cites many authors as supporting his views, especially Goldfarb (1947, 1949), and Spitz (op.cit.). Bowlby's special point, however, is the irreversibility and long-lasting effect of infantile deprivation. Neither Spitz nor Goldfarb seem to go so far.

Many authors have, put forward evidence contradictory to Bowlby's e.g. Orlansky (1949) who found that events of childhood or later life could counteract and change "the character structure tentatively formed during infancy". The work from the Iowa Child Development Centre (Skeels, Updegralf et al., 1938) and a great deal of work published since, (e.g. Clarke and Clarke, 1953), have shown that backwardness associated with deprivation need not be permanent and irreversible.

Bowlby's work has been widely criticised, chiefly by O'Connor (1956) and Woolton (1959), but it has stimulated a lot of research in the effect of early environment in mental illness.

Recently Granville-Crossman (1968) has reviewed the relevant literature for the affective illnesses. The difficulty in comparing studies is that "parental deprivation" has been used rather loosely to mean childhood bereavement as well as separation from parents for some other reason, and defective relationship with parents. The term has also usually been taken to mean maternal deprivation, even though some authors have stressed the importance of paternal deprivation. Batchelor and Napier (1953)

suggest that loss of father may be of some importance in attempted suicide. Brown (1961) reports an excess of paternal deaths in childhood in a group of depressive patients and Andry (1962) suggests that rejection by father may be of aetiological importance in delinquency. Munro (1965) also reports that depressives as a whole are more likely to have lost a father by death during the age period 11 to 15 years.

Without going into detailed appraisal of the parental deprivation thesis in relation to affective illness (for extended discussion see Granville-Crossman (1968) and Munro (1965), a few of the main studies and their results will be mentioned here.

Brown (1961) comparing depressives with general practice patients and with control figures from the 1921 census, found a significantly higher incidence of childhood bereavement in depressive patients. Forrest, Fraser and Priest (1965), using medical ward patients as controls, found significantly more childhood bereavement among their manic-depressives (bipolar depressions) than in their patients with depressive reaction. Perris (1966) on the other hand did not find childhood bereavement a discriminating factor between his bipolar and unipolar recurrent depressives. Stenstedt (1952) finds that dissolution of the home or serious parental friction may increase the risk that sibs. of manic-depressives will themselves develop the illness.

Beck et al. (1963), rating their depressed patients as "high-depressed" and "low-depressed" on a depression inventory, found

that prevalence of orphanhood before 16 years correlates significantly with severity of depression. Dennehy (1966), using the 1921 census figures as control, found a significantly higher incidence of childhood bereavement in depressives. On the other hand Oltman et al. (1951) found little difference in the degree of parental deprivation between manic-depressives and normals. Munro (1965), studying a selected group of 153 cases of primary depression and 163 medical out-patients as controls, found that depressives as a whole are no more likely to have lost a parent by death before their 16th birthday. However, he found that severe depressives report a highly significant excess of disturbed relationships with both mother and father during childhood.

Gregory (1959) found no significant difference in childhood orphanhood between depressives and the expected figures for the general population. He also (Gregory, 1962) found no difference in early bereavement among the diagnostic categories, one of which was affective psychosis. Pitts, Meyer, Brooks and Winokur (1965) found no significant difference in the incidence of childhood bereavement between a group of manic-depressives and general hospital controls.

These studies have, as seen, failed to show a consistent association between early bereavement and subsequent development of affective disorder.

Mabel Blake, Cohen et al. (1954) published an interesting psychodynamic study of the family background of manic-depressives,

based on intensive psychoanalytic psychotherapy of 12 patients. They state: "our purpose is to delineate as far as possible the experiences with significant people which made it necessary for the prospective manic-depressive to develop the particular patterns of interaction which comprise his character and his illness". They found a typical parent-child relationship and typical family-community relationship which influenced the character structure of the child and the way he interacted with other people in later life. In brief, the stereotype is that of a family set apart in its milieu because of economic, religious, racial or some other social factor. In its ensuing struggle to gain acceptability the family attempts to conform and to enhance its social prestige by economic status. In this struggle, the children play an important role: they are expected to conform to a high standard of "good" behaviour. Thus the parents, especially the mother, inculcate in the child a concept of "good" behaviour which is strict and conventional and derived from outside, namely what the neighbours think is good. The part which the child plays in improving the family's social status, together with this externally derived sense of values, tends to devalue the child in his own right. The child who is later to develop manic-depressive psychosis is very often selected as the special standard-bearer of the family, because of various reasons, such as high abilities and rank in family.

In most cases, mother is the strong dominant character, whereas father is weak but lovable. Mother is seen as cold and

unlovable, but to be pleased and placated by good behaviour. After good relationship with the child in the first year, the mother becomes more independent in her effort to inculcate good behaviour in him. The authors say: "These early experiences probably lay the groundwork for the manic-depressive's later ambivalence". Because of his special position in the family, the manic-depressive guards his position jealously and is envied by the other siblings and one or both parents. As he grows up he guards himself against others by underselling himself or by being extremely helpful to others. As an adult, during the periods free from illness, he seems well-adjusted and friendly. But his friendships are superficial as he cannot communicate properly, but merely indulges in a stereotyped social performance without taking others' characteristics into account. Though his chief desire is to be left alone he develops one or two very dependent relationships with demands for love and attention without any sense of reciprocity. Hence a psychotic attack is often precipitated by loss, or less obviously by a promotion or a situation viewed as loss, where the patient loses well established dependency relationships.

Cohen et al. go on to give examples of how these people can be helped in psychotherapy. Most of their insight comes from transference and counter-transference situations according to psychoanalytic tradition.

Gibson, Cohen and Cohen (1959) followed up the concepts put

forward by Cohen and her group. They devised a special questionnaire based on previous findings, satisfied themselves of its reliability by inter-rater and test-retest method and studied a group of 17 schizophrenics, 27 manic-depressives, and Cohen's original group of 12 manic-depressives. They found no major differences between the two manic-depressive groups, but highly significant differences between the manic-depressive and schizophrenic patients: e.g., the manic-depressive's family had made a bigger effort to rise in social status and the patient was dealt with as an instrument for achieving social prestige. Incidence of envy and competitiveness had been particularly high. The patient had been the principal object of this envy and had engaged in self-defeating behaviour.

Such studies are most promising in their therapeutic and psychodynamic implications, and should stimulate more family studies in affective illness, perhaps along the line of studies in the families of schizophrenics (e.g. Bateson et.al., 1956 and Wynne et al., 1963).

Many of the family patterns depicted here as significant tend to be typical of middle-class and upper middle-class families. More research is needed to clarify the importance of early upbringing in the development of affective illness.

III. Intellectual and Cognitive Studies:

Most reported studies have found no differences in intellectual performance between depressives and normals. Granick

(1963) compared 50 psychotic depressives and 50 normals, matched for age, sex, race, education and religion, on the Wechsler Adult Intelligence Scale sub-tests of Information and Similarities and on the Thorndike-Gallup Vocabulary Test. He failed to find any significant difference in performance between the two groups.

Friedman (1964) compared 55 depressives and 65 normals, matched for age, sex, education, vocabulary score and race, on a battery of 33 cognitive, perceptual and psychomotor tests. The depressives obtained lower scores on only 4 per cent of the 82 test scores derived, a finding that could be due to chance. Friedman concluded that actual ability and performance during severe depression is not consistent with the depressed patient's unrealistically low image of himself.

Rapaport (1945), in a comparison of a depressed group and a schizophrenic group, reported a significant lowering of digit-symbol scores within the depressed group. He concluded that performance on this test was sensitive to retardation as seen clinically in depression. However, Jastak (1949) re-analysed Rapaport's data and noted that the schizophrenic group had a mean age of 31 years, and the depressed group a mean age of 49 years. When age was held constant, the depressed patients failed to show the consistently lower test scores. Fisher (1949) reported that depressed patients who were rated as improved following electric shock therapy obtained significantly higher mean digit-symbol scores than a group of unimproved depressives.

Shapiro et al., (1958) found that depressed patients, after recovery, did not show any improvement in their performance on a battery of psycho-motor tests when compared to a control group. Beck et al. (1962) controlled for age and intelligence in a group of 178 psychiatric patients and found no relationship between digit-symbol scores and depression.

On the other hand, Payne & Hewlitt (1960), comparing groups of normals, dysthymic neurotics, hysterics, endogenous depressives and schizophrenics, matched for pre-morbid intelligence, age and education, found that the depressives were consistently slower than the normal and neurotic groups both on intellectual speed tests (as tested by the Nufferno Speed Tests, Furneaux 1956) and on motor speed tests (as tested by Babcock-Levy (1940) test). Foulds (1952) found that on a maze-drawing task, a certain type of distraction (repeating numbers) temporarily obscured or broke up the pattern of affective disturbance in dysthymics and resulted in an increased speed, whereas no such speeding up occurred in the case of non-dysthymics. He also found an increase in speed in dysthymics after electroconvulsive therapy. The effect on maze performance of distraction and E.C.T. was therefore similar. Foulds concludes that distraction may achieve the effect of speeding up performance "by drawing the attention away from the affective disturbance, whilst E.C.T. in some way reduces the intensity of the unpleasant affect and thus enables the activity with which it is competing to dominate consciousness more

frequently than had been possible." This finding is inconsistent with the study of Shapiro et al. (1958) mentioned above. Babcock (1941) had reported that manic-depressives were generally as impaired as other functional psychotics. They were poorer at motor than at mental speed tests (Nelson(1953) confirmed this finding; and also Babcock's finding that manic-depressives showed relatively slow learning, but good fixation of what is learned.

In conclusion, the results of objective measurement of retardation in depression have not always been consistent, probably because of the heterogenous nature of the groups studied. It is quite possible that some depressives are retarded, while others are not. Because of the difficulty of differentiating psychotic from neurotic depressives, it has not been possible to confirm on objective measures the clinical opinion that psychotic depressives are retarded and neurotics not.

IV. Conceptual Performance:

Very little work has been done on the conceptual performance of depressives or manics. Payne and Hirst (1957) investigated conceptual thinking in 11 depressed patients and 14 normal controls, matched for age, sex and vocabulary level. In a previous study, Epstein (1953) had found that schizophrenic patients showed a tendency toward "overinclusion" as tested by the Epstein over-inclusion test. This finding was in agreement with Norman Cameron's formulation that schizophrenics are unable to preserve

their conceptual boundaries so that irrelevant ideas become incorporated into their concepts, making their thinking less lucid. Payne and Hirst found that their depressives showed an even higher level of overinclusion than the schizophrenics, indicating that this type of thought disorder is not typical of schizophrenia. They concluded that overinclusive thinking may be related to psychosis in general, rather than to any specific psychosis.

This finding was not supported by Payne and Hewlett (1960) using different measures of overinclusive thinking, namely Benjamin Proverbs Test, Goldstein object-sorting tests, Payne's object classification tests, and the Shaw test. On all four measures their group of 20 endogenous depressives scored as normal, whereas the 20 schizophrenics scored as overinclusive. Again, however, the Epstein test did not differentiate between the groups.

Regarding mania, McGhie (1967) commented that hypomanic patients were not distinguished from schizophrenic patients on certain tests of overinclusion. Apart from this, there has been only one study of the performance of manic patients on tests of conceptual thinking. Mellsop et al. (1971) compared the performance of 12 manics, 24 schizophrenics with thought process disorder and 12 normals on the Bannister-Fransella (1966) Grid Test of thought disorder. They found that the intensity score differentiated the manics and the controls from the schizophrenics, but not the consistency score. Thus, according to this study,

the manics do not seem to show thought process disorder, in the sense of looseness of constructs.

Beck (1967) made a study of cognitive distortions in depression, using an interview method. He found that depression was characterised by themes of low self-esteem, self-blame, overwhelming responsibilities and desires to escape and that hypomania was characterised by themes of self-enhancement. These themes were characteristically different from typical themes of other nosological groups, such as anxiety or paranoid state. Phenomenologically, the formal characteristics of the depressive cognitions were described as follows: 1) they were automatic, i.e. they seemed to occur without previous reflection or reasoning, 2) they were involuntary, i.e. they occurred even when the patients had resolved to avoid them and 3) they were plausible, i.e. the patient tended to accept their validity.

Beck goes on to propose a cognitive approach to affective illness: it is the depressive cognitions that bring on the depressive affect.

Further studies to test this hypothesis should be developed.

V. Perception:

Dixon and Lear (1962) measured the visual threshold for one eye while presenting neutral and emotive material below the awareness threshold to the other eye. Their five depressive patients showed a consistent raising of threshold (perceptual defence) as compared to the six schizophrenics who showed a

lowering of threshold (perceptual vigilance). Their results are, however, based on very small samples.

Mezey and Cohen (1961) studied the perception of time in 21 depressed patients. They found that three-quarters of the patients estimated that time was passing more slowly than normal. This feeling tended to disappear with recovery. However, when objective tests were administered, the estimation of time under experimental conditions was as accurate during the depressed phase as during the recovery phase.

Investigating spatial judgement, Rosenblatt (1956) found that, contrary to manic patients, depressed patients have a tendency to focus on the downward rather than the upward aspect of a spatial situation. Fisher (1964) tested the specific hypothesis that the degree of downward bias in perception is related to the degree of depression. His results supported the proposition that subjects with a sad affect showed a downward bias in perception, whereas subjects with a neutral affect showed an upward bias.

That perception is influenced by affect and emotion is a well established finding in psychology, but this aspect has not been studied in any great detail in depression or mania.

VI. Personality Studies:

Several references have been made in the previous sections to the personality of depressives. Psychotic depressives have often been said to have "good" or "adequate" pre-morbid personality,

though it is never very clear what it is "good" or "adequate" for. Presumably it is good and adequate for the job of living in general, or it may be good and adequate because it conforms to the clinician's values. In contrast neurotic depressives have been said to have in turn, hysterical, obsessional or inadequate personalities.

Kraepelin devotes a special chapter of his text-book to what he calls "fundamental states". These he describes as disorders "which on the one hand frequently accompany the 'free' intervals between the attacks, on the other hand characterise the manic-depressive temperament in such cases also in which the full development of the malady is absent. He differentiates the depressive temperament (present in 12.1% of his manic-depressive cases), the manic temperament (present in 9%), the irritable temperament (present in 12.4%) and the cyclothymic temperament (present in 4%). Though the last type, cyclothymic temperament, seems to be the least represented in Kraepelin's sample, he states that it is "without doubt in reality much more frequent."

Many other authors have supported the opinion that cyclothymic or cycloid personality is predominant in manic-depressives, e.g. Kretschmer (1936), Mayer-Gross et al. (1954), Henderson and Gillespie (1956). Astrup et al. (1959) also found a preponderance of cycloid personalities among their manic-depressives, whereas their reactive psychoses had a preponderance of "sensitive" personalities. Leonard et al. (1962) found a cyclothymic temperament

in his manic-depressives (bipolar) and a sub-depressive temperament in his recurrent depressives (unipolar). Winokur, Clayton and Reich (1969) found that 80% of their manic-depressives to have "cyclothymic or hypomanic pre-morbid personality, whereas only 29% of recurrent depressives were considered cyclothymic or hypomanic." Rowe and Daggett (1954), in a retrospective study, found their manic-depressives to be "sociable, intelligent and active" and their recurrent depressives to be "shy and conscientious".

Kraines (1957) found manic-depressive illness "extremely common in persons who present a pre-morbid picture of good adjustment, extravert characteristics, and high basic levels of energy". Those who present as shy, retiring introverts very often conceal basic extraverted patterns.

The psychoanalysts, as seen above, have usually stressed the anal-sadistic, dependent traits of depressives and manic-depressives.

Ayd (1961) describes depressive psychotics as often "obsessional".

On the whole, however, there have been very few systematic personality studies in affective illness. Most have been clinical and impressionistic, with vague, undefined criteria, and therefore not repeatable. Worse still, (with the notable exception of Leonhard and Winokur et al.) most authors have not differentiated among different types of affective illness. Finally, very often statements have been made on the basis of assessments of patients when they are ill and therefore likely to give a

distorted view of themselves. The effect of illness, the fact of being in hospital etc., are bound to influence the way a person sees himself, reports himself, or is seen by others. Several authors have recently drawn attention to this important methodological point, notably Astrup et al. (1959), Perris (1966) and Metcalfe (1968).

Some systematic and relatively objective studies of personality in affective illness have, however, appeared recently and these will be reviewed here.

Joseph Becker (1960) attempted to verify Cohen et al.'s formulation of the manic-depressive character (see above) within the framework of McClelland's experimentally derived concepts of achievement, (McClelland et al. 1955). McClelland and his colleagues have identified two relatively independent types of achievement orientation: "need achievement" is said to characterise people whose concern is to live up to an internalised standard of excellence, whereas "value achievement" is characterised by people who value achievement for achievement's sake as a response to excessive parental stress on achievement striving.

Becker compared 24 recovered manic-depressives (bipolars) with 30 non-psychiatric controls, keeping nationality, age range and minimum level of education constant. He administered a rating scale to check the reliability of the clinical judgement of remission and a series of other standard experimental tasks: a need achievement measure, a verbal level test, four attitude

scales and two performance tasks. His results showed that the scores of the manic-depressives on the value achievement scale were significantly higher than those of the controls, indicating that the manic-depressives placed a "strong, positive, conscious valuation on achievement". Manic-depressives scored significantly higher on a scale measuring rigidly conventional authoritarian attitudes, conformity, intolerance of ambiguity and social imperceptiveness. Manic-depressives scored significantly higher on a scale measuring submission to authority, emphasis on discipline and rigidly defined roles for family members. Their scores did not differ from the controls on the need achievement task or the two performance tasks.

Thus Becker's empirical findings seem to support Cohen's aetiological formulations. The fact that McClelland's concepts of value and need achievers are not well-known in the psychiatric literature must, unfortunately, diminish the appeal of this work. It has been reported here in some detail, because of its methodological approach. To quote Becker: "Greater research leverage could be achieved by translating manic-depressive character into a personality type whose characteristics, correlates, and genesis have been more comprehensively studied."

Using a different approach, Perris (1966) also presented a systematic personality study. Perris compares two well defined groups of recovered depressives, bipolars and unipolars, and he uses a multi-dimensional approach, namely that of the Swedish

psychiatrist Sjöbring (1958). Nyman (1956) and Coppen (1966) have presented Sjöbring's work in English. In summary Sjöbring speaks of four dimensions of personality:

1. Capacity or intelligence.
2. Validity: effective energy. The sub-valid person is bound to stability, routine, easily tired, cautious, tense, meticulous.
3. Stability: similar to introversion-extraversion. The sub-stable person is naive, interested in his fellow-men, frank, open, weakly integrated.
4. Solidity: related to maturity. The sub-solid person is impulsive, weak, changeable.

Nyman and Marke (1962) have formed a 60-item inventory to measure three of these dimensions, leaving out Capacity (see Coppen, 1966, for English translation).

Perris hypothesized that the two recovered depressive groups would score differently, that the manic-depressives would score as sub-stable which is equivalent to what other authors have called, cycloid, cyclothymic, warm, sociable, and that the recurrent depressives would score as sub-valid, which is equivalent to insecure, obsessional, sensitive, as called by other authors. His hypotheses were borne out at high statistical levels of significance.

Perris's work shows the dangers of making statements about depressives in general, without taking into consideration such

important sub-classifications as bipolar and unipolar, which his own work, as well as Leonhard's have shown to be a valid diagnostic differentiation. Perris (1971) using the M.P.I., found recovered bi-polars to higher extraversion and lower neuroticism than unipolars.

Metcalf (1968) gave support to Perris's findings using the M.P.I. to compare recovered depressed women with "normal" women and other groups of patients. She reports that even though the neurotic score of recovered depressives does not differ from the norm for normals, when the individual questions are examined, it transpires that the women recovered from depression score higher on four questions, and lower on four others, than "normal" women. The same applies when the recovered depressives are compared with other groups of recovered patients. Metcalf has interpreted these two sets of questions, after minimising their neurotic content by some unspecified numerical procedure. The positive answers to the first set are said to indicate "a tense, worrying attitude to life"; the negative answers to the second set indicate "a denial of fantasy and imagination, and a rigid, limited, habit-bound personality". This description, closely resembles Perris's description of the "sub-valid" personality of the recurrent depressive.

A study by Coppen and Metcalf (1965), using the Maudsley Personality Inventory (M.P.I.) in a follow-up of severely depressed patients, showed startling effects of illness on personality.

39 patients were tested just after admission and again, after treatment, when considered recovered. The drop in average N score (neuroticism) was dramatic and significant and was paralleled by a significant rise in E score (extraversion). 10 patients were followed up a few months after discharge and the changes accompanying improvement were found to have been maintained and even increased. Interestingly too the average N score after recovery was very similar to the reported N score for normals, discrediting Eysenck's concept of N as a measure of a "tendency to neurotic breakdown under stress". Also using the M.P.I., Perris (1971) in the study mentioned above found very similar results: "parallel to recovery E scores increased, N scores decreased and E/N ratios showed a tendency to increase" in his 3 groups of patients: bi-polar depressives, unipolar depressives and neurotic depressives.

Mayo (1967) used different measures, namely the hostility and Direction of Hostility Questionnaire, H.D.H.Q. (Foulds 1965) and found important psychological changes associated with improvement in depression. Testing 24 depressed in-patients at admission and when clinically improved, he found a significant drop in the mean level of general punitiveness and also in mean level of intropunitiveness, i.e. of hostility directed towards the self, as self-criticism and guilt. Hostility directed towards others, extrapunitiveness, expressed as acting-out hostility, criticism of others and projected delusional hostility, did not show any

significant change with improvement, although they all showed a drop.

Foulds (1965), using the Hysteroid-Obsessoid Questionnaire (H.O.Q.), a personality questionnaire, compared psychotically depressed and neurotically depressed women, and found the psychotics to be more obsessoid. However, with improvement, there was a significant change in that the recovered psychotics tended to score more as the neurotics, i.e. as more hysteroid; the mean for the improved neurotics had scarcely changed. This is in strong agreement with Metcalfe's study reported above, which is not surprising since the reported correlation between the H.O.Q. and the M.P.I. E is .81 (Caine, 1965). In addition to becoming more hysteroid, Foulds's improved psychotics also became more extrapunitive, less self-critical and less delusionally guilty. The improved neurotics showed changes in the same direction, but to a smaller extent. Foulds comments that psychosis disrupts personality to a greater extent than neurosis and inevitably makes accurate self-report more difficult. Interestingly too, Foulds breaks down the type of responses of his two groups to a diagnostic inventory, (Symptom-Sign Inventory) into 4 categories and finds the following percentages for each category.

	<u>Function</u>	<u>Mood</u>	<u>Guilt</u>	<u>Shame</u>
Depressives	49	38	10	13
Melancholics	48	48	42	41

Thus he concludes that "the neurotic depressive emphasises

her failing powers first, fairly closely followed by her mood of depression, she rarely expresses feelings of guilt or shame. The psychotic depressive on the other hand, emphasises her feeling of guilt and shame almost as much as her failing powers and depressed mood" (opus cit. p.227).

Eysenck^{et al.}(1964) has also provided some objective systematic personality study of depressives. He finds that psychotic depressives have a higher mean N (Neuroticism) score than schizophrenics, their scores being nearer to the neurotic mean than the normal mean. He notes, however, that this may be due to "the diagnostic failure to distinguish properly between endogenous and reactive depression." According to his theory depressives are dysthymics and are therefore expected to have low E (extraversion) scores. Eysenck and Claridge (1962) found some evidence for this. They seem, however, to have tested their dysthymics during illness.

The importance and interest of such objective personality studies is that they are repeatable, public, and above all can provide independent variables for other studies, such as outcome of illness, biochemical factors, type of illness and symptoms pattern.

VII. Conclusion:

Psychological studies in the field of affective disorders can be seen to fall into two categories: those which use psychological constructs as hypothetical causal factors in

aetiological studies, e.g. psycho-analytic studies, and those which use psychological tests and measures to describe groups of depressives, e.g. some of the personality studies.

The former are often methodologically weak and seem to assume a common aetiology for all types of affective illness. The latter, apart from some notable exceptions, have used mixed groups of depressives and are limited in scope. Studies of manics and hypomanics are conspicuous by their absence.

Certain important methodological points have emerged, however:

1. The importance of well selected and defined groups is crucial if research results are to be readily understood and repeated by other workers.
2. The relevance of the bi-polar-unipolar dichotomy in affective illness has begun to emerge as a valid system of classification.
- and 3. The influence of illness on personality testing has been pointed out and demonstrated, making it necessary for researchers to specify the stage of their patients' illness at which personality data were obtained.

CHAPTER 5

AIMS, DESIGN and HYPOTHESES of the STUDY

I AIMS:

The aims of the present study are to do with the description and classification of affective disorders.

A. Description:

The review in the previous chapter has indicated that there have been very few systematic investigations of those disorders of psychological functioning which clinicians claim to have observed in patients with affective illness. One aim of this study is therefore to use psychological techniques to describe objectively aspects of the signs and symptoms, and personality, cognitive and psychomotor functioning of affectively ill patients.

B. Classification:

The previous review also indicated that there is little general agreement about whether unipolar and bi-polar depression are two separate entities or are better regarded as different expressions of the same disease. A further aim of the present study is, therefore, to throw light on this problem by investigating the pre-morbid personality of both types of depressed patients, as well as their psychological functioning during illness and during periods of remission.

Mania and depression: A second aim in relation to to classification is concerned with depression and mania.

Many writers categorise these together as "affective cycloid disorders", but the rationale of this is seldom made explicit. The aim of the present study is to find out in what way patients with mania differ from, and resemble, those with depression.

The questions to be answered can be summarised thus:

- 1a. In what way does mania differ from bi-polar and uni-polar depression?
- 1b. In what way does bi-polar depression differ from uni-polar depression?
2. How do these groups compare when well: are they the same people who develop different illnesses or different people developing different illnesses?
3. What is the effect of illness in each of these groups or what changes occur with illness?

II DESIGN

To answer the questions outlined above, bi-polar and uni-polar groups have to be tested under two conditions: when ill to give illness comparisons, and when recovered, to give pre-morbid differences. Both the manic and depressive phase of the bi-polar depressive illness have to be studied to provide features of both poles of the illness. Also, recovered bi-polars must be tested after recovery from both mania and depression to provide complete data about the effect of illness.

A cross-sectional design was decided upon rather than a follow-up design to avoid the psychometric complications of re-testing and also because of the uncertainty of seeing the same patient in both a manic and depressive episode within the period of data collection.

Thus, six different groups of patients were studied:

1. A group of manic-depressives (Bi-polars) in mania. (Bp.M)
2. A group of manic-depressives (Bi-polars) in depression. (Bp.D)
3. A group of depressed recurrent depressives (Unipolars) (Up.D).
4. A group of manic-depressives (Bi-polars) recovered from mania. (R.Bp.M.)
5. A group of manic-depressives (Bi-polars) recovered from depression. (R.Bp.D.)
6. A group of recovered recurrent depressives (Unipolars) (R.Up.D.).

(Henceforth, in tables, the groups will simply be referred to by the initials Bp.M., Bp.D., etc.).

Comparing groups (1) (2) and (3) will answer questions 1a and 1b outlined above, giving illness comparisons.

Comparing groups (4) (5) and (6) will answer question 2, giving comparisons during recovery.

Finally comparing (1) with (4), (2) with (5), (3) with (6) will answer question 3, namely the effect of illness in each group.

It was hoped to obtain at least 18 subjects in each group to make up a balanced design large enough to make group comparisons reasonable.

III GENERAL HYPOTHESES:

- A. Manics will differ from bi-polar and unipolar depressives on several parameters: signs and symptoms of illness, personality traits and attitudes, and cognitive factors.
- B. Bi-polar depressives will differ from unipolar depressives, but the differences will not be as pronounced as those between manics on the one hand and the two depressive groups on the other.
- C. Patients having recovered from a bi-polar affective illness will differ from patients having recovered from a unipolar affective illness, mainly in personality characteristics.
- D. The effect of illness will be marked in each illness group, affecting both personality scores and cognitive factors and will be illness specific, i.e. each illness will bring about different changes rather than a general change common to all groups.

More specific hypotheses will be set out in the next chapter about methodology.

CHAPTER 6

METHOD

I SELECTION OF PATIENTS:

A. Definitions:

Manic-depressives or bi-polars were defined operationally as patients who had had at least one manic or hypomanic episode and one depressive episode in the past, both severe enough to be treated in or out of hospital. This meant that these patients were seen at least during their third episode of illness. As it happened, most had had in fact more than 3 illnesses.

Similarly recurrent depressives or unipolars were patients who had had at least 3 episodes of primary depression without mania, again severe enough to be treated. This criterion was influenced by Perris's observation that patients with at least 3 episodes of depression without mania were unlikely to develop mania in the future. It was hoped thus to avoid the misclassification of calling subjects unipolars who were in fact potential bi-polars. The term "primary" used here is meant to exclude patients whose depression seems to derive from a primary personality disorder or to accompany a primary anxiety state.

B. Criteria

i Clinical:

A consultant psychiatrist or senior registrar screened the patients and in addition case-notes were carefully

scrutinised for history of previous episodes of illness. Special care was taken to avoid cases of organic psychosis and schizophrenia. On the whole, however, the rigorous criterion of 3 clear-cut treated episodes in the history tended to exclude doubtful cases. Difficulty arose sometimes about deciding whether a genuine hypomanic attack had occurred or not, e.g. a number of recurrent depressives seem to become mildly hypomanic just after recovery. The criterion applied in such cases was whether the hypomania was severe enough to be treated. The psychiatrist also interviewed recovered subjects to ascertain degree of recovery. Only patients completely recovered clinically were accepted. Unlike Perris, we did not define our groups as psychotic because of the lack of generally accepted criteria for doing so (see chapter 3), and also because it was felt that such a criterion was not essential to the thesis. The interest lay in defining differences, if any, between cases with a history of bi-polar illness (manic-depressive) and those with a history of unipolar illness (recurrent depressive). Historically, the bi-polars have usually been called psychotic, whereas the unipolars have been sub-divided into psychotics and neurotics. Such a classification seems confusing and inconsistent and has no real support apart from tradition. If the psychotic/neurotic dichotomy is to be kept, it seems logical that it should apply to both groups, bi-polars and

unipolars, as sub-divisions. In this study the depressives were simply severely depressed patients treated either with electroconvulsive therapy or by chemotherapy.

ii Age:

Another criterion for inclusion in the study was age limit: an upper age limit of 60 years inclusive was adopted because of the known effect of ageing on certain of the measures used, such as motor and mental speed, (Welford, A.T., 1958, 1962). Also, Gilbert (1935) using Babcock's norms of mental efficiency (Babcock, 1941) found that the mental efficiency of subjects aged 60-69 was -4.80 . Nelson (1953) using the same index found a correlation of $-.41$ between age and efficiency index in normals. Thus there is strong evidence for a tendency of mental efficiency to decrease with increasing age, especially from the age of sixty onwards. (The efficiency index is the weighted scores on Babcock's battery averaged minus the efficiency score expected from the vocabulary level of subjects.) No attempt was made to control for age apart from the limit of 60 years, in order not to bias the sample which was meant to be reasonably representative of hospital admissions with affective disorders. No lower age limit was imposed, as the criterion of a history of at least 3 illnesses ensured that the very young would automatically be excluded. The youngest subject of the study was 19 years old.

iii Intelligence:

Intelligence was not controlled for the same reasons as

that mentioned above for the age factor. In addition, intelligence level is not an important factor in the measures used in this study, as will be shown below (Section III), except for the very low or sub-normal.

Though level of intelligence was not measured directly by any of the more familiar intelligence tests, those below average intelligence were excluded by their inability to perform the Nufferno Speed Test (Furneau, 1956) which was administered for the purpose of measuring mental speed. Furneau (1956) states about the test used in this study: "The sheet provides satisfactory scores for speed, stress-gain and speed-range, for mental ages not less than about 11 years" (p 5/7).

In addition, the B factor on Cattell's 16 P.F. (Cattell & Eber, 1964) provided a measure of intelligence. This factor has been much criticised because of its shortness (13 items) and low validity. Reported validity coefficients range from .19 (Reimanis 1965) to .51 (Sims and Clower 1966). However, recent work by Kear-Cobwell (1970) has shown the B factor scale to be a reasonably valid measure of general intelligence in a female hospital population (correlation with Progressive Matrices = 0.79 after correction for attenuation). but in the male sample it appeared to be a mixed measure of both verbal ability and general intelligence (correlation with P.M. = .46, after correction for attenuation). This measure was thought adequate for the purpose of this study.

C. Description of Patients

The aim of obtaining at least 18 subjects in each group was fulfilled, except for one group, the depressed manic-depressives, of whom 17 were tested, one of whom failed to complete the full battery of measures.

An analysis of variance was carried out to compare the groups on age and intelligence (Cattell's B factor).

Table 5.1 below summarises the main characteristics of the sub-groups.

It can be seen that both manic groups, group 1 and group 4 are significantly younger than the other groups. ($p < .02$ - $p < .002$). This may be a chance finding, as the selection procedure was the same for all groups. On the other hand, it is likely that a relatively younger age is typical of manic and hypomanic patients. Winokur et al. (1969) found their bi-polar manics significantly younger than their group of recurrent unipolar depression. In their large follow-up study, they found that 33% of their 61 bi-polars had had symptoms before age 20, and 66% before age 30. They concluded that the onset for manic-depressive illness is much earlier than for recurrent depression.

The effect of age on test results will be examined whenever relevant, e.g. speed scores.

Table 5.1 Characteristics of Sub-groups

	1 Bp.M.	2 Bp.D.	3 Up.D.	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
N	18	16	18	18	18	18
Male/Female	11/7	7/9	7/11	11/7	8/10	7/11
Age range	19-58	40-60	22-59	23-60	38-60	31-58
Mean age	37.1 ± 12.7	50.6 ± 6.5	48.6 ± 8.2	39.1 ± 10.6	48.1 ± 6.2	47.1 ± 7.2
Mean B factor score (16 P.F.)	7.05 ± 1.8	6.43 ± 3.3	6.83 ± 1.8	6.83 ± 1.4	7.11 ± 2.2	7.61 ± 1.2
F for age	5.92, p < 0.01					
F for intelligence	1.53, (not sign.)					

II CONDITIONS OF TESTING

Consecutive admissions to the MRC Brain Metabolism Unit which fulfilled the criteria mentioned above were tested. Circulars specifying the research requisites were sent to the consultants of other wards of the Royal Edinburgh Hospital and neighbouring hospitals and they kindly referred those patients they felt were suitable.

The subjects comprising the 3 ill groups (Groups 1, 2 and 3) were seen as soon as possible after admission, preferably before treatment had started. If they had just been started on chemotherapy and still displayed symptoms and signs of illness, they were still accepted for the project. However, no patients was seen after an ECT programme had started.

Sometimes a patient would seem too retarded or too elated and overactive to be able to co-operate. In such cases testing was postponed until after recovery and those subjects would thus be included in one of the recovered groups (groups 4, 5 or 6). Recovered patients were seen as out-patients after they had been home for at least two weeks.

The average time for completing the tests was 2-2½ hours. Most subjects completed the testing in one session, except for the very depressed who sometimes required several short testing sessions to ensure maximum co-operation. Surprisingly the manics and hypomanics were on the whole quite easy to test, the only difficulty being for the tester to keep up with their pace of work sometimes!

Out-patients were usually given the 16 P.F. to do at home and asked to post it back in one or two days. Most of the in-patients required supervision for that test, though some were able to do it on their own. Again the very retarded and the very elated had to be nursed through every question of that long questionnaire.

The various tests and measures were not administered in any set order, but varied so as to keep the interest of the individual subjects.

III MEASURES USED

The measures used in this study were chosen because they are, on the whole, well documented and well known measures of the aspects of illness and personality this study sets out to investigate.

They are objective standardised instruments which are widely used in clinical psychology, thus making results easily comparable and repeatable for other researchers. The tests will be described under the sub-headings of the functions they measure.

A. Diagnostic:

The Symptom Sign Inventory, or S.S.I. (Foulds and Hope, 1968), was used for the purpose of eliciting symptoms. It is an orally administered test, whose development as an aid to the differential diagnosis of the mentally ill has been well documented (Foulds, 1962; 1965a,b; 1967) and which derives directly from

Foulds' theory of personality dysfunction (Foulds, 1964; 1965a; 1971).

His theory was referred to briefly in the earlier chapter on classification (chapter 3) in relation to the psychotic/neurotic dichotomy. Another important aspect of the theory is its explicit effort to develop measures of traits and attitudes on the one hand, and signs and symptoms on the other, these measures being independent of each other. Recently, Foulds (1971) has introduced the concept of "states" as different from both traits and symptoms. He offers the following tentative definition of these three concepts:

1. "A symptom is a qualitative change from a previous condition, such as is found very rarely in any random sample of the general population, about which the individual complains because it is distressful to him If the change in bodily or mental functioning is not reported as a distressing complaint, but the skilled observer recognises it as indicative of such maladaptation as is likely to cause or to have caused danger or distress to others or to the patient himself, this is a sign."
2. "A state is an affective change from a previous condition, which endures for weeks rather than days and where that changed condition is of a degree rarely found in any random sample, of the general population."

3. "A trait (or an attitude) is that concept which serves to classify the relative generality, consistency, and continuity of responses to somewhat similar situations. In some instances a trait may be that previous condition from which a state may emerge. A deviant trait is an enduring condition of a degree rarely found in any random sample of the general population and which, if it changes at all, does so only over a period of years

Thus, generality and durability are the important discriminants. The Symptom Sign Inventory aims to elicit signs and symptoms only and was chosen for that purpose, to test whether and how the symptoms and signs of illness vary among the experimental groups. Many existing inventories (e.g. the M.M.P.I.) seem to measure symptoms, traits and states all in one.

The manual of the Symptom Sign Inventory (S.S.I.) (Foulds and Hope, 1968) provides all the necessary information on the derivation of the items for each of 8 a-priori psychiatric scales, the administration of the inventory and the use of the various scoring keys. In the present study all 80 items of the S.S.I. were administered, and since the groups were already very highly selective diagnostically, the interest lay not in the S.S.I. diagnoses, but in individual items endorsed (see Appendix A for full copy of S.S.I.). The groups were therefore compared on individual items endorsed, total number of symptoms, and total

responses on each of the 8 a-priori scales. These are:

- A : Anxiety.
- B : Neurotic Depression.
- C : Mania.
- D : Paranoid Schizophrenia.
- E : Obsessional State.
- F : Non-Paranoid Schizophrenia.
- G : Hysteria.
- H : Psychotic Depression.

Each of these scales contains 10 items intended to elicit symptoms or signs which are frequent and typical in that diagnostic group. By comparing the groups on the 8 a-priori scales, it was hoped to find out which groups of symptoms differentiated the groups, if at all.

In addition one of the set scales of the inventory, the Personal Disturbance (PD) Scale was used. The PD scale comprises 20 items, each of which distinguished at least seven male and seven female diagnostic classes from a sample of normal females (the manual has no data on normal men). The following 20 items when answered in the affirmative characterise the person who is personally disturbed (the letters and numbers denote item position in the S.S.I.).

- A9 Are you afraid of going out alone?
- B2 Have you lost interest in almost everything?
- B4 Is the simplest task too much of an effort?

- B6 Have you found it difficult to concentrate recently?
- B7 Does the future seem pointless?
- B9 Are you slower recently in everything you do than you used to be?
- D1 Are people talking about you and criticising through no fault of your own?
- E1 Are you distressed by silly, pointless thoughts that keep coming into your mind against your will?
- E3 Are you unnecessarily careful in carrying out even simple everyday tasks, like folding up clothes, reading notices, etc.?
- E6 Do distressing thoughts about sex or religion come into your mind against your will?
- E7 Do you feel you just have to check things again and again - like turning off taps or lights, shutting windows at night, etc. although you know there is really no need to?
- E8 Have you an unreasonable fear that some careless act of yours might have very serious consequences?
- E10 Do you have an uneasy feeling if you don't do something in a certain order or a certain number of times?
- F1 Do you feel that there is some sort of barrier between you and other people so that you can't really understand them?
- F5 Do you think other people regard you as very odd?

- F6 Do you feel that you cannot communicate with other people because you don't seem to be on the same wave-length?
- F9 Do you have very strange and peculiar thoughts at times?
- G4 Do you ever lose all feeling in any part of your skin, so that you would not be able to feel a pin prick, or do you ever have burning or tingling sensations?
- H7 Are you ever so low in spirits that you just sit for hours on end?

The PD scale is an improved version of the Personal Illness Scale described by Foulds (1965a) and has been used by many researchers to identify individuals who were experiencing difficulties in mutual personal relationships (Foulds and Mayo, 1967; Philip and McCulloch, 1968; Vinoda, 1966; and Philip, 1968a). The PD Scale differs from its predecessor, the PI scale, in that it contains fewer items from the a-priori anxiety scale and more from the neurotic depression and obsessional scales. Mayo (1968b) showed the existence of a population of normals who had many symptoms of personal illness, but who had not sought psychiatric help. This finding led to the dropping of the term "personal illness" from the S.S.I. Manual since it could be seen that although almost all Personality ill individuals obtained high scores on the PI scale, some persons scoring high on the scale were not personally ill, i.e. as defined by Foulds

(1965) their symptoms did not constitute a personal illness since they were able to cope with them.

The Manual presents the frequency distribution of scores, their means and standard deviations of various diagnostic groups and of normals on the PD scale. Philip (1968) has criticised the use of mean scores on the PD scale on two accounts: firstly that distribution of scores is markedly skewed, especially in the case of normals, secondly that it is not a quantitative scale, in the sense that it cannot be said that a person with a PD score of 10 is twice as disturbed as a person with a PD score of 5. He quotes as example the mean PD score of female manics (as quoted in the manual, table 11) which is 3.80 while psychotically depressed women have a PD score of 7.78. Philip proposed instead the use of three categories derived from the frequency distribution of the manual: Normal (PD score of 0 and 1), Borderline (scores of 2, 3 and 4) and Personally Disturbed (scores of 5 +).

It is felt, however, that manics may be an exceptional group in view of the quality of their illness: the elated, euphoric manic will not report himself as distressed by symptoms if he feels, subjectively, at the height of well-being. (It is felt that the S.S.I. does not give the same importance to signs of illness as to symptoms, despite its name). All the other diagnostic groups quoted in the manual have fairly uniform mean PD scores which differentiate them from normals. (See table 6.1 below).

Table 6.1 Mean scores of different diagnostic groups on the Personal Disturbance Scale (women) - S.S.I. Manual, 1968.

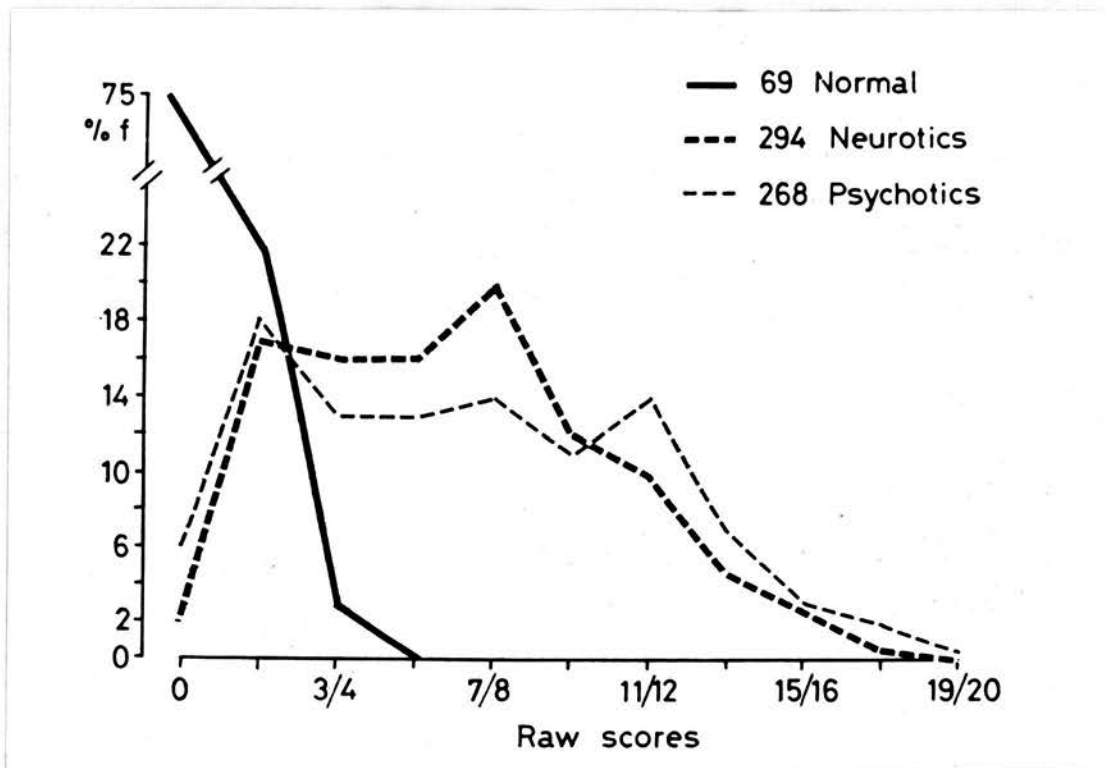
	A	ND	H	O	NPS	PS	M	PD	N
Mean	6.37	6.93	7.06	7.31	8.30	7.00	3.50	7.78	0.39
S.D.	3.21	3.92	3.94	3.17	4.32	4.84	2.78	3.97	0.80

- A - Anxiety state
- ND - Neurotic depression
- H - Hysteria
- O - Obsessional state
- NPS - Non-paranoid schizophrenia
- PS - Paranoid schizophrenia
- M - Mania
- PD - Psychotic depression
- N - Normals

On the first count, the argument about distribution, it is the normals who obtain a highly skewed distribution, whereas mental patients obtain a roughly gaussian distribution (Foulds, 1971), - (see figure 6.1 below reproduced with permission of the author and the editor of 'Psychological Medicine').

This study has therefore made use of mean PD scores for differentiating the three ill groups, but has used Philip's categories for comparing the recovered groups.

FIG. 6.1. 'PERSONAL DISTURBANCE' SCORES OF
NORMALS, NEUROTICS, AND PSYCHOTICS.



(REPRODUCED FROM G.A. FOULDS, 1971)

B. States and Traits:

1. Hostility: Aggression and hostility play an important role in the phenomenology of affective illness and in psychodynamic theories, specially those of the psychoanalytic school, as we saw in the previous review section. This aspect of personality and illness has been studied here with the use of the Hostility and Direction of Hostility Questionnaire or HDHQ (Caine, Foulds and Hope, 1967).

It is a questionnaire designed to measure a wide range of possible manifestations of aggression, hostility, or punitiveness. Foulds (1965) gives a detailed description of the development of this instrument and it has since been used in several studies.

Its rationale lies in Foulds's theory (op cit) of personality and personal illness or disturbance. Personal disturbance is seen as a continuum of increasing degrees of failure to maintain or to establish mutual personal relationships. The more a person is able to empathise, the more successful he will be at sustaining mutual relationships, and the less likely he is to resort to blaming himself or others, even under stress. Egocentricity and lack of empathy are common to all the personally disturbed and the personality disorders and entail self-blame and blaming others: "To resort to blame without at once going beyond it is to resort to egocentricity" (op cit p.91). Foulds proposes, therefore, that punitiveness is a suitable attitudinal measure of egocentricity and hence personal illness.

He assumes that hostility or punitiveness is unitary and can be directed either inwards towards the self or outwards, towards others and objects - the terms he uses are intropunitiveness and extrapunitiveness, first coined by Rosenzweig (1934). The intropunitive and extrapunitive scales were derived from the Minnesota Multiphasic Personality Inventory or M.M.P.I. (Foulds, Caine and Creasy, 1960), and consist of 5 sub-scales: self-criticism (SC) and Delusional Guilt (DG) make up the intropunitive scale and Acting-out Hostility (AH), Criticism of others (CO), Projected Delusional Hostility (PH), make up the extrapunitive scale. In constructing the sub-scales it was assumed that: on the extrapunitive scale, paranoids would score high on PH, psychopaths would score high on AH and that hysteroid personalities would show a tendency to criticise others (CO), on the intropunitive scale, it was hypothesised that melancholics would score high on delusional guilt (DG), while obsessoid personalities would endorse many self-critical (SC) items. It seems, then, that hostility and its direction can properly be called states, as defined above. Foulds et al. (1960) found a positive correlation between all the sub-scales, allowing them to postulate a factor of general punitiveness. The patterns of correlation confirmed the hypothesis that the intropunitive scale was measuring something different from the extrapunitive scale. Hope (1963) tested the principal components of subtest correlation matrices. His results showed a similar component structure for both normals

and neurotics, the first component being unipolar with all 5 sub-tests represented (General Hostility), the second component contrasted the two intro-punitive sub-scales (SC and DG) with the three extrapunitive sub-scales (AH, CO, PH). Hope worked out formulae for calculating scores which would approximate to the full component scores whilst being easy to calculate. For General Hostility, the formula was $AH + CO + PH + SC + DG$, for Direction of Hostility $(2S + DG) - (AH + CO + PH)$, positive scores indicating predominant intro-punitiveness. The Manual of the Hostility and Direction of Hostility Questionnaire (HDDHQ) (Caine, Foulds and Hope, 1967) follows Hope's results and theoretical formulations. Validity studies have borne out predictions that psychotics should be higher on General Punitiveness than neurotics and the latter higher than normals, that paranoids would be extra-punitive and melancholics intro-punitive, that selected melancholics (those with no paranoid features) and selected paranoids (those with no depressive features) would be at the extremes of the continuum.

Reliability estimates were based on test-retest correlation coefficients obtained on a sample of 30 normals who were retested a year after initial testing. The reliability of General Hostility was found to be 0.75 while the reliability of Direction of Hostility was 0.51.

Philip (1968) tested the constancy of the structure of the HDDHQ by comparing Hope's results with results from a similar

population in a different part of the country and concluded that Hope's component scores of General Punitiveness and Direction of Hostility are generally applicable.

In addition to the work reported above under the review section of personality studies (p. 74), other studies have used the HDHQ: with attempted suicides (Vinoda, 1966, Philip, 1968), with prisoners (Foulds, 1968), to differentiate patients with "psychic" and "somatic" symptoms (Foulds et al., 1966).

Most of these studies have used the principal component scoring system for analysis, but the present author has followed Philip's suggestion (1968a, 1971) of an alternative scoring system. Philip notes that Foulds et al. (1960) found that intro-punitiveness seemed to measure something different from extrapunitive, and that clinical experience suggests that the intro-punitive measures vary over time more than the extrapunitive measures. Hence he concludes that it might be profitable to measure extrapunitiveness and intro-punitiveness independently rather than combine them in a Direction of Hostility score.

Only the following two measures will be used in this study:

Extrapunitiveness (Sum E) = AH + CO + PH.

Intro-punitiveness (Sum I) = SC + DG.

Since General Hostility (E + I) is a simple addition of these two components, it was thought redundant to include it as a separate measure.

Sten Scores (standard 10 point scale) have been used throughout instead of raw scores, to facilitate comparisons of scores

on the two scales with scores on the personality measures described in the next section, which also use sten scores. Thus the means and variances of the different factors do not have to be taken into account when comparisons are made.

The standard ten-point scale (or sten scale) uses 10 points to cover the population range. To transform a distribution of scores into stens, the raw score mean is fixed at 5.5 stens and points which are one half of a standard deviation above and below the mean translate to stens of 6 and 5 respectively. Thus stens of 5 and 6 are average, 4 and 7 are slightly deviant, 2, 3, 8 and 9 are markedly deviant, while stens of 1 and 10 indicate scores which are more than two standard deviations from the mean. The sten scores referred to in this study are based on the general population norms, 154 males and 372 females with separate normative data for the sexes (Philip, personal communication). See Appendix B .

ii. Anxiety and Extraversion: These two aspects of personality were assessed with the sixteen Personality Factor Questionnaire, or 16 P.F. (Cattell and Eber, 1964). This Questionnaire has been developed from Cattell's personality sphere concept described in a multitude of publications, articles, text-books and test manuals. The clearest account of the theoretical and practical aspects, which can be very involved due to the use of complicated statistics and neologisms, is to be found in the "Scientific Analysis of Personality" (Cattell, 1965) and in the

latest handbook (Cattell, Eber and Tatsuoka, 1970). The 16 P.F. is based on a series of interlocking researches over 25 years, directed to locating unitary, independent and pragmatically important "source traits". By "source traits" Cattell means factors (rotated to simple oblique structure) affecting large areas of the overt personality behaviour, such as intelligence, emotional lability, superego strength, surgency and dominance. Thus, Cattell aims to cover the whole of behaviour that commonly enters ratings and the dictionary descriptions of personality. In addition to the 16 primary or first order factors, Cattell recommends the use of second-stratum or-order factors, of which four have been in use until recently. Of the latter, only two, Anxiety and Introversion, have been shown to be easily matched over various studies (Horn, 1963).

In the most recent handbook (Cattell et al., 1970), the number of primary factors have been extended to 23 and the second order factors to eight. However, since this study used the previous better-known version (Cattell and Eber, 1964), consideration will be given only to that form of the test here. Brief descriptions of the bi-polar first order factors are as follows:

<u>Factor</u>	<u>Low Score</u>	<u>High Score</u>
A	Reserved	Out-going
B	Dull	Bright
C	Emotionally Unstable	Mature, faces reality
E	Submissive	Dominant

<u>Factor</u>	<u>Low Score</u>	<u>High Score</u>
F	Sober, serious	Happy-go-lucky, enthusiastic
G	Expedient	Conscientious
H	Shy	Venturesome
I	Tough-minded, self reliant	Tender-minded, clinging
L	Trusting	Suspicious
M	Practical	Imaginative
N	Forthright, unpretentious	Astute, socially aware
O	Self-assured, serene	Apprehensive, insecure
Q ₁	Conservative	Experimenting
Q ₂	Group dependent	Self-sufficient
Q ₃	Undisciplined	Controlled
Q ₄	Relaxed	Tense.

The second order factors are obtained by factorising the correlation matrix obtained from correlating the scale scores of first-order factors, thus producing a smaller number of broader factors. Psychologically these second-stratum factors may be viewed as broader influences, or organisers, contributing to the primaries and accounting for their being correlated. As mentioned above, the two best second order factors are:

Anxiety: affecting C-emotional instability, H-shyness, L+ suspiciousness, O+ apprehensiveness, Q₃-self-conflict, Q₄- tension, and Extraversion, which affects A+, outgoingness, E+, Dominance, F+ enthusiasm, H+ uninhibition, Q₂- group dependency.

Cattell postulates a complex positive feedback interaction of the primary factors and "considers that a higher position on any one of the primaries involved tends, because of social mechanisms, to generate a higher level on the others. In this

way they become correlated, and involved in common expressions in the course of development. Because of this degree of functional unity, it becomes economical to give a single score to show how a person has proceeded in this process" (Cattell et al., 1970, p.117).

The formulae for working out the second-order factor scores from individual scores are set out in the handbook (Cattell and Eber, 1964).

Anxiety: $3.7 - 0.2C - 0.2H + 0.2L + 0.30 - 0.2Q^3 + (.4 Q^4$

Extraversion: $0.2A + 0.2E + 0.4F + 0.5H - 0.2Q_2 - 1.1$

The products of these formulae are rounded to the nearest whole number, the constants in the equation ensuring that the scores are sten scores. The first order factors are also expressed as sten scores. The derivation of sten scores was described above. The norms used in this study were those of the general population, males and females having separate normative data. Form A of the test was administered throughout.

The handbook provides ample material about the psychometric properties of the scales, which it would be pointless to repeat here in great detail. It would suffice to say that the consistency of the test in the form of reliability (agreement of two different administrations), homogeneity (agreement of test parts) and transferability (agreement of what is measured across different populations) and its validity all reach acceptable

levels. For form A the reliability coefficients over two and a half months vary between .43 to .85, over four to seven days the test re-test coefficient varied between .58 to .81. The average concept validity (i.e. the degree to which the scales agree with the statistical factors they are supposed to measure) is 0.85.

It was decided to use the 16 P.F. in this study rather than any of the other personality questionnaires in use, because of its psychometric robustness and its wide scan of personality factors. However, preliminary analysis of the results (based on incomplete data) showed that the factors which differentiated the groups, were in fact mostly those which contribute to the second-order factors of Anxiety and Extraversion (see table 6.2 for mean scores). So it was decided to concentrate on those two broad factors for clarity and conciseness. In fact, the equivalence of those factors has probably been often used when talking of personality in affective illness. Adcock (1965) in a comparison of Cattell's and Eysenck's concepts concluded on theoretical grounds that the former's anxiety and extraversion (sometimes called exvia-invia) factors were equivalent to Eysenck's N (neuroticism) and E (extraversion) factors. He felt that both the A and N factors would be better described as Emotional Reactivity. Crookes and Pearson (1970) tested the relationship empirically. Comparing the scores of 60 hospital patients on the EPI and 16 P.F., they found similar and substantial correlations between the EPI scores and corresponding

Table 6.2 Mean scores on 15 primary factors on 16 P.F.

	N	A	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄	
1.	Bp.M.	(18)	6.6	4.3	5.9	7.3	5.5	6.2	6.6	6.9	6.4	3.8	7.1	5.2	5.9	5.1	6.7
2.	Bp.D.	(14)	5.1	4.0	4.1	3.6	5.4	3.5	6.9	5.9	5.7	4.9	6.9	5.4	6.6	5.0	5.9
3.	Up.D.	(18)	4.2	3.4	4.6	4.1	5.0	3.6	5.9	6.5	6.1	5.6	8.4	5.2	7.5	4.2	7.9
4.	R.Bp.M.	(15)	6.4	4.6	5.2	5.2	5.4	4.3	5.6	4.9	5.7	5.9	5.8	4.7	6.1	5.1	6.1
5.	R.Bp.D.	(18)	5.8	4.7	4.8	5.4	6.1	5.6	5.9	5.4	5.4	5.3	5.6	5.0	6.6	6.1	5.2
6.	R.Up.D.	(18)	4.8	3.8	4.2	4.5	6.4	4.1	5.6	5.5	5.9	5.8	6.2	5.4	6.4	5.4	5.9

The factors differentiating gps. 1 & 2 were A^{**}, E^{**}, F^{***}, H^{***}
 " " " " " 1 & 3 " A^{***}, E^{***}, H^{***}, N^{**}, O^{*}, Q₂^{**}, Q₄^{*}
 " " " " " 2 & 3 " O^{**}, Q₄^{**}
 " " " " " 4 & 5 " none
 " " " " " 4 & 6 " A^{*}
 " " " " " 5 & 6 " H^{*}

(* p < .05, ** p < .01, *** p < .001)
 t-tests, two-tailed.

All these factors, except N make up second order factors I and II, i.e. Anxiety/
 Adjustment and Extraversion/Introversion.

16 P.F. scores; r between N and A = 0.71, r between E and EI = 0.71. They also divided the E.P.I. E scores into "impulsive" and "sociable" items, on the basis of the analysis by Eysenck and Eysenck (1963) and found that the 16 P.F., EI score correlated better with the sociable half of the E.P.I., E score ($r = 0.74$) than with the impulsive half ($r = 0.39$). The two halves of E.P.I., E correlated only moderately together ($r = 0.37$). Bendig (1962) reached the same conclusion when he analysed the Guilford Zimmerman Temperament Survey in conjunction with M.P.I. scales. Two distinct extraversion factors emerged: one in the Guilford tradition and conforming to the Jungian concept of inhibition, the other characterised by sociability and ascendance. The M.P.I., E score loaded more heavily on the latter factor, the former factor giving insignificant loadings.

In the light of this discussion it would seem that Cattell's and Eysenck's concepts of extraversion are similar despite different theoretical approaches: Social inhibition and general inhibition respectively.

Another advantage then of concentrating on the Anxiety and Extraversion second-order factors will be to facilitate comparison with other studies using the E.P.I. or M.P.I. (e.g. Kendall et al., 1968, Metcalfe, 1968, Coppen and Metcalfe, 1965).

Motivational Distortion and Faking

Both the above measures, the H.D.H.Q. and the 16 P.F. are open to the usual criticisms about questionnaires, i.e. that

they are liable to distortion, and susceptible to faking. Several distortion factors have been discussed in the literature in relation to the validity of questionnaires. These can be listed as: sheer sabotage, the various response sets, acquiescence, indecisiveness, social desirability, role playing, and finally ignorance on the part of the examinee.

Sabotage, if obvious, can usually be detected, but luckily does not often happen, specially in an acute hospital population which is fairly well-motivated to co-operate.

The various response sets have been investigated in a plethora of publications, ever since Lentz (1938) first drew attention to an acquiescence set, operating in questionnaires of the True-False type, that caused some subjects to mark items as true irrespective of the psychological content of these items. Knowles (1963) reviewed this topic very fully and it seems unnecessary to repeat his cogent arguments here. On the whole, the awareness of these problems has led to the construction of better questionnaires, avoiding ambiguous questions (Cronback, 1946), using the so-called balanced scales (Couch and Keniston, 1960), and adopting paired comparison technique (Edwards, 1959). Both the 16 P.F. and the H.D.H.Q. use a balanced scale, i.e. both "true" and "false" or "agree"/"disagree" responses contribute to a certain score. This technique is not fool-proof against the Yea and Naysayers, but probably helps to counteract the acquiescence set to a certain extent. The most effective

device to ensure the validity of questionnaires is that the examiner should use his clinical skill to the best of his ability to obtain full co-operation from his subjects and remember to give the proper instructions always. It seems proper to conclude as Warburton (1963): "The fact that questionnaires may be criticised on these grounds by no means invalidates them. The proof of the pudding is in the eating, and there is a great deal of evidence that personality questionnaires make a valuable contribution to our assessment of psychological qualities and hence that the overall effect of faking is not disastrous."

C Thought Process:

Disorders of thinking are usually described as characteristic of schizophrenia and there have been several attempts to describe and quantify this aspect of schizophrenia by means of psychological measures. However, several features of speech disturbance, and by inference thought disorder, are common to both schizophrenia and manics, e.g. Slater and Roth (1969), Freedman and Kaplan (1967), state that pressure of speech, flight of ideas, loose associations, distractability and inability to adhere to a line of thought, are common to both conditions. These features are all characteristic of formal thought disorder or thought process disorder as opposed to disorders of the content of thought. On the other hand depressives are characterised by slowness and inhibition of thought and

often complain that they cannot follow up ideas, e.g. "my mind does not work any more".

This study will look at thought process in the affective disorders using two well-known psychological measures which are widely used in clinical practice.

1. Repertory Grid Test: Bannister (1960, 1962, 1963, 1965) has been concerned to develop a measure of thought process disorder within the framework of Personal Construct Theory (Kelly, 1955), utilising the technique of repertory grid testing derived from this theory. Bannister and Mair (1968) and Bruner (1956), give a detailed account of Kelly's theory which is presented as a fundamental postulate and eleven elaborated corollaries. Briefly the theory is based on the assumption that all men may be thought of as "scientists" in the sense that they are concerned with the prediction and control of their environment. Each individual seems to develop his own personal repertoire of constructs by means of which he structures or conceptualises his world and tries to anticipate events. A construct is not merely a label, it is in essence a prediction. To construe a person as "honest" is to predict future events and predictions can be validated or invalidated by future events or these events can turn out to be irrelevant, i.e. outside the range of convenience of the constructs used to predict them.

Bannister and Fransella (1966, 1967) devised a Grid Test of Thought Disorder which consists of sorting out 8 photographs

(elements) using 6 different constructs: kind, stupid, selfish, sincere, mean, honest. The subject is asked to pick the photograph depicting the person who is likely to be the most kind, his selection is turned face down and he is then asked to pick the most kind of the photographs left, etc., until the eight photographs have been ranked from the most kind to the least kind. The same procedure is followed for the remaining five constructs. When this is done the test is repeated once again, with the additional instructions: "If you feel you want to change your mind, you may, because this is not a memory test. There are no right or wrong answers, I just want to know how you feel about these people now that you have thought about them a lot".

The assumption underlying the test is that the psychological relationship between any two constructs for a given subject is reflected in the statistical association between them when they are used as sorting categories by the subject. What is measured is the relationship between the sorting categories (constructs) for the subject, not the "correctness" of the sorts as such.

The two scores derived from the test are Intensity and Consistency scores. The intensity score is the total amount of relationship between all possible pairs of constructs over both administrations (Grid I and Grid II), (calculated by Spearman' $\rho^2 \times 100$, giving variance in common).

The consistency score is simply the test-retest correlation (Grid I and Grid II), giving a measure of the consistency with

which these measures have been used.

Typically, normals tend to have a well organised system of constructs so that the correlations of the rankings of pairs of constructs tend to be highly positive or highly negative, giving a high total intensity score. Thought process disordered schizophrenics have typically loose relationships between their constructs, so that they have a low intensity score.

Normals and non-thought disordered patients also tend to be consistent in their construing of photographs on immediate retest but thought disordered schizophrenics have a typically low score.

Bannister and Fransella (1966) found consistency and intensity to be positively correlated and suggested that both scores be used diagnostically (scores lower than 1000 on intensity and 0.49 on consistency are diagnostic of schizophrenic thought disorder).

Several experimental studies have validated Bannister's standpoint (Bannister and Salmon, 1966; Foulds, et al., 1967; McPherson, 1969; McPherson et al., 1970; Presly, 1969). All studies report no relation with age, sex and I.Q., except that subnormals, with I.Q.'s less than 80, obtain extremely low scores (Bannister and Fransella, 1966).

As reported above, in the review of cognitive studies, Mellsop et al., (1971) have recently used the test with manics, and found that manics obtained a mean intensity score of 1,497 and mean consistency score of .56, which did not differentiate

them from normals. They were differentiated from thought disordered schizophrenics on the intensity score, but not on the consistency score (their mean schizophrenic consistency score of 0.42 was far above that of 0.18 reported by Bannister and Fransella).

Bannister (1962), Bannister and Fransella (1966) and Bannister et al., (1971) have used depressives as criterion groups in their validation studies and found that on the whole they did not differ from normals, but differed significantly from thought disordered schizophrenics on both intensity and consistency, although Bannister (1962) found his depressives to have significantly lower intensity scores than normals. Their depressives included both reactive and endogenous depressives. Neurotics, however, consisting of hysterics, obsessionals, anxiety states and mixed types, have been found to have higher intensity and consistency scores than all other groups, suggesting a tightening up of their construct system which would imply "a gross restriction in the number of ways in which a neurotic can view any given situation. This would mean that all situations tend to be seen as more or less exact replications of situations previously experienced and behaviour becomes consequently rigid and stereotyped" Bannister (1962).

'Thought disorder' could therefore be regarded as a verbal label for a crudely defined section of a continuum which stretches from pathologically tight to pathologically loose construing." (op. cit.)

The intensity and consistency scores of the Bannister-Fransella Grid Test of thought disorder will be used in this study to compare the experimental groups on this continuum and find out whether the type of thought process disorder showed in mania and depression, as outlined above, can be experimentally demonstrated by this method.

ii. Object-Classification Test: The second measure of thought process disorder used is the procedure which Payne has developed to test N. Cameron's (1939) theory of "overinclusion" to denote some schizophrenic's inability to maintain conceptual boundaries. Payne (1960) has fully reviewed this field. Payne and Hewlitt (1960) factor-analysed the scores of schizophrenics on a large number of measures and obtained a factor which they called "overinclusion". Later Payne and Friedlander (1962) using three of the measures which loaded best on that factor, presented the three tests as a battery for testing overinclusive thinking. The Object Classification test was one of the measures. The battery has been widely criticised, e.g. by Hawks (1964), Watson (1967) and Price (1970), who found very low, or negative, correlations among the subjects. However, only the Object Classification test will be considered here.

It has been unclear whether Payne meant this test to measure thought process or thought content disorder, but as Foulds et al. (1967) point out: "As described by Cameron, 'overinclusion' appears to be more closely related to thought process than to thought content disorder".

Gathercole (1965), reviewing tests of overinclusive thinking, suggested that "high scores are returned by people who continue to sort the objects in the object classification test". He comments that since Payne and Hewlitt (1960) defined the over-inclusion factor as that "which differentiated maximally between the depressive and schizophrenic groups", one would expect depressives to give up responding before schizophrenics. Similarly one would expect retarded schizophrenics to have a lower score than non-retarded schizophrenics and this is exactly what Payne and Hewlitt (1960) found. Expectedly, chronic schizophrenics, who are usually retarded, are reported by Payne et al. (1963) to have a low score on the overinclusion factor. Gathercole concludes that Payne's test is not measuring overinclusive thinking in Cameron's sense at all, but instead "the ability to associate freely to the stimuli presented to the patient".

Thus one would expect manic patients to have a high "over-inclusion" score, and this is in fact reported by McGhie et al. (1964). What is being measured is the inability to restrain responses produced by the fluency of association. Hawks and Marshall (1971) found that if overinclusive schizophrenics were made to decrease their speed of responding, they became significantly less overinclusive and vice versa, if non-overinclusive schizophrenics were made to increase their speed, they became significantly more overinclusive.

Foulds et al. (1967) found that the correlations calculated between various tests of schizophrenic thought disorder tended to

be negative though statistically insignificant. Hawks and Marshall (1971) suggest that a high overinclusion score may be the result of responding at an over-optimal speed. A state of information overload occurs in schizophrenia to which some schizophrenics adapt by slowing down their rate of response. Others who do not learn to retard the rate at which they process information will appear overinclusive.

This theory need not apply to schizophrenics only, and, prima facie, seems to fit the manic and depressive picture very well. Hawks and Payne (1971) found that the combined score derived from the three standard tests of overinclusion had significant correlations with clinically rated "open hostility", "motor activity", "talkativeness", "motor speed", "verbal responsiveness" and "thought disorder". These are all manic symptoms.

As mentioned in the review of cognitive studies, Payne and Hirst (1957) and Payne and Hewlitt (1960), have used the overinclusion score in studies of depressives, with contradictory results: these may have been due to lack of homogeneity in the populations studied (e.g. retarded and non-retarded depressives) and/or to the low correlation between the tests used.

The Object Classification Test consists of 12 small objects, 4 squares, 4 circles, and 4 triangles of different sizes and thickness, made of different materials, and painted in colours which differ in both hue and saturation, so that there are intended to be 10 different ways of grouping the objects, each

according to a different principle. The subjects are asked to sort the objects into groups in as many different ways as they can. The 10 correct ways have been classified as "A" sortings. All the other ways of sorting the objects including repeating an A sorting, are scored "Non-A". Intelligence, sex and age have not been found to be significantly related to "overinclusion" score (Hawks, 1964).

Claridge et al. (1966) have observed that "non-A" ("abnormal") responses on the object classification test include a wide range of abnormal responses which may have little in common. They propose the alternative scoring system of 4 different types of "non-A" responses, namely: abstract bizarre, concrete bizarre, repetition of previous sortings and overinclusive. This method was not followed here, that of Payne and Friedlander (1962) seeming adequate for the purpose of this study. The raw scores will be used instead of the transformed scores suggested by Payne and Friedlander as the use of transformed scores is to facilitate comparison among different sub-tests of overinclusive thinking and to enable the use of a combined overinclusion score.

D. Speed:

Depression and mania are characteristically accompanied by subjective feelings of slowness and increase in speed respectively. Retardation and inhibition on the one hand, over-activity, disinhibition and increased speed on the other hand, are included in

most text-books' lists of symptoms of depression and mania respectively. Retardation and its opposite, increase in speed, can express themselves in both motor and mental activities, and it seems that both aspects need not be disturbed to the same degree or at the same time. Nelson (1953) found that problem-solving speed suffers less than does motor speed in mental disorders. Her group of manic-depressives (which consisted of "manics", "melancholics", "mild or neurasthenic depressives", "agitated depressives" and "anxiety states") had the poorest scores on motor-tests as compared to other functional psychotics. Babcock (1941), who does not describe her manic-depressives, obtained the same results. As pointed out in the review section, there has not been much agreement about whether depressives show retardation on objective measures, and no study of the performance of manics on speed tests, seems to have been reported. Both motor and mental speed will be studied here.

1. Motor Speed: The Gibson Spiral Maze or G.S.M. (Gibson 1965), was chosen to study psychomotor speed. This test seemed eminently suitable for that purpose because of its simplicity, shortness, ease of administration and the important fact that it is not contaminated by I.Q. The better known Porteus Maze Test, which originated in 1914, is in fact a test of intelligence and would not have provided a pure psycho-motor speed measure. The G.S.M. consists of a spiral design printed on a card. It provides a pathway 135 cm. in length bordered by heavy black

lines. Obstacles in the form of the letter O in heavy type are scattered along the whole length of this pathway. The design differs from other mazes, like the Porteus, in that it does not have blind alleys or alternative pathways, so that tracing the way through does not involve intellectual ability. The subject is asked to trace a line, starting with the arrow in the middle, as quickly as he can, until he reaches the exit. He is also asked to avoid, as much as possible, touching the lines at the side and the little obstacles. A stop-watch is used to record the time taken from the time the subject starts tracing and after 15 secs. he is told to "go as quickly as you can" and at intervals of 15 secs. afterwards he gets the instructions "quickly, now, quickly" in a firm and sharp voice.

Gibson (1965) recommends 2 scores on this test, a T score (time recorded in seconds) and E score (error score : No. of times side lines and obstacles are touched or penetrated, scored as 1 or 2). T and E are, in fact, usually found to be very highly negatively correlated, i.e. the faster an S is the more likely he is to make errors. Gibson quotes a correlation coefficient of -0.5. This was confirmed by McDonald and Parker (1971) with normal adolescent subjects and by Whiting et al. (1969) with E.S.N. children. Gibson suggests an "adjusted" E score, by partialling out T, as probably the most useful single measure.

This method has not been followed here, because the basic parameter of interest was psycho-motor speed and not a combined

T and E score as a measure of temperament, which is what Gibson intends this instrument to be. He reports, for example, that performance relates to teacher-rated degrees of "naughtiness" and later to delinquency. McDonald et al. (op. cit.) found a highly significant correlation between "adjusted" error score and Eysenck's N score in adolescents. Foulds (1951) using the Porteus Mazes qualitatively, found considerable temperamental differences between different psychoneurotic groups.

Here the test will be used as an error-free speed test and would qualify as a "simple motor response" test in Yates' (1960) analysis of psychomotor functions. The test was administered under three conditions, once in the usual way and twice with distractions, with every experimental group. These conditions were designed as an attempt to repeat Foulds (1952) results, described above (p 70), regarding the effect of distraction on maze performance.

The usual administration (U) was as described above. An internal distraction situation was devised as follows: with the usual instruction, the following was added: "As you go round, I want you to count out loud 1, 2, 3, 4 until you reach the exit. You should count at the rate of about 1 number in 2 seconds at the most." The rate of counting was demonstrated. This administration will be referred to as (C). Foulds got his subjects to repeat numbers after him, but it was thought that it might require more involvement from the patients if they initiated the counting themselves.

An external distraction situation was set up by playing a pre-recorded news item from a tape-recorder (see Appendix A). This was played rather loudly and introduced so as to alert the subject: "While you trace your way round, I'm going to play a story on this tape here. I'll start it and when I say 'begin' you can go straight ahead." This condition will be referred to as (S). The story was played for about one minute before the instructions to start were given. The rest of the instructions were as described above.

The three conditions were administered in a balanced design to counteract practice effect: thus there were six different orders of presentation, UCS, USC, CUS, CSU, SUC, SCU. Since there were 18 subjects in each group (except for one group) three subjects in each group had the same order of presentation. In addition, the three administrations were scattered over the whole testing session.

Results will be reported as: motor-speed without distraction (U), gain with internal distraction (U-C), gain with external distraction (U-S).

2. Mental Speed: Mental speed, or speed of problem solving, was assessed by the Nufferno Speed Tests unstressed and stressed forms, as described by Furneaux in the test manual (1956).

Furneaux (1952, 1960) has developed a theory of problem solving ability which argues "that a subject's score in a cognitive test of the familiar kind is determined by the interaction

of a number of determinants which should really all receive separate consideration. A logical analysis of the nature of the problem-solving act suggests that three attributes, speed, accuracy, and continuance, are concerned with any kind of 'intelligent' behaviour" (Furieux 1960, p. 190). He has designed a test which measures problem solving ability (power) which involves the three variables, rewarding continuance or persistence in particular (Nufferno Level test). The speed measures provide two separate scores, speed and accuracy which attempt to remain uncontaminated. Furieux (1952) made several important methodological points about the intricacies of mental speed measurement. He found that although certain relationships exist between the time a particular person takes to solve problems correctly and incorrectly, these are of such a nature that it is preferable to base rate of work on correct solutions only. Adding the time taken for correct and incorrect solutions increases the standard error of measurement.

Secondly, in measuring mental speed, the level of difficulty of the problems to be solved, must be taken account of. As problems increase in difficulty, the time required to solve them increases. When this time exceeds a certain maximum, which differs from person to person, a subject has the tendency to abandon the problem causing the difficulty, and attempts a fresh one. The distribution of solution times at such difficulty levels is therefore restricted, and is partly determined by the factor of persistence or continuance. This factor is not

operative at lower levels. Therefore, in order to measure speed of problem solving, uncontaminated by other factors, it is necessary to choose rather easy problems, all at the same level of difficulty.

Finally the dispersion of the time taken to provide the right answers to a set of easy problems, all of equal difficulty, is highly positively skewed. If, however, the observed time values (t) are converted to logarithms, the distribution of $\log-t$ for any particular person approximates to that defined by a normal curve, the variance of which is the same at all levels of difficulty and for most people.

All these conditions are fulfilled by the Nufferno Speed Tests - Forms A(1), A(2) and B(1). Forms A(1) and A(2), which appear on Nufferno Sheet 1, are of equivalent difficulty and are satisfactory for mental ages not less than 11 years. Form B(1), which appears on Nufferno Sheet 2, is more difficult and is more suitable for mental ages not less than 14 years. The problems consist of letter series of the type used by Thurstone in his well known "Primary Mental Abilities" battery. He showed that such problems provide an excellent means of measuring Inductive-Reasoning ability, and there is good evidence that this is closely related to the General Ability (g) defined by Spearman.

The tests can be administered under unstressed or stressed conditions and provide the following scores (1) stressed speed, (2) unstressed speed, (3) Accuracy, (4) Stress speed Gain, (5) Speed range, and (6) Speed slope.

In this study only the easier forms A(1) and A(2) were used and the following measures: Unstressed speed (Form A(2)), Stressed Speed (Form A(1)), Stress Speed Gain, A(1)S - A(2)U. (A copy of the tests can be seen in Appendix A).

Furneau's directions for individual administration of the tests were followed rigorously.

Practice columns 1, 2, 3, were administered first, then Form A(2) unstressed and finally A(1) stressed. The instructions for test A(2) unstressed are: "We are going to do the real test now. When you start work again, carry on at your most comfortable rate. Don't waste time but there is no need at all to rush and get flustered. Are there any questions? Ask now because I shall not be able to help you at all once the test has started. Start here."

The time for the solution of individual items was recorded unobtrusively in a cumulative fashion.

The instructions introducing Form A(1) stressed were: "We are going to do another similar test, but before we start there are some new instructions. This time you must work as quickly as you can, not at the rate you prefer, but as fast as you possibly can." This time the stop-watch is placed conspicuously and clicked noisily. Again individual item solution time was recorded.

In the scoring Furneau recommends that if the last line used in practice section 2 is 9 or less, the S's slowness should

be investigated. If it is not due to unfamiliarity with the alphabet or misunderstanding of the instructions, he recommends the use of a corrected score. When such occasions arose in this study, after the subject's familiarity with the alphabet had been ascertained, Furneaux's recommendation was not followed as it was assumed that the slowness was due to a temporary disability (illness) which was what was being investigated.

After averaging log time for correct solutions, the corrected speed score (SP) was read from table 52 of the manual, which enables high scores to go with high rate of work, giving Sp.U. (unstressed speed score) and Sp.S. (stressed speed score). Sp.S. - Sp.U. gives the stress - Gain score.

IV STATISTICAL ANALYSIS:

Since six groups were involved, a one way analysis of variance, (Guilford 1956) was carried out to test whether there was an overall difference between the groups. The two missing values in Group II (Bp.D.) were filled in by group means for the purpose of computer calculation, (EDEX programme). Thus though calculations were made on 108 variables for each measure, the total number of degrees of freedom were 105, instead of 107. In cases where the F ratio was significant the t-test (Guilford 1956), with appropriate standard error, i.e. standard error for the whole population with 100 degrees of freedom (105-5), was used to test differences between the means for relevant comparisons. The formula for standard error of the difference between means, following the F-test was: $\sqrt{\frac{\sigma^2}{9}}$, or $\sqrt{\frac{\sigma^2}{18} + \frac{\sigma^2}{16}}$ where Bp.D. was

concerned. σ^2 was the mean error variance for all six groups, i.e. with 100 degrees of freedom.

Where the data gave a skewed distribution, raw scores were logged to approximate a normal distribution. The logged scores used were log of the variable plus 10, because of 'zero' scores.

In view of the significantly lower mean age of both manic groups, ill and recovered, the association of age with test scores was tested by the product moment correlation for measures where age is known to be relevant, such as speed test scores.

The Symptom Sign Inventory (SSI) was analysed separately as a different statistical approach was necessary to analyse the different types of scores derived from this test: chi-square technique (Siegel 1956) was used to compare individual symptoms for the ill groups and PD scores for the recovered groups (see methodology of SSI above); t-tests were used to compare mean PD scores of ill groups, mean number of symptoms on a-priori scales and mean number of symptoms from the whole inventory.

V SPECIFIC HYPOTHESES

The specific hypotheses tested were:

A. Symptom-Sign Inventory (S.S.I.):

1. Manics (Bp.M.) will have lower scores than both depressed groups on all measures, i.e. on PD scale, total No. of symptoms, No. of symptoms on each a-priori scale, except for scale C on which they will obtain a higher score.
(Clinically, manics manifest less distress. Since most of the a-priori scales, except perhaps C and F are

concerned with distress, manics should score lower than the two depressed groups on most measures used, except on scale C).

2. The two depressed groups will not differ on PD and mean No. of symptoms.*
3. Unipolar Depressives (Up.D.) will show more varied symptomatology than bi-polar depressives (Bp.D.), being probably more of a mixed group (see Perris, 1966).
4. The clinically recovered groups will have normal scores on the PD scale (see p.103 and fig. 6.1).

B. The Hostility and Direction of Hostility Questionnaire (H.D.H.Q.)

1. Manics (Bp.M.) will be more extrapunitive than both depressed groups (Bp.D. and Up.D.).*
2. Manics (Bp.D.) will be less intropunitive than both depressed groups (Bp.D. and Up.D.). This hypothesis is based on clinical experience as well as psycho-analytic writings (see p.55-59 above).
3. The Bi-polar Depressives (Bp.D.) will not differ from the unipolar depressives (Up.D.) on either intropunitiveness or extrapunitiveveness. (Depressives of all types have usually been found to be high on intropunitiveness and average on extrapunitiveveness, Mayo, 1967; Caine et al.1967).
4. The recovered groups will not differ in either intropunitiveness or extrapunitiveveness (providing they score as 'normals'. Different groups of normals have been found not to deviate very much, Caine et al. 1967).

5. With recovery, intropunitiveness will go up in manics and down in both depressed groups. (This follows logically from B.2 and B.4).
6. With recovery, extrapunitiveness will go markedly down in manics, but go slightly up in both depressive groups, (following B.1 and B.4).

C. 16 P.F.

1. Both depressed groups (Bp.D. and Up.D.) will show more anxiety than the manics (Bp.M.) and will not differ between themselves. (Depressives have been shown to have high anxiety during illness, see p.80-81 above, but for manics no objective studies exist, so that the hypothesis is based on clinical impression).
2. Both depressed groups (Bp.D. and Up.D.) will be highly introverted while manics (Bp.M.) will be extraverted. (Again the depressives' scores can be predicted from Coppen and Metcalfe's Study quoted on p.80-81, but no objective studies exist for manics).
3. With recovery, the two bi-polar groups (R.Bp.M. and R.Bp.D.) will be alike and different from the recovered unipolars (R.Up.D.). (See Perris, 1966, 1971 described p.79-81 above).
4. The scores of all groups will vary between illness and recovery. (see Metcalfe, 1968, Coppen and Metcalfe, 1965, p.80-81 above).

D. Grid Test of Schizophrenic Thought Disorder

It is difficult to generate hypotheses on this measure, but in view of the characteristics of manic and depressive thought-process mentioned above (Section C, p.116) if abnormal scores are obtained they should follow the following pattern.

1. Manics (Bp.M.) will show loose and inconsistent construct relationships, (see Slater and Roth, 1969).
2. Both depressed groups (Bp.D. and Up.D.) will show a tightening up of their construct system, obtaining very high scores on both measures, (Bannister 1962, p.120 above).
3. The three recovered groups will obtain normal scores and not differ among themselves.*

E. Payne's Object Classification Test

1. Manics (Bp.M.) will obtain a higher number of abnormal sortings, non A scores, than the depressed groups (Bp.D. and Up.D.), (see McGhie, 1967, quoted p.72, and Gathercole, 1965, quoted p.122).
2. The two depressive groups will not differ on either A or Non-A. (following Gathercole's 1965 argument, p.122). Manics (Bp.M.) will also produce more normal sortings, A scores, than both depressed groups (Bp.D. and Up.D.).
3. The recovered groups will not differ and obtain average non-A and A scores.*
4. The recovered manics will obtain lower Non-A scores when recovered than when ill (following on E.1).

F. Gibson Spiral Maze (Psycho motor speed under 3 conditions)

1. Manics (Bp.M.) will be faster than both depressed groups (Bp.D. and Up.D.) on the usual administration of the test (U).*
2. The two depressed groups (Bp.D. and Up.D.) will not differ in speed, (depressives have on the whole been shown to be slow, e.g. Nelson, 1953, Babcock, 1941, see p.125).
3. External distraction will facilitate the two depressed groups' performance (make them faster) but slow down the manics (Bp.M.), so that the two depressed groups will show more mean gain in speed than the manics. (Foulds 1952, see p.70 and p.127, provides the hypothesis about depressives, but that about manics is based on clinical impressions of the latter's distractibility).
4. Internal distraction will also make the two depressed groups (Bp.D. and Up.D.) faster, but will not slow down the manics' (Bp.M.) to the same extent as external distraction. (For same reasons as F.3).
5. The manics will be slower after recovery (R.Bp.M.) and the depressives faster (R.Bp.D. and R.Up.D.), so that the three recovered groups will not differ in speed. (This again is based mainly on clinical evidence, as objective studies have not always agreed, see p.70-71).

G. Nufferno Mental Speed Test

1. The manics (Bp.M.) will have a higher unstressed speed

(Sp.U.) score than either depressed group (Bp.D. and Up.D.).*

2. The two depressed groups (Bp.D. and Up.D.) will not differ in unstressed speed (Sp.U.). (See p.125, Nelson's and Babcock's study, also Payne and Hewlett, 1960, quoted p.70).
3. All three groups will respond positively to stress but the two depressed groups (Bp.D. and Up.D.) will gain more with stress than the manics (Bp.M.).*
4. There would be no difference in either stressed (Sp.S.) or unstressed Speed (Sp.U.) among the three recovered groups (R.Bp.M., R.Bp.D., R.Up.D.).*
5. With recovery, manics will have lower unstressed speed* (Sp.U.) scores and depressives higher unstressed speed scores.

All hypotheses marked () are based on clinical experience, as no known objective studies are known to have dealt with these problems.

CHAPTER 7

RESULTS

The results will be presented in 3 sections:

- I Comparison of Ill groups: Bi-polar Manics or Bp.M. (group 1) vs. Bi-polar Depressives or Bp.D. (group 2) vs. unipolar depressives or Up.D. (group 3).

- II Comparison of recovered groups: Recovered bi-polar manics or R.Bp.M. (group 4) vs. Recovered bi-polar depressives or R.Bp.D. (group 5) vs. Recovered unipolar depressives or R.Up.D. (group 6).

- III Effects of Illness: Bi-polar Manics vs. Recovered Bi-polar Manics (Bp.M. vs. R.Bp.M.), Bi-polar depressives vs. Recovered Bi-polar depressives (Bp.D. vs. R.Bp.D.), and Unipolar Depressives vs. Recovered Unipolar Depressives (Up.D. vs. R.Up.D.).

I Comparison of Ill Groups:

This section will compare the results, on all the measures, of the three 'ill' groups.

A. Symptom - Sign Inventory (S.S.I.)

1. Personal Disturbance Scale (PD): The mean scores of the three groups on the PD scale are shown in table 7.1

Table 7.1 Personal Disturbance (PD) Scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
N	18	17	18
Mean PD	2.56	7.05	7.83
S.D.	1.42	2.88	1.62

The results of t-tests applied to these scores are shown in table 7.2.

Table 7.2 Significance of differences between mean PD scores

Comparison	t	p
Bp.M. vs. Bp.D.	5.83	<.0005*
Bp.M. vs. Up.D.	10.33	<.0005*
Bp.D. vs. Up.D.	0.98	not sig.**

(*one-tailed test, **two-tailed test, df = 34 or 33 where Bp.D. is involved).

Thus the manics obtain only a borderline Personal disturbance score, whereas both depressed groups obtain equally high scores: from the S.S.I. norms, scores of 0-1 are considered not PD, 2-4 borderline, and 4+ Personally Disturbed. Both depressed groups obtain significantly higher mean PD scores than the manic group and do not differ from one another, which is in the expected direction (hypotheses A_1 and A_2), p 133-134.

2. Total number of symptoms: The mean number of symptoms endorsed on the S.S.I. by each of the three groups is shown in table 7.3.

Table 7.3 Mean number of symptoms on S.S.I.

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
N	18	17	18
Mean No. of Symp.	14.83	17.70	22.67
S.D.	5.34	8.26	3.67

The results of t-tests applied to these scores are shown in table 7.4 below.

Table 7.4 Significance of differences between mean No. of symptoms

Comparisons	t	p
Bp.M. vs. Bp.D.	0.79	not sig.
Bp.M. vs. Up.D.	5.16	< .0005*
Bp.D. vs. Up.D.	2.28	< .05**

(*one-tailed, **two-tailed, df 34 or 33 where Bp.D. is involved).

The two bi-polar groups do not differ in mean number of symptoms and endorse significantly less symptoms than the unipolars. This is slightly contrary to expectation. It

was hypothesised (hypothesis A_1) that the manics would endorse less symptoms than both depressed groups and that the two depressed groups will not differ on mean number of symptoms (hypothesis A_2), $p < .05$.

3. Scores on 8 a-priori scales: The mean number of symptoms obtained by the three groups on each of the eight a-priori scales are shown in table 7.5.

Table 7.5 Mean scores on the 8 a-priori scales

Scales	Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
A	M	2.33	3.94	4.56
	S.D.	3.33	4.13	4.73
B	M	2.06	5.88	6.67
	S.D.	3.40	6.26	6.76
C	M	5.22	0	0.28
	S.D.	5.32	0	0.57
D	M	1.06	0.59	0.83
	S.D.	1.86	1.06	1.47
E	M	1.33	1.52	2.17
	S.D.	2.11	2.40	2.38
F	M	0.56	0.76	0.61
	S.D.	1.15	1.09	1.38
G	M	0.83	0.88	2.11
	S.D.	1.10	1.11	2.63
H	M	1.50	4.18	5.00
	S.D.	0.53	4.33	5.81

The results of t-tests applied to these scores are shown in table 7.6 below.

Table 7.6 Significance of differences between groups on individual S.S.I. scales.

<u>Comparisons</u> <u>scales</u>		Bp.M. vs. Bp.D.	Bp.M. vs. Up.D.	Bp.D. vs. Up.D.
A	t	1.24	1.59	0.40
	p	N.S.	N.S.	N.S.
B	t	2.20	2.56	0.35
	p	<.025	<.025	N.S.
C	t	3.93	3.92	1.98
	p	<.0005	<.0005	<.05
D	t	0.90	0.40	0.56
	p	N.S.	N.S.	N.S.
E	t	0.24	1.09	0.79
	p	N.S.	N.S.	N.S.
F	t	0.51	0.11	0.35
	p	N.S.	N.S.	N.S.
G	t	0.13	1.85	1.73
	p	N.S.	<.05	<.05
H	t	2.53	2.46	0.46
	p	<.025	<.025	N.S.

(one-tailed test, df 34 or 33)

It is interesting to note from the table above that the manics do not differ significantly from the two depressed groups on the a-priori Anxiety Scale (A). Nor do they

differ from the depressed groups on the paranoid scale (D), obsessional scale (E), non-paranoid schizophrenic scale (F). They differ from the unipolars on the hysterical scale (G), but not from the bi-polar depressed. This is against expectation as it was hypothesised that manics would have lower mean scores on all the sub scales of the S.S.I., except the manic scale (C). Only the two depressive scales (B and H) and the manic scale (C) differentiated in the expected direction: hypothesis A.1, *p* 133.

Hypothesis A.3 that the unipolar depressives would show more varied symptomatology than the bi-polar depressives is also sustained as the unipolars differed from the bi-polars in the expected direction on the G (hysterical) and C (manic) scales, ^(*p* 134) Anxiety (A), the two depressive scales (B and H), the paranoid scale (D), obsessional scale (E), non-paranoid schizophrenic scale (F) did not differentiate the two depressive groups.

4. Items differentiating Unipolar Depressives and Bi-polar Depressives:

So far, it has been shown that the unipolar depressives (Up.D.) endorse more symptoms than the bi-polar depressives (Bp.D.) and only differ on two of the a-priori scales, C and G. It was decided to compare these two groups on individual symptoms, to elucidate differences between them further.

Table 7.7 lists the symptoms that differentiate the two depressed groups significantly. However, one would expect to find by chance 4 of the 80 items of the S.S.I. to differentiate at the 5 per cent level between the two groups. Therefore the present results need to be replicated before they can be accepted.

Table 7.7 S.S.I. items differentiating unipolar depressives (Up.D.) from bi-polar depressives (Bp.D.).

		% of patients endorsing symptoms		
		Up.D.	Bp.D.	χ^2
A ₃	Do you suffer from palpitations and breathlessness?	55.6	11.8	7.44**
G ₄	Do you ever lose all feeling in any part of your skin - so that you wouldn't be able to feel a pin prick - or do you ever have burning or tingling sensations.	33.3	5.9	4.12*
G ₇	Do you ever suffer from blurring of vision or any other difficulty with your sight which no one seems able to put right?	22.2	0	4.26*
G ₁₀	Are you worried about your physical health?	33.3	11.8	4.58*
H ₅	Are you troubled by waking in the early hours and being unable to get off to sleep again (if you don't have sleeping pills)?	88.9	58.8	4.14*
H ₁₀	Do you ever go to bed feeling you would not care if you never woke up?	77.8	41.2	4.88*

df = 1, two-tailed test, * p < .05, ** p < .01

B. States and Traits Measures

The analysis of variance tables of all measures (except the symptom-sign Inventory) for all six groups are set out in Appendix D. In the following comparisons, the bi-polar manics (Bp.M.) and Unipolar depressives (Up.D.) groups consist of 18 subjects each, while the bi-polar depressive groups (Bp.D.) consists of 16 subjects.

1. Intropunitiveness (Self-Criticism and Guilt):

The mean range and standard deviation of each ill group on this measure are shown in table 7.8 below:

Table 7.8 Intropunitiveness sten scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	6.33	7.94	8.22
range	2 - 9	4 - 10	6 - 10
S.D.	2.11	2.05	1.21

The significance of the differences are shown in table 7.9 below:

Table 7.9 Significance of differences in Intropunitiveness

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	1.61	0.77	2.09	<.025*
Bp.M. vs. Up.D.	1.89	0.67	2.81	<.01*
Bp.D. vs. Up.D.	0.28	0.77	<1	N.S.

(df = 100, * one-tailed test)

thus, both depressed groups (Bp.D. and Up.D.) have high levels of intropunitiveness (normal scores range from 4.5 - 6.5, since these are sten scores) and do not differ between themselves, though the unipolars have a slightly higher mean score. The manics (Bp.M.) have a significantly lower level of intropunitiveness than the two depressed groups and their mean score is very close to the normal mean.

2. Extrapunitiveness (Criticism of Others and Acting-out Hostility and Delusion of Projected Hostility):

Table 7.10 describes the scores of the 3 groups on this measure:

Table 7.10 Extrapunitiveness sten scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	7.67	4.89	6.00
range	5 - 10	3 - 9	4 - 8
S.D.	1.57	1.84	1.19

The following table shows the significance of the group comparisons.

Table 7.11 Significance of differences in Extrapunitiveness

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	2.78	0.55	5.09	< .0005*
Bp.M. vs. Up.D.	1.67	0.54	2.18	< .005*
Bp.D. vs. Up.D.	1.11	0.55	2.96	< .05**

(df = 100, *one-tailed, **two-tailed test)

The manics (Bp.M.) show the highest level of extrapunitiveness, higher than a normal mean and significantly higher than both depressed groups. Though both depressed groups (Bp.D. and Up.D.) are average on this measure, the unipolar depressives have a significantly higher mean score than the bi-polar depressives.

Thus, hypotheses B₁ and B₂ that manics will be more extrapunitive, but less intro-punitive than both depressed groups have been sustained ($p < .05$). The third hypothesis on this measure (B₃) that the two depressed groups will not differ in level of intro-punitiveness or extrapunitiveness has only partly been sustained. Intro-punitiveness does not differentiate the two depressed groups, but extrapunitiveness is significantly higher in the unipolars.

3. Anxiety (16 P.F. second-order factor)

Table 7.12 below describes the scores obtained by the 3 ill groups on this personality test factor.

Table 7.12 Anxiety sten scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	6.87	7.04	8.41
range	45 - 10	44 - 10	57 - 10
S.D.	1.83	1.99	1.47

The results of t-tests applied to these scores are shown in table 7.13.

Table 7.13 Significance of differences in Anxiety

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	0.17	0.63	<1	N.S.
Bp.M. vs. Up.D.	1.54	0.61	2.53	< .01*
Bp.D. vs. Up.D.	1.37	0.63	2.18	< .05**

(df = 100, * one-tailed, ** two-tailed test)

Table 7.12 shows that all three groups are high on the anxiety trait factor as compared to normals (45-6.5 are considered average). The unipolar depressives (Up.D.) have the highest score of all, significantly higher than

either bi-polar group. The two bi-polar groups do not differ significantly on this factor.

Thus, this factor behaves quite differently from expected: It had been hypothesised (hypothesis C₁) that the two depressed groups would not differ on this measure and would obtain higher mean scores than the manics (p.135). It is surprising that the bi-polar manics see and report themselves as highly anxious as the bi-polar depressives.

4. Extraversion (16 P.F. second-order factor)

The means and other statistics describing the 3 groups' scores on this factor are shown in table 7.14.

Table 7.14 Extraversion sten scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	6.65	3.08	3.25
range	1.7 - 10	1.0 - 6.4	1.0 - 8.1
S.D.	2.14	1.77	2.49

Table 7.15 shows the results of group comparisons.

Table 7.15 Significance of differences in extraversion

Comparisons	Difference	S.E. _{Diff.}	t	p
Bp.M. vs. Bp.D.	3.57	0.78	4.7	< .0005*
Bp.M. vs. Up.D.	3.40	0.76	4.36	< .0005*
Bp.D. vs. Up.D.	0.17	0.78	< 1	N.S.

(df = 100, * one-tailed test)

The two tables above show that the manics (Bp.M.) have a high mean score on extraversion which is outwith the average range, and significantly higher than the mean score of either depressed group, at a very high level of significance.

The two depressed groups (Bp.D. and Up.D.) have low scores on this factor, lower than the normal mean, indicating high introversion, and they do not differ between themselves.

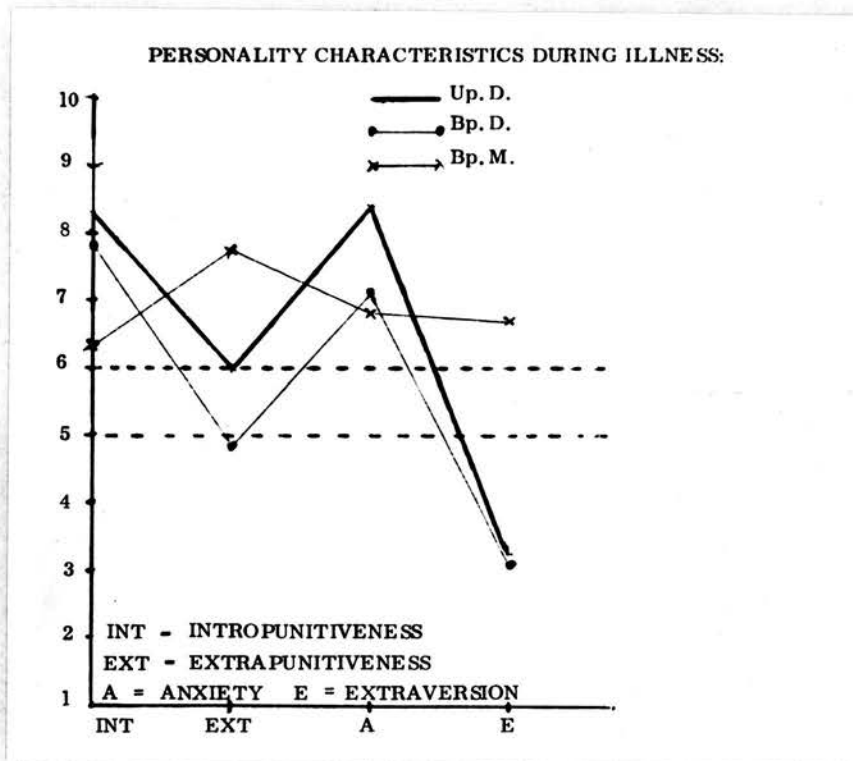
Thus the groups behaved in accordance to expectation on this factor, thus supporting hypothesis C2 (P135).

Figure 7.1, on the next page, shows graphically how the three ill groups compare on the four "states and traits" measures reported above.

C. Thought-Process

The scores obtained by the three ill groups on the four measures of thought-process are reported in this section.

FIG. 7.1.



1. Repertory grid test

a) Table 7.16 describes the main characteristics of the groups' scores on the intensity measure.

Table 7.16 Intensity Scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	1133.83	1148.72	1113.61
range	361 - 2084	500 - 1916	623 - 2327
S.D.	492.62	440.96	506.97

Since the f-test for this measure was not significant (see Appendix D), the t-test was not applied. This measure does not discriminate the groups because of high within-group variance. The mean scores from table 7.16 above are well above the cut-off point of 1000 which Bannister and Fransella (1967) recommend for discriminating thought-disordered from non-thought-disordered subjects.

b) Table 7.17 describes the consistency scores obtained by the groups.

Table 7.17 Consistency scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	0.63	0.70	0.56
range	0 - .96	.08 - .97	.04 - .94
S.D.	0.29	0.22	0.21

The f-test (Appendix D) was not significant on this measure either, so that no t-test was applied. The mean scores on this measure are also above the cut-off point of 0.49 recommended by Bannister and Fransella (1967). Thus the tentative predictions on this test (hypotheses D 1 and 2) are not supported: The manics did not score low on either measure and the two depressed groups did not score particularly high, (p. 136).

Because of the large within-group variance, it is relevant to look at the distribution of scores within each group. Figures 7.2 and 7.3 below show the frequency distribution of the groups' scores on intensity and consistency respectively. The wide scatter of the intensity scores is common to all 3 groups. 22 out of the total 54 subjects are misclassified on the intensity score above, i.e. nearly 41 per cent. But, surprisingly, it is not the manics who obtain the worst scores; ~~but the unipolar depressed group~~. Looking at the percentage of each group scoring below 1000 we see that 8 out of 18, or 44½ per cent of unipolars score below 1000, whereas only 6 out of 16, or 37½ per cent of the bi-polar depressed (Since the 2 missing values in this group was replaced by mean values it is proper to calculate percentages on 16 cases only), and 8 out of 18 or 44½ per cent of the manics score below the cut-off point.

The consistency scores are less widely scattered (fig. 7.3), only 20 per cent of the three groups taken

FIG. 7.2

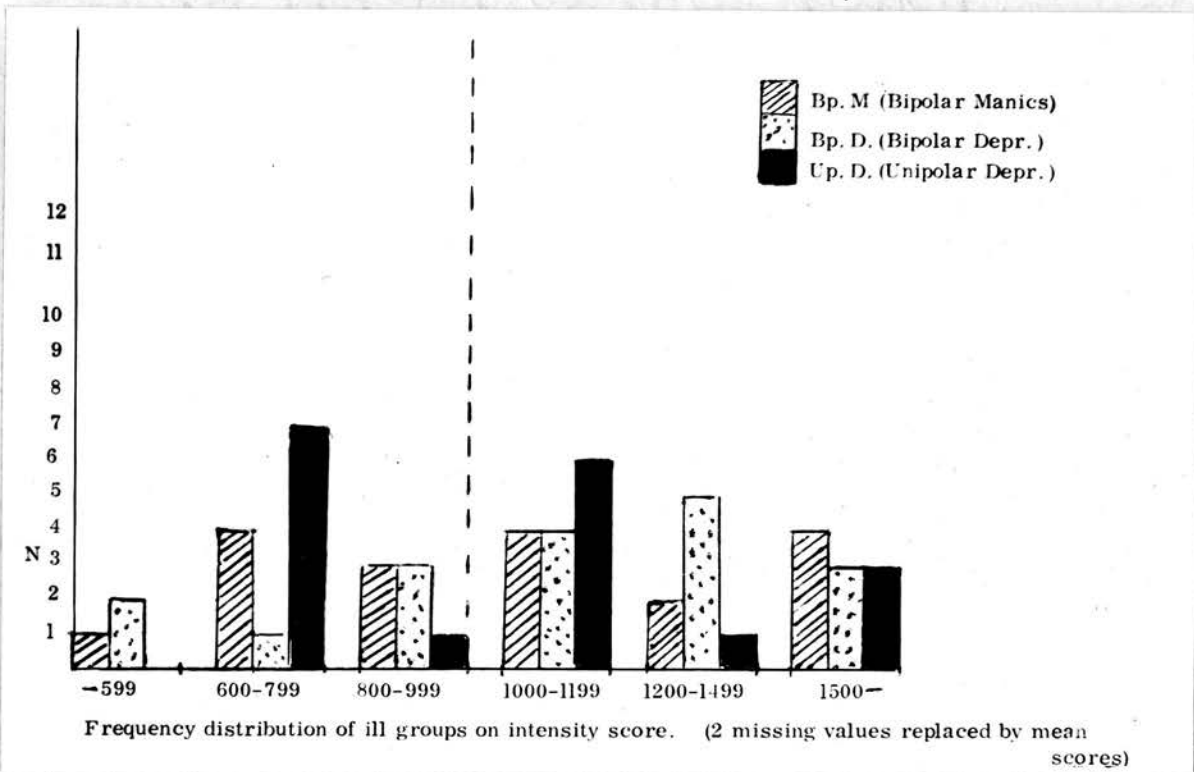
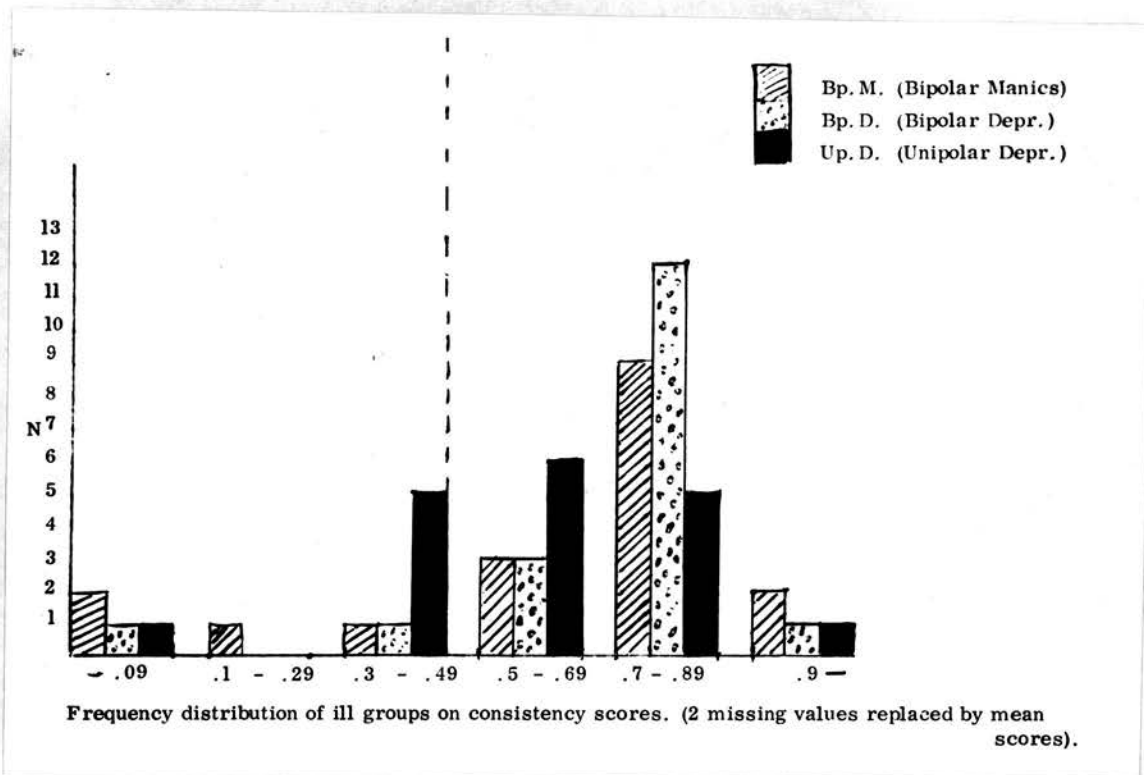


FIG. 7.3.



together score below the cut-off point of .49. And again it is not the "distractible", mercurial manics who fare worst, but the unipolar depressives: 33 per cent of unipolar depressives, as compared with 12½ per cent of bipolar depressives and 22 per cent of manics score below the cut-off point of .49.

Using both scores together as a measure of thought-process disorder typical of schizophrenia, 3 manics (Bp.M.), 2 bi-polar depressed (Bp.D.) and 4 unipolar depressed (Up.D.) score as thought-disordered, that is 16.7 per cent of manics (Bp.M.), 12½ per cent of bi-polar depressed (Bp.D.) and 22 per cent of unipolar depressed (Up.D.) show looseness and inconsistency in their construct system.

2. Object-Classification Test

a) The number of normal responses (A-responses) characteristic of each ill group is tabulated below.

Table 7.18 A-responses

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	2.28	2.94	3.5
range	0 - 6	0 - 5	1 - 6
S.D.	1.84	1.53	1.82

Again the f-test for this measure was not significant (see Appendix D), so no t-test was made to follow.

b) The abnormal or Non-A responses, however, showed high discrimination. Because of the skewed nature of the variate values, the raw scores were logged for the analyses of variance. The table below shows the mean logged scores (log of variate + 1) and their range for all three groups.

Table 7.19 Non-A responses (log of "variates + 1")

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	1.37	0.42	0.79
range (raw scores)	0 - 9	0 - 3	0 - 4
S.D.	0.29	0.19	0.20

The results of t-tests applied to these scores are shown in table 7.20 below.

Table 7.20 Significance of difference in Non-A scores

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	0.95	0.18	5.59	<.0005*
Bp.M. vs. Up.D.	0.58	0.17	3.40	<.001*
Bp.D. vs. Up.D.	0.37	0.18	2.19	<.05**

df = 100, * one-tailed, ** two-tailed test.

The bi-polar depressives (Bp.D.) have the lowest score of all and the manics (Bp.M.) the highest score, with the unipolars (Up.D.) intermediate, all differences being significant.

Hypothesis E1 (p.136) that manics will obtain a higher Non-A score than both depressed groups is supported, but not hypothesis E3 that they will also obtain a high A-score.

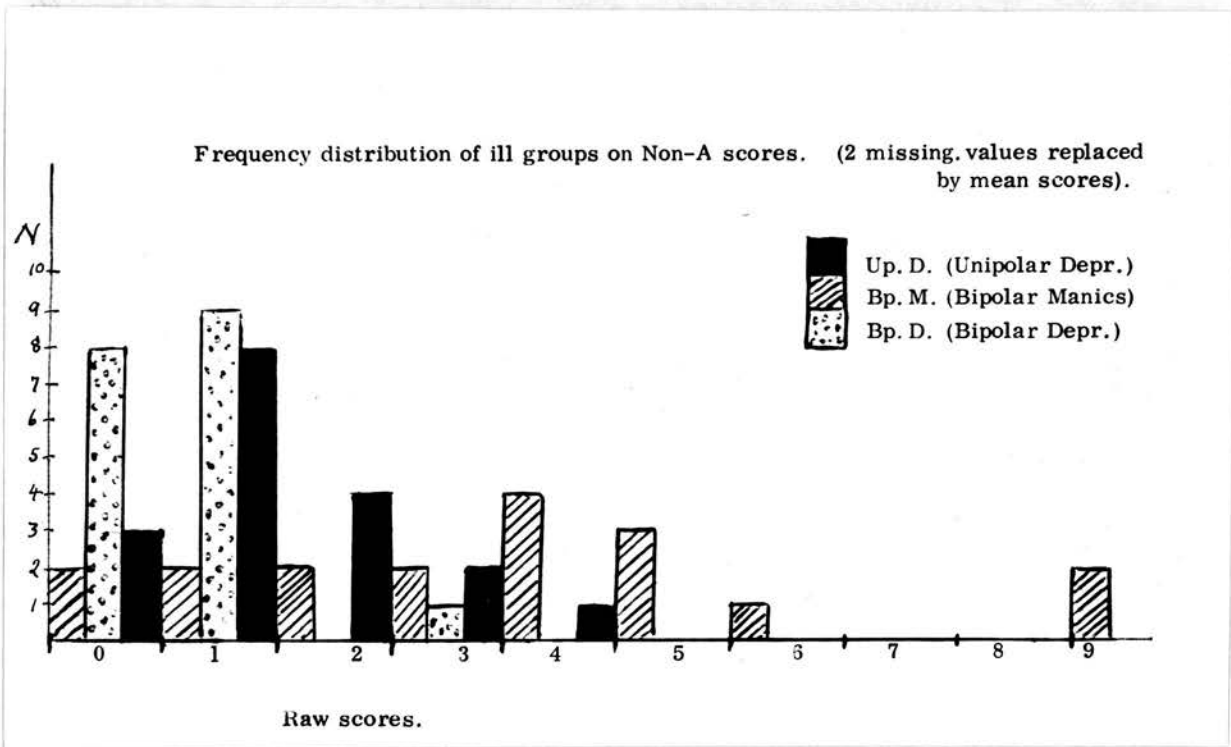
Hypothesis E2 that the two depressed groups will not differ in A-responses is supported, but not that they will also not differ in Non-A responses. The unipolars obtain a higher mean Non-A score than the bi-polar Figure 7.4 shows the frequency distribution of the raw Non-A scores.

It can be seen that neither depressed group had raw scores greater than 4, whereas 6 of the manics had scores greater than 4. Payne and Hewlett (1960, fig. 1.3, p.37) found that scores over 4-5 discriminated their schizophrenics from normals, dysthymics, depressives and hysterics. If the raw scores are transformed to make them comparable with Payne and Hewlett's transformed scores, the manics mean Non-A transformed score is 0.94, which is lower than the schizophrenics' mean of 2.05, but higher than the means these authors quote for their control groups.

D. Speed

The following tables show the three ill groups compared on the different speed variables.

FIG. 7.4



1. Psychomotor-Speed

a) First, the scores obtained on a psychomotor speed task, without distraction, denoted by U, are shown in tables 7.21 and 7.22.

Table 7.21 Motor-Speed T scores (U)

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	42.78	68.11	44.89
range	26 - 62	31 - 95	25 - 62
S.D.	14.52	21.78	12.86

Table 7.22 Significance of differences in Motor Speed T scores (U)

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	20.33	5.35	3.80	<.0005*
Bp.M. vs. Up.D.	2.11	5.19	< 1	N.S.
Bp.D. vs. Up.D.	18.22	5.35	3.41	<.002**

df = 100, * one-tailed, ** two-tailed test

The scores of table 7.21 are raw scores in seconds, so that the highest the group mean score, the slowest is that group. Thus, the bi-polar depressives (Bp.D.) are significantly the slowest group, the unipolar depressives (Up.D.) being as fast as the manics (Bp.M.). If slowness on this

measure is taken as equivalent to what clinicians call "retardation", then the bi-polar depressives can be said to be showing retardation, while the unipolar depressives don't: Gibson (1965) quotes a median time score of 61.00 seconds for his depressives (median age : 55 yrs.) before treatment, and 42.00 seconds after treatment. These scores are similar to the bi-polar depressives' scores and the bi-polar manic's and unipolar depressives' scores respectively. The mean score was computed here as the data distribution was not skewed.

Speed scores are known to be significantly related to age : here the two depressed groups did not differ significantly in age (mean age of 50.6 ± 6.5 and 48.6 ± 8.21 for Bp.D. and Up.D. respectively). The manics (mean age 37.1 ± 12.7) were, however, significantly younger than both depressed groups.

A product-moment correlation within the manic group between age and motor-speed (U) score was 0.42, which is not statistically significant ($p > .05$, $df = 16$). It was therefore deduced that the age factor did not have a significant influence on the discriminative power of this parameter.

b) With the "internal distraction" (counting) situation, here denoted by (C), the following table describes the gain

scores obtained by each group: they are difference scores ($\bar{u} - C$) in seconds, i.e. mean time taken to perform the motor task without distraction minus time taken while counting. Positive scores indicate that a shorter time was taken with an internal distraction (counting).

Table 7.23 Gain in psychomotor speed with "internal distraction"

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	2.11	6.00	0.33
range	-22 - 18	-14 - 31	-25 - 20
S.D.	9.31	13.86	14.45

The F-test (Appendix D) was not significant for this measure, so no t-test was made to follow.

It can be seen from table 7.23 that all mean scores are positive, the bi-polar depressives (Bp.D.) showing the biggest gain, but not significantly so. This distraction does not seem to have been potent enough to act as a real distraction situation which would interfere with whatever internal process was retarding the bi-polar depressives, though the trend is in the right direction.

c) The external distraction situation (listening to a tape-recorded story while performing the psychomotor task) here denoted by (S), had more effect, as the two following

tables will show. The scores indicate gain with external distraction, i.e. they are difference scores (U - S) in seconds. Positive scores indicate that the "external distraction" caused an increase in speed, and negative scores indicate a decrease in speed.

Table 7.24 Gain in psychomotor speed with "external distraction"

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	3.94	8.28	-8.44
range	-10 - 20	-40 - 43	-38 - 12
S.D.	8.16	17.62	12.56

Thus, both bi-polar groups (Bp.M. and Bp.D.) tend to gain in speed with an external distraction while the unipolar depressives (Up.D.) slow down.

Table 7.25 reports the t-tests applied to these scores.

Table 7.25 Significance of difference in gain in psychomotor speed with "external distraction"

Comparisons	Difference	S. E. Diff.	t	p
Bp.M. vs. Bp.D.	4.34	4.58	< 1	N.S.
Bp.M. vs. Up.D.	12.38	4.42	2.8	<.01
Bp.D. vs. Up.D.	16.72	4.58	3.65	<.001

df = 100, two tailed test

The difference between the unipolars and each bi-polar group is highly significant. Thus, it seems that the unipolar depressives are distracted by an external stimulus, while the bi-polars, whether manic or depressed, improve their performance, the stimulus having a facilitating effect on their psychomotor speed. Again, as in the "internal distraction" experiment, the bi-polar depressives gain most in speed.

Thus, the predictions on this measure have not all been sustained (p. 137).

Hypothesis F.1 that manics will be faster than both depressed groups is only supported in part: the manics are faster than the bi-polar depressives, but not faster than the unipolar depressives.

Hypothesis F.2 that the two depressed groups will not differ in psychomotor speed is not supported: the bi-polar depressives are significantly slower than the unipolar depressives.

Hypothesis F.3 that external distraction will facilitate psycho-motor speeds in both depressed groups, but slow down the manics, so that the two depressed groups will show more gains in speed than the manics is not supported: it is the unipolars who are slowed down, while the manics and the bi-polar depressives gain in speed. The two bi-polar groups

do not differ, and are significantly different from the unipolars.

Hypothesis F.4 that internal distraction will affect the groups in the same way as external distraction is not supported. It caused a slight gain in speed in all three groups, with no significant differences.

2. Mental Speed

The tables below show how the groups performed on the mental speed parameters.

a) Table 7.26 describes the groups' scores on unstressed speed, SP.U.

Table 7.26 Unstressed speed (Sp.U.) scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	195.50	178.33	180.61
range	170 - 217	132 - 216	130 - 225
S.D.	14.62	21.26	23.64

Table 7.27 Significance of differences in SP.U.

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	17.17	6.50	2.64	< .01
Bp.M. vs. Up.D.	14.89	6.30	2.36	< .025
Bp.D. vs. Up.D.	2.28	6.50	< 1	N.S.

df = 100, one-tailed test

High scores on this measure indicate high speed of work. Thus, when left to work at their preferred speed of work, the two depressed groups do not differ in speed of problem-solving, but the manics (Bp.M.) are significantly faster than either group.

Compared to the normative data for an unselected general population (Nufferno Manual, 1956), the mean manic Sp.U. score is slightly above the 50th per centile (Sp.U. = 190) while the depressive groups' means are at about the 42nd per centile. So, compared to normals, the manics were not particularly fast, nor the depressives particularly slow.

Within the manic group, the product-moment correlation of age with test scores is -0.36 ($p > .05$, $df = 16$). This indicates that the older subjects in the group tended to have lower scores. However, since the correlation is not significant, it was decided that the age factor did not influence the results to a significant degree.

b) The stressed speed scores (SP.S.) below show clearly that age was not important in accounting for speed differences, as all three groups perform at the same speed when stressed.

Table 7.28 Stressed Speed (Sp.S.) scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	211.67	208.67	204.00
range	185 - 232	180 - 238	160 - 240
S.D.	17.48	17.54	21.88

The F-test (see Appendix D) was not significant for this measure, so no t-tests were made to follow.

Thus, when stressed to work quickly, the depressives can solve problems as fast as the manics. The mean scores from table 7.28 are all slightly above the 50th percentile when compared to the Sp.S. normative data for an unselected general population (Nufferno Manual).

c) The tables below show the Stress-Gain scores of the three ill groups, i.e. (Sp.S. - Sp.U.).

Table 7.29 Stress-Gain Scores

Groups	1 Bp.M.	2 Bp.D.	3 Up.D.
M	15.61	29.67	23.39
range	-17 - 44	8 - 88	1 - 40
S.D.	14.92	20.29	11.83

Table 7.30 shows the results of t-tests applied to these scores.

Table 7.30 Significance of Differences in Stress-Gain

Comparisons	Difference	S.E. Diff.	t	p
Bp.M. vs. Bp.D.	14.06	5.00	2.81	< .005
Bp.M. vs. Up.D.	7.78	4.85	1.60	N.S.
Bp.D. vs. Up.D.	6.28	5.00	1.26	N.S.

df = 100, one-tailed test

Tables 7.29 and 7.30 show that all three groups have a positive mean stress-gain score, but the bi-polar depressives (Bp.D.) who were the slowest, when left to work at their preferred speed of work, respond best to stress. They gain significantly more speed than the manics, but not more than the unipolar depressives. Though the unipolar depressives gain more speed with stress than the manics, the difference between them does not reach significance.

Thus, the specific hypotheses relating to the performance of the groups on this measure have been, on the whole, supported (pp. 137-137A)

Hypothesis C.1 that manics will have higher unstressed speed scores than both depressed groups is fully borne out.

Hypothesis C.2 that the two depressed groups will not differ in unstressed speed is also supported.

Hypothesis C.3 that all three groups will respond positively to stress, and that the two depressed groups will gain more than the manics is supported, except that the depressed unipolars do not gain significantly more than the manics.

II COMPARISON OF RECOVERED GROUPS

This section will compare the results on all the measures, of the three recovered groups. There are 18 subjects in each group.

A. Symptom-Sign-Inventory (S.S.I.)

Very few symptoms were endorsed by the three recovered groups; R.Bp.M. (group 4), R.Bp.D. (group 5) and R.Up.D. (group 6). The following table shows the group distributions on the Personal Disturbance Scale (PD).

Scores of 0-1 are considered normal, 2-4 borderline, 5 and above Personally Disturbed.

Table 7.31 Distribution of PD scores of recovered groups

	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
Normal (0-1)	13	15	10
Borderline (2-4)	5	3	6
PD (5+)	0	0	2

$$x^2 = 5.8, df = 4, \text{ not significant}$$

The S.S.I. results are in close agreement with clinical judgements of recovery. Of the 54 clinically recovered subjects, only 2 of the unipolars score as personally disturbed, 14 altogether are still borderline disturbed, and 38 score as

normal. Thus hypothesis A.4 that the clinically recovered groups will have normal scores on the PD scale is, on the whole, supported (p. 134)

Since there were no group differences, these results were not analysed further.

B. States and Traits Measures:

1. Intropunitiveness (Self-criticism and Guilt)

Table 7.32 below describes the scores obtained by each recovered group on this measure.

Table 7.32 Intropunitiveness sten scores

Groups	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
M	6.0	4.5	5.5
range	1 - 10	1 - 7	2 - 10
S.D.	2.91	2.12	2.71

Table 7.33 shows the results of t-tests applied to these scores.

Table 7.33 Significance of differences in intropunitiveness

Comparisons	Difference	S.E. Diff.	t	p
R.Bp.M. vs. R.Bp.D.	1.5	0.67	2.23	< .05
R.Bp.M. vs. R.Up.D.	0.5	"	< 1	N.S.
R.Bp.D. vs. R.Up.D.	1.0	"	1.49	N.S.

df = 100, two-tailed test

Table 7.32 above shows that all the mean scores are now within normal limits, but the recovered manics (R.Bp.M.) have switched to a higher level of intropunitiveness than the recovered bi-polar depressives (R.Bp.D.), which is a complete reversal of the relationship between these two groups during illness. The recovered unipolar depressives (R.Up.D.) are not significantly different from either bi-polar group.

2. Extrapunitiveness (criticism of others and acting-out hostility and Delusional Projected Hostility)

Table 7.34 shows the scores obtained by the recovered groups on this measure.

Table 7.34 Extrapunitiveness sten scores

Groups	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
M	4.89	4.67	5.00
range	2 - 10	2 - 7	3 - 7
S.D.	1.78	1.57	1.53

The highest difference here is R.Up.D. - R.Bp.D., which is only 0.33 sten and not significant with an $S.E_{Diff.}$ of 0.76.

All three groups are equal on extrapunitiveness and obtain mean scores within normal limits.

Hypothesis B.4⁽¹³⁴⁾ that all three groups will not differ in either intro-punitiveness or extrapunitiveness is therefore nearly wholly supported, with the exception that manics are significantly more intro-punitive than bi-polar depressives. However, since both scores were within normal limits (4.5 - 6.5), it is probably logical not to attach too much importance to the difference.

3. Anxiety (16 P.F. second-order factor)

Table 7.35 describes the groups' scores on this factor.

Table 7.35 Anxiety sten scores

Groups	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
M	5.98	4.91	6.38
range	2.8 - 8.4	1.0 - 7.7	2.1 - 10.0
S.D.	1.73	1.65	2.26

The results of t-tests applied to these scores are shown in table 7.36 below.

Table 7.36 Significance of differences in anxiety

Comparisons	Difference	S.E. Diff.	t	p
R.Bp.M. vs. R.Bp.D.	1.07	0.61	1.75	N.S.
R.Bp.M. vs. R.Up.D.	0.40	"	< 1	N.S.
R.Bp.D. vs. R.Up.D.	1.47	"	2.40	< .02

df = 100, two-tailed test

As with intropunitiveness, recovered bi-polar depressives have the lowest mean scores on anxiety, significantly lower than the recovered unipolar depressives who have the highest score of all. However again since all the scores are within normal limits (4.5 - 6.5), group differences are not meaningful.

4. Extraversion (16 P.F. second-order factor)

Table 7.37 describes the groups' scores on this factor.

Table 7.37 Extraversion sten scores

Groups	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
M	5.05	5.38	3.44
range	1.1 - 10	3.1 - 6.9	1.0 - 7.8
S.D.	2.82	1.57	2.50

When t-tests are applied to these results, the following differences emerge:

Table 7.38 Significance of differences in Extraversion

Comparisons	Difference	S.E. _{Diff.}	t	p
R.Bp.M. vs. R.Bp.D.	0.33	0.76	< 1	N.S.
R.Bp.M. vs. R.Up.D.	1.61	"	2.12	< .05
R.Bp.D. vs. R.Up.D.	1.94	"	2.54	< .02

df = 100, two-tailed test

Thus extraversion discriminates clearly between recovered bi-polars and recovered unipolars. Both recovered bi-polar groups have normal scores on this trait measure, but the recovered unipolars are highly introverted as as a group, their mean score being $1-1\frac{1}{2}$ standard deviation below the normal mean.

The prediction on the two 16 P.F. measures, Hypothesis C.3, was that : with recovery the two bi-polar groups will be alike and different from the unipolars,^{p.135} This is supported for extraversion-introversion, but though the bi-polars tend to be less anxious than the unipolars, the difference did not reach significance.

The mean scores of the three recovered groups on the four trait and state measures are shown in Figure 7.5 below.

All the other measures used did not discriminate among the recovered groups. The following tables list the means, standard deviations and range of scores for thought process and speed measures.

C. Thought Process

FIG. 7.5.

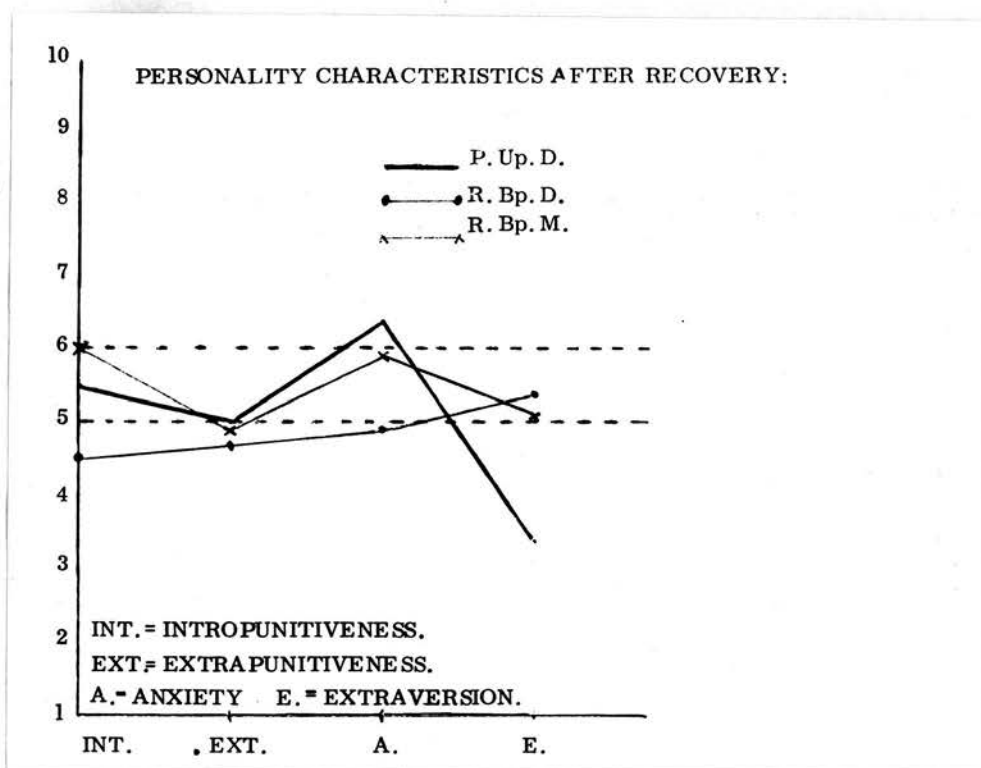


Table 7.39 Scores of recovered groups on thought-process measures

Groups	4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
a. Intensity Mean	1015	1259.1	1109
" Range	322 - 2208	582 - 1915	588 - 1893
" S.D.	522.35	393.32	395.61
b. Consistency Mean	0.63	0.76	0.74
Range	-.07 - .96	.35 - .97	.33 - .90
S.D.	0.29	0.18	0.13
a. A-sortings Mean	3.56	3.22	3.39
Range	2 - 6	1 - 6	1 - 6
S.D.	1.5	1.59	1.72
b. Non-A sortings Mean (logged)	0.83	0.92	0.86
Range (raw scores)	0 - 5	0 - 9	0 - 4
S.D.	0.23	0.24	0.17

1. Repertory Grid Test

2. Object-Classification Test

D. Speed

Table 7.40 below describes the groups' scores on all the speed measures.

Table 7.40 Scores of recovered groups on speed measures

Groups		4 R.Bp.M.	5 R.Bp.D.	6 R.Up.D.
1. Psycho- motor speed	a. T (U) Mean *	<u>49.44</u>	<u>41.11</u>	<u>42.33</u>
	" Range	23 - 68	18 - 69	18 - 79
	" S.D.	12.42	15.10	15.80
	b. T (U-C) Mean	<u>2.11</u>	<u>0.61</u>	<u>2.17</u>
	Range	-24 - 29	-15 - 15	-13 - 31
	S.D.	13.42	9.96	10.94
	c. T (U-S) Mean	<u>1.78</u>	<u>-3.72</u>	<u>1.56</u>
	Range	-33 - 21	-49 - 16	-17 - 29
	S.D.	13.65	14.33	12.48
2. Mental Speed	a. Sp.U. ** Mean	<u>191.39</u>	<u>192.89</u>	<u>188.39</u>
	" Range	152 - 216	152 - 217	157 - 214
	" S.D.	19.48	18.98	14.13
	b. Sp.S. Mean	<u>213.00</u>	<u>221.67</u>	<u>212.89</u>
	" Range	180 - 255	165 - 255	179 - 247
	" S.D.	19.96	22.54	16.15
	c. (Sp.S.-Sp.U.) Mean	<u>21.61</u>	<u>28.78</u>	<u>24.61</u>
	" Range	7 - 54	8 - 69	17 - 41
	" S.D.	12.56	17.83	6.57

* T (U) indicates time in seconds for the usual administration of the Gibson Spiral Maze test, i.e. without distraction; C indicates time in seconds with internal distraction, i.e. counting, so that T (U-C) = gain with internal distraction; S indicates time in seconds with external distraction, i.e. story, so that T (U-S) = gain with external distraction.

** Sp.U. = unstressed speed score
 Sp.S. = stressed speed score
 (Sp.S.-Sp.U.) = gain in speed of problem-solving with stress

Thus several of the measures, which differentiated among the ill groups, now provide homogenous scores for the recovered groups.

As the "ill manics" (Bp.M.), the recovered manics (R.Bp.M.) were significantly younger than the other two recovered groups, but since no significant differences emerged with respect to the speed measures, the age factor does not seem to have played an important role.

Thus, hypotheses D.2, E.3, F.5, G.4., that the recovered groups will not differ on the thought-process, psychomotor speed and mental speed measures, have been supported, (p136-137a)

Only the "traits and states" measures differentiated the recovered groups, principally extraversion - introversion. Anxiety-Adjustment and Intropunitiveness tended to differentiate, but it was stated that since all scores were within normal limits, no great importance should be attached to the difference.

III EFFECTS OF ILLNESS

This section will show what sort of changes occur with illness in each group, by comparing levels and ways of functioning after recovery with levels and ways of functioning during illness.

For this purpose, each group will be looked at separately, first the manics versus the recovered manics (Bp.M., group 1, vs. R.Bp.M., group 4), then depressed bi-polars versus the recovered

depressed bi-polars (Bp.D., group 2, vs. R.Bp.D., group 5), and finally the depressed unipolars versus the recovered unipolars (Up.D., group 3, vs. R.Up.D., group 6).

A. First, the comparison of Manics with Recovered Manics:

Here, all the comparisons will be shown in one table.

Since the range and standard deviations have already been quoted in the previous two sections about illness and recovery comparisons, only the standard error of the difference of the respective comparisons will be listed. The two groups consist of 18 subjects each.

Table 7.41 shows that with a manic illness, patients become very highly more extrapunitive and more extraverted. They also produce more abnormal sortings (Non-A scores) on an object-classification test. All three changes were predicted in hypotheses B.6, C.4, E.4. The direction of change for extrapunitiveness and Non-A sortings was predicted, but not for extraversion, (p. 135-136)

It had been predicted that intro-punitiveness would go up in manics with recovery (hypothesis B.5), but this is not sustained. In fact, intro-punitiveness went slightly down. Anxiety went down with recovery by nearly one sten score, but this difference does not reach statistical significance.

Table 7.41 Significance of differences between mean scores of manics (Bp.M.) and recovered manics (R.Bp.M.)

		Group 1 Bp.M.	Group 2 R.Bp.M.	S. E. Diff.	t	p
State and Trait	1. Intropunitiveness	6.33	6.00	0.67	< 1	N.S.
	2. Extrapunitiveness	7.67	4.89	0.54	5.14	<.0005*
	3. Anxiety	6.87	5.98	0.61	1.45	N.S.
	4. Extraversion	6.65	5.05	0.76	2.09	<.05**
Thought process	1a. Intensity	1133.83	1015.00	F-test N.S.	-	-
	b. Consistency	0.63	0.64	"	-	-
	2a. A sortings	2.27	3.56	"	-	-
	b. Non-A sortings (logged)	1.37	0.82	0.17	3.24	<.005*
Speed psycho- motor	1a. T (U) [†]	42.78	49.44	5.19	1.28	N.S.
	b. T (U-C)	2.11	2.11	F-test N.S.	-	-
	c. T (U-S)	3.94	1.78	4.42	< 1	N.S.
Mental	2a. SP.U. ^{††}	195.50	191.39	6.30	< 1	N.S.
	b. SP.S.	211.67	213.00	F-test N.S.	-	-
	c. (Sp.S.-Sp.U.)	15.61	21.61	4.85	1.24	N.S.

df = 100, * one-tailed, ** two-tailed.

([†] and ^{††} as in table 7.40 above).

It is interesting to note that the differences in speed, both psycho-motor and mental speed do not reach significance. The manics perform a psycho-motor task faster when they are ill than when they are well, but not significantly so, and similarly for a mental speed task. Correspondingly, when well, they gain more speed with stress, indicating that their unstressed speed is not

as near its maximum as it is with the influence of illness, but again the difference in stress-gain between illness and recovery is not significant.

The hypotheses about the effect of a manic illness on psychomotor and mental speed (hypotheses F.5 and G.5) are therefore not supported here, though the trend is in the expected direction, ($p=.137-137a$)

B. Comparison of Bi-polar and recovered Bi-polar Depressives

The results will be presented in the same way as for the manics. The bi-polar depressives (Bp.D.) group consists of 16 subjects and the recovered bi-polar depressives of 18 subjects.

Table 7.42 Significance of Differences between mean scores of Bi-polar depressives (Bp.D.) and recovered Bi-polar depressives (R.Bp.D.)

		Group 2 Bp.D.	Group 5 R.Bp.D.	S.E. Diff.	t	p
State and trait	1. Intropunitiveness	7.94	4.50	0.77	4.46	<.005*
	2. Extrapunitiveness	4.89	4.67	0.55	<1	N.S.
	3. Anxiety	7.04	4.91	0.63	3.38	<.002**
	4. Extraversion	3.08	5.38	0.78	2.95	<.01
Thought Process	1a. Intensity	1148.72	1259.11	F-test N.S.	-	-
	b. Consistency	0.70	0.76	"	-	-
	2a. A-sortings	2.94	3.22	"	-	-
	b. Non-A sortings (logged)	0.42	0.92	0.18	2.78	<.05**
Speed psycho- motor	1a. T (U) [*]	63.11	41.11	5.35	4.11	<.0005*
	b. T (U-C)	6.00	0.61	F-test N.S.	-	-
	c. T (U-S)	8.28	-3.72	4.58	2.62	<.02**
Mental	2a. Sp.U. ^{**}	178.33	192.89	6.50	2.24	<.025*
	b. Sp.S.	208.67	221.67	F-test N.S.	-	-
	c. (Sp.S.-Sp.U.)	29.67	28.78	5.00	<1	N.S.

df = 100, *one-tailed, ** two-tailed test

(^{*} and ^{**} as in table 7.40 above).

Thus in the bi-polar depressive group there are far more changes with illness than in the bi-polar manic group. All personality variables, except extrapunitiveness, change drastically: intropunitiveness changes in the expected direction (hypothesis B.5), anxiety goes up and extraversion goes down, supporting hypothesis C.4. The direction of change was not predicted for the two 16 P.F. factors. It had been expected (Hypothesis B.6) that extrapunitiveness would go slightly up when bi-polar depressives recover. This is not supported here: extrapunitiveness decreases minimally with recovery, (p 134-135).

Thought-process measures are stable, except that unexpectedly recovered bi-polar depressives produce significantly more abnormal responses (Non-A sortings) on an object-classification test. In this way they seem to behave more like their polar counterparts during illness.

Bi-polar depressives are significantly slowed down during illness when performing a psychomotor task, thus supporting hypothesis F.4, p.137. Interestingly, whereas an external distraction quickened their pace of work during illness, it slows them down after recovery.

Similarly, unstressed mental speed of work is significantly lower during illness than during recovery, thus supporting hypothesis G.5, p.137a. Stressed speed does not change to any large extent. The two groups did not differ in age, so that speed differences can be unambiguously attributed to the effect of illness.

Retardation is more pronounced in bi-polar depression than the corresponding increase in speed in mania, and, in parallel, more personality changes occur with depression than with mania.

C. Comparison of Unipolar Depressives with Recovered Unipolar Depressives.

Again, the results in this section will be presented in one table as in the two previous illness-recovery comparisons. The unipolar depressive (Up.D.) and the recovered unipolar depressive (R.Up.D.) groups both consist of 18 subjects each.

Table 7.43 Significance of Differences between mean scores of unipolar depressives (Up.D.) and recovered unipolar depressives (R.Up.D.)

		Group 3 Up.D.	Group 6 R.Up.D.	S. E. Diff.	t	p
States and Traits	1. Intropunitiveness	7.50	5.35	0.67	3.98	<.0005*
	2. Extrapunitiveness	6.00	5.00	0.54	1.85	N.S.
	3. Anxiety	8.41	6.38	0.61	3.33	<.002**
	4. Extraversion	3.25	3.44	0.76	<1	N.S.
Thought Process	1a. Intensity	1113.61	1109.17	F-test N.S.	-	-
	b. Consistency	0.56	0.74	"	-	-
	2a. A-sortings	3.50	3.38	"	-	-
	b. Non-A sortings (logged)	0.86	0.88	0.17	<1	N.S.
Speed psycho- motor	1a. T (U) [†]	44.89	42.33	5.19	<1	N.S.
	b. T (U-C)	2.81	1.61	F-test	-	-
	c. T (U-S)	-8.44	1.55	4.42	2.26	.05**
Mental	2a. Sp.U. ^{††}	180.61	188.39	6.30	1.23	N.S.
	b. Sp.S.	204.00	212.89	F-test	-	-
	c. (Sp.S.-Sp.U.)	22.89	25.00	4.85	<1	N.S.

df = 100, * one-tailed, ** two-tailed test.

([†] and ^{††} as in table 7.40 above).

This depressive group, the unipolars, shows a different pattern of change with illness from the previous group, the bipolar depressives.

As expected, when depressed the unipolars have a significantly higher level of intro-punitiveness than when recovered (hypothesis B.5),_{p.135} they are also more anxious to a significant degree, thus supporting hypothesis C.4. Both these changes with illness resemble the changes in the bi-polar group. However, contrary to the bi-polars they are as low on extraversion when ill as when recovered. Thus, the change predicted on this factor in hypothesis C.4 is not supported,_{p.135}.

Extrapunitiveness goes down in the unipolars with recovery, but not to a significant degree. Thus, though the trend is right, hypothesis B.6 is not properly supported,_{p.135}.

As with the two bi-polar groups, thought-process measures remain on the whole stable between illness and recovery.

The hypotheses concerning the effect of illness on speed were completely unsupported with the unipolars: Unipolar Depressives do not perform a psychomotor task slower or solve mental problems less quickly when ill than they do when recovered (hypotheses F.5 and G.5),_{p.137}. Contrary to the bi-polar depressives, unipolar depressives do not show retardation on the measures used in this study.

An external distraction (S) causes the unipolars to slow down during illness, acting as a proper distraction, whereas it induces a small gain in speed in the recovered group, thus giving a significant difference in gain in speed with an external distraction.

IV. Summary of results:

In view of the several significant differences found between the various groups and the necessity of reporting them separately above, the overall results will be summarised in the following table to facilitate assimilation.

To recapitulate, the groups were denoted as follows:

- Group 1 : manic bi-polars (Bp.M.)
- Group 2 : depressed bi-polars (Bp.D.)
- Group 3 : depressed unipolars (Up.D.)
- Group 4 : recovered manic bi-polars (R.Bp.M.)
- Group 5 : recovered depressed bi-polars (R.Bp.D.)
- Group 6 : recovered unipolars (R.Up.D.).

The sign \sim indicates that there was no significant difference, the sign $>$ indicates that one group exceeded the other significantly in mean score, - indicates that no comparison was made.

Table 7.44 Summary of Results

	<u>I</u> <u>ILLNESS</u> <u>COMPARISONS</u>	<u>II</u> <u>RECOVERY</u> <u>COMPARISONS</u>	<u>III</u> <u>INFLUENCE</u> <u>OF ILLNESS</u>
<u>A. S.S.I.</u>			
1. Personal Disturbance (PD)	Bp.D. > Bp.M. Up.D. > Bp.M. Bp.D. $\hat{=}$ Up.D.	R.Bp.D. $\hat{=}$ R.Bp.M. R.Bp.D. $\hat{=}$ R.Up.D. R.Bp.M. $\hat{=}$ R.Bp.D.	PD goes down for all 3 groups with recovery
2. Total No. of Symptoms	Bp.M. $\hat{=}$ Bp.D. Up.D. > Bp.D. Up.D. > Bp.M.	-	-
3. A-priori scales			
a) Anxiety (A)	$\hat{=}$	-	-
b) Neurotic Depression (B)	Bp.D. > Bp.M. Up.D. > Bp.M. Bp.D. $\hat{=}$ Up.D.	-	-
c) Mania (C)	Bp.M. > Bp.D. Bp.M. > Up.D. Up.D. $\hat{=}$ Bp.D.	-	-
d) Paranoid Schizophrenia (D)	$\hat{=}$	-	-
e) Obsessional (E)	$\hat{=}$	-	-
f) Non Paranoid Schizophrenia (F)	$\hat{=}$	-	-
g) Hysteria (G)	Up.D. > Bp.D. Up.D. > Bp.M. Bp.D. $\hat{=}$ Bp.M.	-	-
h) Psychotic Depression (H)	Bp.D. > Bp.M. Up.D. > Bp.M. Bp.D. $\hat{=}$ Up.D.	-	-
<u>B. States & Traits</u>			
1. Intropunitiveness	Bp.D. > Bp.M. Up.D. > Bp.M. Bp.D. $\hat{=}$ Up.D.	R.Bp.M. > R.Bp.D. R.Up.D. $\hat{=}$ R.Bp.M. R.Bp.D. $\hat{=}$ R.Up.D.	Bp.M. $\hat{=}$ R.Bp.M. Bp.D. > R.Bp.D. Up.D. > R.Up.D.

	I ILLNESS COMPARISONS	II RECOVERY COMPARISONS	III INFLUENCE OF ILLNESS
2. Extrapunitiveness	Bp.M.>Bp.D. Bp.M.>Up.D. Up.D.>Bp.D.	≅	Bp.M.>R.Bp.M. Bp.D.↔R.Bp.D. Up.D.↔R.Up.D.
3. Anxiety	Bp.M.↔Bp.D. Up.D.>Bp.D. Up.D.>Bp.M.	R.Bp.M.↔R.Bp.D. R.Up.D.>R.Bp.D. R.Up.D.↔R.Bp.M.	Bp.M.↔R.Bp.M. Bp.D.>R.Bp.D. Up.D.>R.Up.D.
4. Extraversion	Bp.M.>Bp.D. Bp.M.>Up.D. Bp.D.↔Up.D.	R.Bp.M.↔R.Bp.D. R.Bp.M.>R.Up.D. R.Bp.D.>R.Up.D.	Bp.M.>R.Bp.M. R.Bp.D.>Bp.D. Up.D.↔R.Up.D.
C. <u>Thought Process</u>			
la. Intensity of thought	Bp.M.↔Bp.D. Bp.M.↔Up.D. Bp.D.↔Up.D.	≅	≅
b. Consistency of thought	Bp.M.↔Bp.D. Bp.M.↔Up.D. Bp.D.↔Up.D.	≅	≅
2a. No. of normal sortings (A-responses)	≅	≅	≅
b. No. of abnormal sortings (Non-A responses)	Bp.M.>Bp.D. Bp.M.>Up.D. Up.D.>Bp.D.	≅	Bp.M.>R.Bp.M. R.Bp.D.>Bp.D. Up.D.↔R.Up.D.
<u>Speed</u>			
la. Psycho-motor speed	Bp.M.>Bp.D. Up.D.>Bp.D. Bp.M.↔Up.D.	↔	Bp.M.↔R.Bp.M. R.Bp.D.>Bp.D. Up.D.↔R.Up.D.
b. Gain in psycho-motor speed with internal distraction	≅	≅	≅

	I <u>ILLNESS COMPARISONS</u>	II <u>RECOVERY COMPARISONS</u>	III <u>INFLUENCE OF ILLNESS</u>
1c. Gain in psychomotor speed with external distraction	Bp.M. \rightleftharpoons Bp.D. Bp.M. > Up.D. Bp.D. > Up.D.	\rightleftharpoons	Bp.M. \rightleftharpoons R.Bp.M. Bp.D. > R.Bp.D. Up.D. \rightleftharpoons Up.D.
2a. Mental Speed (unstressed)	Bp.M. > Bp.D. Bp.D. \rightleftharpoons Up.D. Bp.M. > Up.D.	\rightleftharpoons	Bp.M. \rightleftharpoons R.Bp.M. R.Bp.D. > Bp.D. Up.D. \rightleftharpoons R.Up.D.
b. Mental Speed (stressed)	\rightleftharpoons	\rightleftharpoons	\rightleftharpoons
c. Stress Gain	Bp.D. > Bp.M. Bp.D. \rightleftharpoons Up.D. Up.D. \rightleftharpoons Bp.M.	\rightleftharpoons	Bp.M. \rightleftharpoons R.Bp.M. Bp.D. \rightleftharpoons R.Bp.D. Up.D. \rightleftharpoons R.Up.D.

These results are discussed further in the next chapter.

CHAPTER 8

DISCUSSION AND CONCLUSIONS

The discussion of the results will be centred round the four questions outlined in Chapter 5 in the Aims of the Study.

I. In What Way Does Mania Differ From Bi-polar and Unipolar Depression?

Traditionally mania has been described as the polar opposite of depression, as we saw in the literature survey. Falret's "folie circulaire", Kraepelin's manic depressive concept, the psycho-analysts' model of biological polarity, the dynamic view of mania as a defence against depression, Leonhard's concept of bi-polarity, all in turn stress the antithetical characteristics of mania and depression. Recently, however, Court (1968) has put forward a continuum model of manic-depressive illness as opposed to a bi-polar model. Using arguments derived from clinical picture, drug treatment, electro-shock therapy, bio-chemical studies, reaction-time studies, he comes to the conclusion that "the most economical interpretation is that manic-depressive psychosis should be conceived as a reaction in which the depressive component constitutes the first level of breakdown, while mania is the more severe condition. Such a proposal does not in any way out across the concept of a cyclic psychosis, but it does put the components of the cycle in a different relationship from that which has been traditionally proposed or implicitly assumed."

The results of the present study show that manics behave differently from the two depressive groups on several but not all of the objective measures used. The differences, as much as the similarities, are interesting to look at.

From the summary of results, table 7.44, it can be seen that manics when ill (Bp.M.) are less personally disturbed (PD) than either depressive group. The Personal Disturbance Scale, as described in the methodology section (p. 99), is intended to identify personally disturbed or psychiatrically ill individuals from normals. The manics in this study obtain a mean PD score of 2.56 ± 1.42 , which is only borderline disturbed, and lower than the mean figure of 3.80 for manic women given in the manual of the Symptom-Sign Inventory (S.S.I.). The manics are therefore not properly differentiated from normals on this scale. It seems that whereas Mayo (1968) had identified a group of normals with many symptoms and signs of personal illness who had not sought psychiatric help, here we have a group of individuals who are decidedly psychiatrically ill clinically, but who do not score as such on this scale.

The reason seems to be in the nature of the Personal Disturbance (PD) Scale itself (p 99) which contains no manic (C scale) item. On the whole S.S.I. the manics (Bp.M.) did in fact endorse just as many symptoms as the bi-polar depressives (Bp.D.), though significantly less than the unipolar depressives (Up.D.). On individual scales, however, the manics were definitely less

depressed (scale B and scale H) than the two depressive groups, and significantly more manic (scale C) than the two depressive groups thus behaving according to expectation. On the other hand, anxiety (A scale), obsessional (E scale), Paranoid (D scale), schizophrenic (F scale), symptoms did not differentiate the manics and the two depressive groups though hysterical symptoms (G scale) differentiated them from the unipolar depressed group. It is interesting and perhaps surprising to note that depressives did not differ from manics in the number of prima facie anxiety symptoms which they endorsed.

The manics (Bp.M.) are less intro-punitive but more extra-punitive than both depressive groups. Thus, though the manics have an overall high level of general hostility (Extrapunitiveness and Intropunitiveness), they channel their hostility predominantly outwards, criticising others, projecting hostility and acting-out hostility, while feeling relatively little guilt and little self-criticism. The manics' mean intro-punitive score was, in fact, within the average range (sten score 6.33), while their mean extrapunitive score was well above the normal mean (sten score 7.67). Few psychiatric groups have been identified with a predominance of extrapunitiveness over intro-punitiveness. According to the test manual (Caine et al., 1967) only "selected paranoids" are predominantly extrapunitive, i.e. paranoids with no history of depressive episodes. Even psychopaths, whom one would have expected to be extrapunitive, become predominantly intro-punitive when ill. Thus, manics seem to be, with selected paranoids, the

only psychiatric group which channels its hostility more outwards, than towards the self.

The truly bi-polar fashion in which hostility differentiates manics both from bi-polar depressives and from unipolar depressives seems to indicate its importance in the expression and perhaps the dynamics of these illnesses. Many of the psychoanalytic writers referred to in chapter 4, who stressed the importance of aggression in affective illness seem thus to have been correct. However, whereas they stressed the aggression turned towards the self in depression (e.g. Abraham, Freud, Fenichel, Schwartz), ^{mania} was seen as a denial or absence of aggression. Schwartz (1961), for example, thought that the manic had no aggressive impulse because he denied the motive for it. Freud (1922) had viewed mania as "expansive self-inflation", Katan (1953) stated that the manic controlled his destructive drive by keeping the depriving environment out of his awareness. However, the present results seem, on the contrary, to suggest that the manic is very much conscious of his environment and directs a lot of aggression towards it.

With regard to personality variables (table 7.44) the ill manics (Bp.M.) are similar to the Bi-polar Depressives (Bp.D.) but different from the unipolar depressives (Up.D.) on anxiety, and different also from both depressive groups on extraversion. The manics score higher on the personality trait 'anxiety' than one would have expected (sten score of 6.87, which is above average). This mean score is just slightly lower, but not significantly so,

than the mean bi-polar depressives' score (sten 7.04), but very much lower than the unipolar depressives mean score of 8.41. Anxiety, which is contributed to by the first order factors of emotional instability, shyness, suspiciousness, apprehensiveness, self-conflict and tension (see p 110) has been found by many researchers to be similar to Eysenck's Neuroticism (N) factor (see pp 112 , above).

In the same way as extrapunitiveness distinguishes the manics from the two depressive groups, so does extraversion. The two depressive groups are highly introverted (stems 3.08 and 3.25 respectively), whereas the manics are slightly above average in extraversion (mean sten of 4.65.). This second-order factor is contributed to by the first-order factors of outgoingness, dominance, enthusiasm, uninhibition and group dependency. Again, as was pointed out in the methodology section, Cattell's Extraversion-Introversion (EI) second-order factor is similar to Eysenck's Extraversion (E) factor, correlating more highly with the sociable half of the E factor than with the impulsive half (see p. 114). The difference between the two bi-polar groups is particularly impressive, since they can be regarded as coming from the same pool of patients, some having developed mania, others depression.

To sum up, the manics differ from both depressed groups, not only in symptomatology but also in personality.

As a group, manics are not thought-process disordered, in Bannister and Fransella's (1967) sense of showing looseness and

inconsistency in their construct system as measured by the grid test, and do not differ from either depressed group in this parameter: Mellsop et al., (1971), found a mean intensity score of 1497 and mean consistency score of .56 for their group of 12 manics, which did not differentiate them from a control group. The intensity score was significantly different from that of thought-disordered schizophrenics. The mean scores obtained from the manic group here were 1133.83 and 0.63 respectively for intensity and consistency. These results are in close agreement with Mellsop's et al. findings. It seems that in spite of clinical impressions that loose and casual associations are characteristic of the manic's talk and thought, he can, on the whole, think systematically and consistently when faced with an objective task of short duration.

Looking at the individual scores of the 18 manics (fig. 7-3), it can be seen that eight obtained intensity scores below 1000 and three obtained consistency scores below 0.49. If an intensity score of 1000 and consistency score of 0.49 are taken as the cut-off points for distinguishing thought-disordered schizophrenics from other patients and non-patients, as suggested by Bannister and Fransella (1967), three of the manics are misclassified or 16.7%. Mellsop et al. (op.cit.) found the same percentage of misclassification in their manic group. When the individual scores of the two depressed groups are scanned it is found that two of the bi-polars (Bp.D.) and four of the unipolars (Up.D.) are misclassified as thought-disordered schizophrenics. This is

respectively 12.5% (there were only 16 bi-polar depressives) and 22.2%. Thus, comparing individual scores, the unipolar depressives (Up.D.) perform slightly worse on this measure of thought-process than the manics (Bp.M.). The unipolar depressives' group mean scores were also marginally the lowest of the three ill groups (intensity = 1113.61, consistency 0.56), compared with 1133.83 and 0.63 for the manics, and 1148.72 and 0.70 for the bi-polar depressives.

On a different measure of thought-process, or form of thought - the Object Classification Test (Payne, 1961, Payne and Hewlett, 1960) - the manics produce significantly more abnormal (Non-A) responses than the two depressive groups, but no more normal (A) responses. The Non-A score has been considered by Payne and his co-workers to be a measure of schizophrenic overinclusive thinking. However, if the Object Classification Test is taken as a measure of fluency of association, as was argued on page 122 above, then the Non-A score can be regarded as a measure of disinhibition of thought and perhaps an equivalent of the clinical symptom "flight of ideas". Hawks and Marshall's (1970) finding that non-over-inclusive schizophrenics could be made "overinclusive" by speeding their rate of response to a card sorting test, and overinclusive schizophrenics made less overinclusive by retarding their rate of response, and their suggestion that "overinclusiveness in schizophrenia is associated with a superoptimal rate of response" (p 669, op cit), seem to fit in very well with the manics' performance.

The results of this study have shown that on objective tasks, as well as clinically, manics' mental and psycho-motor processes are speeded up to a certain extent. It may be that their excessive speed (excessive in relation to their own optimum speed) results in a breakdown of the process of selection, i.e. in the selection of appropriate responses from the stream of associations that come to their mind with great speed. Hawks and Payne (op cit.) call this situation "a condition of information overload". This test seems to measure a form of thought-disorder common to some schizophrenics and some manics and it might be profitable to study this relationship further.

As mentioned above, several of the speed measures discriminated the manics from the two depressive groups. On a simple psycho-motor speed task, where stress is put repeatedly on speed, manics perform much faster than their polar opposites, bi-polar depressives, but not any faster than unipolar depressives.

When distracting stimuli are introduced, an "internal" distraction (counting) improved the psycho-motor speed of all three ill groups marginally, giving no significant differences in gain. But with an external distracting stimulus (story), the manics improve their performance, that is become faster, while the unipolar depressives become slower. The bi-polar depressives gain even more speed than the manics, but not significantly more. On this measure the two bi-polar groups (Bp.M. and Bp.D.) perform in the same fashion, thus performing differently from the unipolar

depressives. It may well be that the manics gain in speed for different reasons from the bi-polar depressives: for example, manics may react to over-stimulation or the "information overload" mentioned above by increasing their speed still further while the bi-polar depressives gain in speed because the distracting stimulus interferes with whatever internal process (e.g. painful thoughts) might be retarding them and thus causes temporary improvement).

Mental speed of work (unstressed) distinguishes the manics from both depressed groups: manics solve mental problems significantly faster than depressives, when left to work at their own preferred speed of work, but when told to work as fast as possible, i.e. under stress, their superiority over the depressives disappears. The bi-polar depressives (Bp.D.) specially gain far more with stress than the other two groups. It seems that the manics' speed is already at its optimum, possibly above optimum level, and they cannot quicken their speed of work anymore, whereas both depressive groups are working at a lower than optimum level.

To sum up: the manics differ from both depressed groups on most of the measures used in this study. Symptomatically, they are less personally disturbed than both depressed groups; they endorse fewer symptoms than the unipolar depressives; and are more manic and less depressed than the depressives. They are more extrapunitive than both depressed groups, and less intropunitive; they tend to be less tense and overwrought than the unipolars only;

and are more extraverted than both depressed groups. They give more abnormal responses on an object classification test; perform a motor test quicker than the bi-polar depressives, but not quicker than the unipolar depressives. They gain more in psychomotor speed when an external distraction is introduced than the unipolar depressives but not more than the bi-polar depressives; they perform a mental task faster than both depressed groups, but not any faster when stressed to work faster. Thus in some ways manics are more like unipolar depressives (e.g. in motor speed) than bi-polar depressives, and sometimes more like bi-polar depressives (e.g. on the second-order trait factor of anxiety and responses to external distraction when doing a psychomotor speed task). On the whole, however, they are equally different from both depressed groups, thus supporting general hypothesis A (p 88): that manics will differ from bi-polar and unipolar depressives on several parameters: signs and symptoms of illness, personality traits and attitudes, and cognitive factors.

From just these comparisons, it cannot be decided whether mania is a more severe psychological disorder than depression, or vice versa, but a tentative answer to this question will be attempted later.

II In what way does Bi-polar Depression Differ from Unipolar Depression?

This is one of the most crucial comparisons of this study. As was seen in the review chapters, these two types of illnesses

have very often been grouped together under the rubric of manic-depressive illness or affective disorders. This study hypothesized that the two will differ on various parameters - general hypothesis B (p 88).

It has been shown that the two groups differ in only a few aspects of symptomatology (see table 7.44): The unipolar depressives do not differ significantly from the bi-polars on most of the a-priori scales of the S.S.I. i.e. the two groups do not differ in anxiety, neurotic depressive, ~~manic~~, paranoid, schizophrenic, obsessional, non-paranoid schizophrenic, or psychotic depressive symptoms, the only differences being hysterical ^{and manic} symptoms. Neither do the two groups differ on a Personal Disturbance scale. However, the unipolars, on the whole, have significantly more symptoms than the bi-polars. Specifically, six symptoms differentiated the two groups at a significant level (table 7.7). It was pointed out that since some significant differences are expected to occur by chance (4 at the 5% level), these results require to be repeated before they can be accepted as valid. On the other hand, it is interesting to note that the differences are all in the same directions, i.e. whenever a symptom differentiates between the two groups, it is always the unipolars who endorse it more often. It is also striking that three of the differentiating symptoms are from the a-priori hysteria scale (G scale), and that together with the one anxiety item which differentiated, they are all somatic complaints: The unipolars are more worried about their physical

health, complain of blurring of vision or other vague sight trouble, burning and tingling sensation in the skin, loss of feeling in parts of the skin and palpitations and breathlessness. These are all items from the somatic scale that Foulds (1966) extracted from his Symptom Sign Inventory. He found a slight but consistent tendency for older patients to endorse more somatic symptoms than younger patients. However, the two depressive groups here did not differ significantly in age.

Foulds (1966) also found a relation between somatisation of symptoms and hostility: he found that patients with predominantly somatic symptoms are less generally hostile and less intropunitive than patients with predominantly psychic symptoms. He concluded that "In this way somatisation of symptoms could be regarded as an alternative outlet for intropunitiveness at a more covert level". This relationship does not quite hold in the study here. The bi-polars and the unipolars are both equally high on intropunitiveness (means of 7.94 and 8.22) respectively, with no significant difference between them. But the unipolars are significantly more extrapunitive than the bi-polars (means of 6.00 and 4.89 respectively). Thus the unipolars have a higher level of general hostility intropunitiveness + extrapunitive score than the bi-polars, though they had more somatic symptoms, contrary to Fould's findings. However, their higher extrapunitive-ness may be consistent with his finding about direction of hostility in 'somatic' vs 'psychic' patients. Direction of hostility was not directly measured in this study, but since

both depressive groups have an equivalent level of intro-punitiveness, while the unipolars have higher extrapunitiveness than the bi-polars, it seems logical to infer that they are relatively less intro-punitive in direction (taking direction as I-E, i.e. intro-punitiveness - extrapunitiveness.)

On the personality measures, the unipolars show significantly more anxiety than the bi-polars (means of 8.41 and 7.04 respectively), but both groups are equally highly introverted (means of 3.25 and 3.08 respectively). It must be noted that both groups are high on anxiety as compared to a normal mean (4.5 - 6.5) though the unipolars obtain the higher mean score.

To recapitulate, anxiety in this study consists of high ergic tension, high guilt proneness, high protension (projection and inner tension), low ego strength, poor self-sentiment and temperamental threctia (shyness and restraint). Introversion consists of aloofness, submissiveness, desurgency (introspection and worrying attitude), shyness (threctia) and self-sufficiency. Cattell et al. (1970), view the factor of introversion as one of social inhibition. It was argued in the method chapter (p112) that these two second-order factors of Cattell, Adjustment vs. anxiety and introversion vs. extraversion are equivalent to Eysenck's Neuroticism and Extraversion factor. Perris (1971) using the M.P.I., found that bi-polar and unipolar depressives did not differ in E and N scores at admission, though the tendency was for unipolars to obtain higher N scores. The results here

agree with his except that the difference in anxiety between the groups is significant.

The two depressive groups, as expected, do not differ on most of the measures of thought-process used, except for number of abnormal responses (Non-A score) on the Object-Classification test. The unipolars obtain a significantly higher Non-A score than the bi-polars. As this measure was taken as one of disinhibition of thought, it seems that the bi-polar depressives show the most inhibited thought-process with the manics at the other pole (disinhibition) and the unipolar depressives as intermediate. It had also been hypothesised that, contrary to thought-disordered schizophrenics, depressives would show a tightening-up of their construct system, that is that they would obtain very high scores on the intensity and consistency measures of the Bannister and Fransella Grid Test of Thought Disorder. This hypothesis is not borne out: the bi-polars' scores of 1148.72 and 0.70 on intensity and consistency respectively, indicate (from the normative tables of the test manual) that 19% of non-thought^{disordered} subjects obtain lower scores, whereas the unipolars' scores of 1113.61 and 0.56 indicate that about 10% of non-thought disordered subjects score lower. Thus compared with 'normals', the depressives' scores are not particularly high. The bi-polar depressives tend to have slightly tighter construct systems than the unipolar depressives, but not significantly so. It was pointed out in the results, that the within-group variance is high on this measure, so that individual

differences are more important than group differences. It may be interesting to study further those characteristics of high and low scorers, on this measure, among affectively ill patients: For example do low scorers have more delusions than the high scorers, do they have more frequent and/or more severe recurrence of illness?

Another marked difference between the two depressive groups during illness is psycho-motor speed. The bi-polar depressives are slower than the unipolar depressives at a highly significant level. The unipolar depressives perform at the same speed as the manics. Slowness is therefore a characteristic of bi-polar depression and not of unipolar depression, in this study. Interestingly, bi-polar depressives gain significantly more speed than the unipolar depressives, who in fact tend to loose speed, when an external distraction is introduced during a psycho-motor task. This suggests that gain in speed with external distraction may be a good measure of retardation, that is of slowing down with regard to habitual or optimum speed.

Mental speed, stressed and unstressed, does not differentiate the two depressive groups.

To sum up: the differences between bi-polar depressives and unipolar depressives during illness are less extensive than those between manics on the one hand and the two depressive groups on the other, but several important differences are apparent, e.g. unipolar depressives have more symptoms and signs of illness, particularly more somatic symptoms, than bi-polar depressives.

Unipolar depressives react to their illness by being more anxious than the bi-polar depressives, they are also more extrapunitive and give more abnormal sorting responses than the bi-polars. On the other hand, bi-polar depressives are slower in motor function than the unipolar depressives. Other measures did not differentiate the two groups.

Hypothesis B: that differences between the two depressive groups would be found, has therefore been supported.

Perris et al. (1964), report that "Unipolar and bi-polar depressions, apart from lack of manic phases in the unipolar, show a statistically significant difference concerning certain symptoms. Inhibition seems to be the main symptom in the bi-polar, whereas anxiety and hypochondria are usually more accentuated in the unipolar depressions". The retardation of the bi-polars, the somatic symptoms and higher anxiety trait of the unipolars, as found in this study, may be taken as equivalents of these authors' 'inhibition' and 'anxiety and hypochondria' and thus lend support to their finding.

III How Do the Groups Compare When Recovered?

The importance of studying patients after recovery, especially with regard to personality variables, has been stressed in the literature survey (p 76). It is assumed that with illness transient personality changes occur which then disappear after recovery, leaving behind what is stable in the patient's character. It was shown that this methodological point has not always been followed by clinicians and psychologists who have based their personality assessments on clinical interviews or psychological

tests of ill patients (e.g. Kiloh and Garside, 1963, Eysenck *et al.*, 1964).

However, more recently some researchers have stressed the necessity of assessing personality after recovery (Metcalf, 1968, Ferris, 1964, 1966). There are, of course, practical difficulties: one is to decide whether the patient is properly recovered or not. Special care was taken in this study to assess whether the subjects were recovered clinically or not. In addition, the administration of a diagnostic inventory assessed the degree of recovery objectively (see table 7.31). With the affective disorders, specially in the bi-polar type, special care has to be taken to ensure as far as possible that the patient has not started another cycle of illness.

Another point is that, although one is trying to measure the premorbid characteristics of patients by studying them after recovery, it is difficult to assess whether a history of psychiatric illness, especially a recurrent one as in this study, changes the personality at all, principally as self-reported. This aspect will be discussed in the next section.

Column II of Table 7.44, summarising the results, shows that when the three recovered groups are compared, all differences disappear apart from some state and trait measures which differentiate the groups at a statistically significant level.

After recovery, the recovered manics (R.Bp.M.) are significantly more intro-punitive than the recovered bi-polar depressed (R.Bp.D.), which is a reversal of the state of affairs during

illness. The two recovered depressed groups (R.Bp.D. and R.Up.D.) do not differ in intropunitiveness. Extrapunitiveness does not differentiate the groups any more.

On the second-order factor trait of anxiety vs. adjustment, the recovered unipolar depressives are significantly higher (sten 6.38) than the recovered bi-polar depressives, but not more so than the recovered manics. The two bi-polar groups do not differ. Interestingly the recovered manics are 1 sten ($\frac{1}{2}$ S.D.) higher than the recovered bi-polar depressives (5.98 and 4.91 respectively), the order being again reversed from the situation during illness.

On the second-order factor trait of extraversion vs. introversion, the two recovered bi-polar groups score very much alike (5.05 and 5.38), whereas the recovered unipolars score as highly introverted (3.44), thus being significantly different from the bi-polars. The bi-polar depressives are low on this factor during illness and the bi-polar manics high, and both change with recovery, whereas the unipolars, who are low (introverted) during illness, are also low in recovery.

Apart from comparing the three recovered groups among themselves, they can also be compared with "normals" as these are sten scores ("standard deviation stens") derived from the normative data of normal criterion groups. Normal scores range from 4.5 to 6.5 and therefore all three recovered groups obtained normal scores on intropunitiveness, extrapunitiveness and anxiety. On

extraversion, both bi-polar groups obtain normal scores, but the unipolars obtain a lower score than average, indicating high introversion. However, though the recovered unipolars are higher than the recovered bi-polars on anxiety, they still score just within normal limits (sten 6.38).

General Hypothesis C (p 48) That Patients having recovered from a bi-polar affective illness will differ from patients having recovered from a unipolar affective illness, mainly on personality characteristics has therefore been supported.

Definition of Personality Differences between bi-polars and unipolars:

From Cattell's definition of his factor of extraversion-introversion which differentiated the groups most, the unipolars tend to be introverted and the bi-polars have an average level of extraversion because of a complex feed-back interaction of the following characteristics: The recovered unipolars are "A"-, i.e. they tend to be critical, aloof, precise, distrustful, rigid, cold, prone to sulk and stand by their own ideas, whereas the recovered bi-polars tend to be averagely easy-going, attentive to people, casual, trustful, adaptable, warmhearted, laugh readily and like to participate. Cattell et al. (1970 p.80) comment that "this factor was initially thought to correspond most closely to the basic traditional dichotomy in psychiatry between the schizoid and the cyclical personality. There is much evidence that, along with Factor H, it does cover the normal temperamental

basis of the difference in pathological expression". These authors also found "an appreciable hereditary influence in determining a person's level" on this factor.

The recovered unipolars are also "F-", i.e. submissive, dependent, diplomatic, conventional, easily upset by authority, humble, whereas the recovered bi-polars tend to be more assertive, independent-minded, hostile, unconventional, headstrong, admiration demanding. This factor is also appreciably influenced by heredity.

The recovered unipolars tend to be "F-", i.e. silent and introspective, full of cares, worrying, reflective, incommunicative and cautious, whereas the recovered bi-polars are more talkative, cheerful, happy-go-lucky, expressive and quick.

The recovered unipolars are "H-", i.e. shy, retiring, emotionally cautious, apt to be embittered, restrained, restricted in interests and careful, whereas the recovered bi-polars tend to be more adventurous, active, responsive, friendly, impulsive, carefree and with wide interests. Of this factor, Cattell et al. (1970, p 92) writes: "Present evidence indicates it to be one of the two or three most highly inherited of personality factors. The H- person, according to this hypothesis, has, initially, an over-responsive, sympathetic, nervous system which makes him specially 'threat reactive'.

Finally, the recovered unipolars are "Q₂+", i.e. self-sufficient and resourceful, whereas the recovered bi-polars tend to be more group-dependent and sound followers.

Perris (1964, 1966) found that his unipolars, when tested after recovery, were significantly more "sub-valid" (in Sjöbring's, 1963, terminology) than his recovered bi-polars. The sub-valid personality features, as was described earlier on in the review chapter, are psychoasthenic in character, insecure, sensitive and obsessional. Sjöbring describes the sub-valid individual as having "difficulty in immediate adaptation. He is therefore, linked to routine, he finds it difficult to get out of his habits and to seek new ways." Coppen (1966) describes the sub-valid individual as "bound to routine, easily tired, cautious, tense and meticulous", and he found his recovered depressives significantly sub-valid as regards to normals. Metcalfe (1968) also found her recovered depressives have a worrying, tense attitude to life, deny fantasy and imagination, have a rigid, limited, habit-bound personality, when compared to normals.

The results here, although couched in different terms, tend to agree with those authors' findings in that unipolars were found to be precise and rigid (A-), conventional (E-), full of cares (F-), restrained and restricted and cautious (H-) and self-sufficient (Q₂+).

Perris, (1964, 1966) found his recovered bi-polar depressives scored high on sub-stability, again in Sjöbring's terminology, the sub-stable individual is, he says, "syntonic" in Bleuler's sense (1922) or "cycloid" in Kretschmer's sense (1929): i.e. he is active and sociable, "interested in his fellow men, frank,

open, and weakly integrated" (Coppen, 1966). The recovered bi-polars, in this study, tended to be attentive to people and trustful (A+), talkative and cheerful (F+), active and impulsive (H+), group dependent (Q₂-). This also seems to agree with the description of the substable individual. The bi-polars in this study scored as average rather than extremely high on the extraversion second-order factor that makes up the characteristics mentioned above. Using the MPI, Perris (1971), found that recovered bi-polars had significantly lower N scores than recovered unipolars, and higher E scores though the difference in E was not as high as he expected. The recovered bi-polars gave the results comparable with the normative data provided by Eysenck (1959).^{Here,} The two groups did not differ in Anxiety vs. Adjustment which is, as we saw, equivalent to Eysenck's N factor, though the trend was in the right direction: the recovered unipolars obtained a high anxiety score. The Introversion vs. Extraversion factor, which is equivalent to Eysenck's E factor, as was argued in the methodology (p 112) on the other hand did differentiate the groups significantly, contrary to Perris's results which were, however, in the right direction.

There seems, therefore, to be an overall agreement among the findings about personality differences between bi-polar and unipolar affectively disordered patients during periods of remission.

IV Effects of Illness:

The changes associated with illness in each of the three groups studied are summarised in column III of table 7.44. This analysis of the results, in addition to the two previous ones, which described the state of affairs in each group during illness and after recovery, can give more understanding of functional changes with illness within each particular group and thus enhance the understanding of these illnesses. Furthermore, such an analysis has great psychometric relevance in establishing the stability of measures in these illness groups: that is which are measures of traits, states or symptoms, as defined above (p 97).

A. Changes Occurring with Mania

Only three of the variables measured changed significantly between manics and recovered manics, these being: extrapunitive-ness, extraversion and number of abnormal sortings (Non-A) on an object classification task. Extrapunitive-ness, consisting of criticism of others, urge to act out hostility and Projected Delusional Hostility, goes up to a very highly significant degree with mania. Extraversion also goes up, but to a lesser degree: the number of abnormal sortings produced is likewise increased significantly with mania. It was unexpected to find that intropunitive-ness and anxiety both tend to increase with a manic illness, although not to a significant degree. The intensity and consistency of thought process does not change significantly with mania,

indicating that manics retain the ability to organise their construct system meaningfully. More surprising was the finding that, though psychomotor speed (without distraction) and mental speed of work (unstressed) are increased in mania, the increase is not significant when compared to motor and mental speed after recovery. Mental speed (stressed) is, in fact, slightly higher after recovery, gain in speed of problem-solving with stress is also higher, though again not significantly. An external distraction produced less gain in speed during recovery than during illness. It must be remembered that the ill and recovered manics did not differ significantly in age. It seems, therefore, that the clinical and subjective impression of increased motor and mental speed with a manic illness is not supported objectively. The trend is in the expected direction, but not very pronounced. It may be that because these functions tend to be slowed down in other illnesses, the minimal increase in speed in mania seems relatively bigger. Thus only few functional changes occur with mania in this study: outward aggression, social extraversion (it was argued above that Cattell's extraversion factor is mainly one of social extraversion) and disinhibition of thought as measured by the object-classification test. Extrapunitiveness has been found to be a stable measure over time in depressive groups (Mayo, 1967, Philip, 1971) thus behaving as a trait. However, in manics, it behaves as a state, i.e. it is "an affective change from a previous condition, which endures for weeks rather than days and where that changed condition is of a

degree rarely found in any random sample of the general population". (Foulds, 1971).

The second-order 16 P.F. factor of extraversion behaves in the same way as the extrapunitive scale, again showing that it changes with illness, as a state. Such increases in extraversion and extrapunitiveness have not been reported in the literature in any ill group. It may be that manics are the only group that show changes in this direction during illness.

The increased number of abnormal responses on Payne's Object-Classification Test is similar to the increase on this measure found in some acute schizophrenics. This finding gives support to Gathercole's (1965) argument that this test measures disinhibition of thought rather than schizophrenic "over-inclusive" thinking. It was argued that the high Non-A score (abnormal responses) of manics on this test may reflect the clinical symptom of "flight of ideas".

B. Changes Occurring with Bi-polar Depression:

More changes occur at the depressive pole of a bi-polar affective disorder than at the manic pole. Comparing bi-polar depressives with recovered bi-polar depressives, the following measures show significant changes: intro-punitiveness, anxiety, extraversion psycho-motor speed without distraction, gain in psycho-motor speed with external distraction, mental speed unstressed - all in the expected direction. Extrapunitiveness remained stable as it did in Mayo's and Philip's studies mentioned in the previous section. The thought process measures do not

differentiate the groups except for number of abnormal (Non-A) responses which increases with recovery indicating perhaps less inhibition of thought. It had been postulated that depressives would show a tightening-up of their construct system as measured by the Bannister-Fransella Grid Test of Schizophrenic thought disorder (1967). This is not supported by the findings of this study.

Of the significant changes, intropunitiveness goes significantly up ($p < .001$) with bi-polar depression, so does anxiety ($p < .002$) and extraversion goes down ($p < .01$) to a very introverted level. Thus, as was argued in the previous section, these three measures behave as state measures.

The change in intropunitiveness supports Mayo's (1967) and Philips's (1971) findings about the dramatic decrease in intropunitiveness with remission from depression: the former found a drop at the 0.1% level of significance in guilt and at the 1% level in self-criticism, while the latter found that group and occasion means differed at the 5% level.

The changes in anxiety and extraversion are parallel with the findings of Coppen and Metcalfe (1965) who used the M.P.I. They found a decrease in neuroticism score at the 0.1% level in recovered depressives treated with E.C.T. and at the 2% level in those treated with drugs, and an increase in extraversion significant at the 1% in the recovered depressives of both treatment groups. Since it has been argued that Cattell's 16 P.F. second-order factors of anxiety and extraversion are similar to Eysenck's Neuroticism and Extraversion factors, it can be said

that the results in this study support Coppen and Metcalfe's. Perris (1971) similarly found a decrease in N and an increase in E in his recovered bi-polar depressives with recovery.

The changes in the speed measures, in the expected direction, with bi-polar depressive illness, suggest that they are valid measures of retardation or slowness of motor and mental processes. Recovered bi-polar depressives are quicker at a motor task than ill bi-polar depressives at the 1% level of significance. Interestingly, while external distraction causes the ill group to increase their speed, the same situation causes the recovered group to decrease their speed, the difference between the groups being significant at the 2% level. Thus, external distraction seems to be a sensitive measure of retardation. It seems to interfere in some way with the process or mechanism causing retardation and thus cause temporary increase in speed. Further experiments could perhaps be devised to clarify, if possible the ways in which external distraction operates in facilitating psychomotor speed.

Mental speed (unstressed) is significantly decreased during illness, but not mental speed stressed. Again, the stress factor, which is external in the sense that it comes from the examiner who gives express directions to work as quickly as possible and uses a stop-watch very evidently, interferes with retardation and causes it to disappear (there was no difference in stressed mental speed among the groups).

To return to the argument about the relative severity of the poles of a bi-polar illness (p¹⁸⁴), Court (1968) was quoted as putting forward an alternative model to the classical cyclical one, which posited a continuum in which mania was a more severe reaction than depression. In the comparison of ill groups, no definite support could be given to Court's model. Here, looking at the changes occurring with illness, it may be seen that more changes occur with depression than with mania. Of course, this is only a partial argument, since quantitative differences, rather than qualitative differences have been demonstrated. However, it seems more likely that the depressive pole of the illness is the more severe, as it causes more dysfunction than the manic pole.

C. Changes Occurring with Unipolar Depression:

The changes that take place with unipolar depression are by no means exactly paralleled by those occurring with bi-polar depression. Comparing unipolar depressives with recovered unipolar depressives, the following measures showed significant changes: intropunitiveness, anxiety, gain in psychomotor speed with external distraction. These are fewer in number than the changes occurring with bi-polar depression.

Intropunitiveness and anxiety behaved in the same way as with the bi-polars: they both increase with unipolar depression, the difference in level between ill and recovered groups being at the .1% and .2% level of significance respectively. They

behave, therefore, as state measures in both types of depression. As with the bi-polars, extrapunitiveness remains fairly stable between illness and recovery, though the unipolars tend to go up in extrapunitiveness when ill, far more than the bi-polars did. The striking difference is in extraversion. The unipolars remain low on this factor when recovered, not showing the rise that the bi-polars in this study showed, which was comparable with Coppen and Metcalfe's (1965) depressives. Perris (1971) also found a smaller increase in Extraversion (using the M.P.I.) in his recovered unipolars than in his recovered bi-polars but the increase in score for his unipolars was significant. In this study, extrapunitiveness and extraversion are stable in the unipolars over time, thus fulfilling the criteria for trait measures (p).

The thought measures did not differentiate the ill unipolars from recovered unipolars, thus this group of depressives too do not show a tightening up of thought process, contrary to prediction.

Another unexpected finding was that unipolar depressives do not become slower with illness either in their psycho-motor or mental functions. Thus, contrary to the bi-polars, they show no evidence of retardation. An external distraction slows them up during a psycho-motor task when they are ill, and increases their speed slightly when they are well, which is quite the reverse of what happened in the bi-polars. The difference in gain in speed with an external distraction between ill and recovered unipolars is significant at the 5% level, the recovered

gaining more. It seems that the unipolar depressives are distractible during illness or react to an external distraction in some way that decreases their psycho-motor speed.

Considering that these two groups of depressives are so different in the effect that illness has on their speed functions, it is not surprising that the literature is full of conflicting reports (see p. 68-71) about whether retardation can be objectively demonstrated in depressives. If unipolar and bi-polar depressives are seen together as one group of depressives, as the studies referred to above seem to have done, the results of effect of illness on speed measures will vary according to the proportion of each type of depression making up the group. Thus some studies will come out with objective evidence of decreased speed with illness, others not.

When comparing the three ill groups, bi-polar manics, bi-polar depressives, and unipolar depressives, with respective recovered groups, it has been shown that the effects of illness are marked in each group, affecting both personality and cognitive factors, and are illness specific, i.e. each illness brings about different changes rather than a general change common to all groups.

Thus hypothesis D (p 83) has been supported.

V Conclusions:

The results discussed above lend further support to the validity of the classification of affective disorders into bi-polar and unipolar types. By using well selected, homogenous groups, it has been demonstrated that, in addition to one group developing manic and depressive episodes, and the other developing recurrent depressive episodes only, depressives who suffer from a bi-polar illness differ from recurrent unipolar depressives on several parameters. There was an indication that they differ in signs and symptoms of illness, the unipolars expressing more somatic complaints. The most striking difference during illness was the absence of retardation in the unipolars and marked retardation in the bi-polars, if decreased speed in test performance on a psycho-motor task (when comparing ill and recovered groups) is taken as indicative of what clinicians call retardation. The absence of retardation in the unipolars does not seem to indicate that they suffer from a predominantly agitated depression, as those items of the symptom-sign-Inventory which can be said to denote agitation did not differentiate the two depressed groups, for example, item H 9 : "Are you ever so worked up that you pace about wringing your hands?" and perhaps the a-priori Anxiety items, of which only one differentiated, namely A 3 : "Do you suffer from palpitations and breathlessness?".

The two depressive groups also seem to react to their illness differently, in that the unipolars report themselves as more

anxious on a measure of personality traits, and as more extro-punitive on a measure of hostility than the bi-polars. Both groups, however, report as equally highly introverted and intro-punitive.

After recovery, the bi-polar depressives and unipolar depressives were also found to be different in personality traits: the unipolars are markedly introverted, about one and half standard-deviation below the average population norm, whereas the bi-polars are averagely extraverted. The unipolars also tend to show more anxiety than the bi-polars, although the mean scores of both groups are within normal limits. Thus, if one guardedly assumes that personality assessment after recovery taps premorbid personality, it can be concluded that people with different types of personality develop a bi-polar or unipolar illness.

Thus, the results of the present study indicate that bi-polar and unipolar affective disorders are different disease entities and that people who develop one or the other illness are different in personality. Perris (1966) and Winokier et al. (1969) had stressed the genetic differences between these two groups, and here an attempt has been made to map out the differences in modes and levels of psychological functioning of these two groups. Not much is yet known about bio-chemical differences, if any, between bi-polar and unipolar depression and differential response to treatment. Current research in the MRC Brain Metabolism Unit in Edinburgh, using the same diagnostic criteria

as this study, has produced tentative results about differences in amine metabolism. Bi-polar depressives have been found to have normal levels of C.S.F. 5-Hydroxyindol Acetic Acid (5HIAA), while unipolar have low levels (as compared to non-neurological, non-psychiatric patients). These results are still based on small groups, and need to be repeated. It is hoped that psychological differentiae, as found in this study, can be used as behavioural correlates for further bio-chemical research and perhaps give insight into bio-chemical processes.

However, it seems that even in the present state of knowledge, it would be most desirable for future research, whether clinical phenomenological, genetic, bio-chemical or psychological, to study bi-polar and unipolar affective illnesses separately and to move away finally from the Kraepelinian tradition of grouping them together as one illness.

This system of classification does not, of course, really help in the diagnosis of the single or first episode of depressive illness. Is such a depression going to be recurrent, will it recur in bi-polar or unipolar form? The genetic background of the individual, his personality traits after remission, symptom characteristics, for example somatic vs psychic, retardation or absence of retardation, and perhaps bio-chemical findings, may possibly give certain indications, but, in the long run, the diagnostician would still be uncertain of his prognosis, as research findings, such as these reported here are only group trends which may not be of great predictive value for individuals.

In addition to the clarification of differences between bipolar and unipolar depression, this study has provided a detailed study of the manic pole of bi-polar affective illness. As was made clear in the review, chapter 3, mania has been sparsely studied in the psychiatric and psychological literature, partly because of the rarity of mania so that only specialised research units can hope to collect enough cases for investigation, but also because it is often said that manics are too disturbed to be able to co-operate on testing. However, this study has shown that manics are testable and able to co-operate, as they produce results that make sense and have face validity in that they confirm what can be predicted on clinical grounds. The findings were that manics, when ill, differ from both depressed groups not only in symptoms of illness, but also in the way they report their personality characteristics and attitudes, and in their cognitive functioning. With regard to symptoms, it was found that manics tend, on the whole not to see themselves as ill, i.e. they only score as borderline disturbed on a Personal Disturbance scale, so that a symptom sign inventory which relies principally on self report, is not really appropriate, for eliciting symptomatology in that group. The manics did, however, report manic symptoms and it was surprising that they reported as many anxiety symptoms as the two depressed groups. That the manics should be highly extrapunitive and see themselves as highly extraverted is perhaps not surprising, but it was unexpected to find their level of

intropunitiveness and anxiety trait as high as the results in this study suggest.

The speed measures used seem to have reflected clinical differences between manics and depressives in the expected direction, though it was not expected that the manics would not be faster than the unipolar depressives on a psycho-motor task. Surprising too was the finding that a distraction stimulus helped to make the manics faster, as it did with the bi-polar depressives, though it tended to slow down the unipolars. The extra stimulus seems to help the manics' concentration, perhaps by keeping it temporarily fixed on one definite object, thus preventing it from diverging excessively.

It seems that the measures of thought-process used are not appropriate for analysing the type of thought-disorder typical of mania, except for the number of abnormal responses (Non-A score) on an object-sorting task.

By comparing ill and recovered manics, it was found that only few changes occur with a manic illness, as compared with the changes which occur in bi-polar depression and unipolar depression, as determined by comparing these groups with respective recovered groups. It was suggested that this could be interpreted as indicating that manics present less psychological dysfunction than depressives, or that mania is a less severe condition than depression. It could be said against such an interpretation that the manics in this study were less ill than the depressives, that is that the manics in the group were relatively mild cases of

mania, whereas the depressives were severe cases of depression. This study, unfortunately, does not make it possible to make such comparisons. Only a rating scale of degree of illness, say as a global rating, might have made this possible - even then the logicity of such a procedure would be doubtful. Suppose, a global rating scale of 1 to 9 had been used, could one say that a score of 8 on depression indicates a more severe illness than a score of 6 on mania? Probably not.

The comparison of the two recovered bi-polar groups, showed the cycloid nature of the bi-polars: for example, after recovery the manics become more intropunitive than the recovered bi-polar depressives and also tend to be more anxious, which is the reverse of the situation during illness. The mean scores were, however, within normal limits so that these differences can only be interpreted as trends.

Finally, the comparisons of ill and recovered groups showed that so called personality factors are not stable characteristics, but respond to illness and thus behave as what has been called "states". The changes that occur in these factors with illness vary with different populations. For example, extraversion-introversion changes significantly in the bi-polars, but not in the unipolars. Measures of personality have been found, however, to be more stable in neurotic groups (Foulds, 1965, Adams and Foulds, 1962; Knowles, 1960) than in psychotic groups in whom a more severe disruption of habitual behaviour seems to occur. This finding is of particular psychometric relevance in that it should guard

psychological testers from making inferences about stable personality characteristics of patients when the latter are tested during an illness phase.

VI. Implications for further research:

A. Though it has been argued that bi-polarity and unipolarity are important dimensions of classification in the affective disorders, it is possible that they, in turn, consist of different sub-groups, e.g. psychotic and neurotic. The bi-polar-unipolar dichotomy does not preclude further sub-classification: bi-polarity and unipolarity would thus be superordinate classificatory labels with subordinate groupings, for example neurotic and psychotic bi-polars, neurotic and psychotic unipolars. One could look at deluded and non-deluded bi-polars, deluded and non-deluded unipolars on the Symptom-Sign-Inventory and see whether they differ on any other important parameters, for example measures of thought-disorder, retardation, or response to treatment. Traditionally, manics and manic depressives (bi-polars) have been regarded as psychotic, but it is not at all clear on what criteria, for example whether they necessarily have delusions and/or hallucinations.

B. The groups in this study were identified on clinical criteria, and it has not been possible to assess the severity of individual symptoms. Such a procedure would have been useful for assessing how the variables found to be most affected by illness, e.g. hostility, extraversion-introversion, speed of

tracing and of problem solving, are influenced by the presence and severity of particular symptoms. The use of rating scales in these disorders would therefore be most useful for assessing depth of illness as well as response to treatment. Although several well validated, rating scales of depression are in current use (e.g. Beck, et al. 1961, Zung, 1965), those for mania are either out-of-date or lack validation or both (e.g. Wittenborn, 1955; Hildreth, 1946; Jasper, 1930). It is felt that it would be rewarding to develop a proper rating scale of mania as it is seen to-day. Pictures of mental illness are well known to change through the ages, as is usually illustrated by the topicality of schizophrenic delusions or the disappearance of textbook involuntional melancholics. Similarly, the mania of the nineteenth century is not seen anymore and up-to-date rating scales are needed to assess the present-day one.

C. This study was based on a cross-sectional research design. In view of the cyclical nature of a bi-polar illness, and the recurrence of both unipolar and bi-polar affective illness, follow-up studies would help to ascertain the constancy or variability of symptoms from one episode to another. They would help the investigation of the long term effect of repeated episodes of affective disorders on, say, personality or length of remission, and enhance the understanding of the genesis of these illnesses, specially in relation to precipitating factors.

D. Finally, though this study has tried to be as widely based as possible, it has not been possible to look at certain important aspects, for example, the use of affective constructs (Kelly, 1955) in each group. The affective change is regarded as the central feature of depression and mania: Do patients react to such a change by using more or less affective constructs and/or by changing their construct system? The extraverted, extrapunitive manic probably construes other people, himself and his environment quite differently from the intro-punitive, introverted depressive. This study showed that manics and depressives do not differ in the consistency and degree of inter-correlation of their construct system (as measured by the Grid Test, Bannister and Fransella, 1967), but it has not dealt with the content and type of constructs used by the different groups.

REFERENCES

- Abraham, K. (1911): Notes on the psychoanalytic investigation and treatment of manic depressive insanity and allied conditions in selected papers on psycho analysis. N.Y. Basic Books 1960.
- Abraham, K. (1916): The first Pregonital stage of the Libido in Selected Papers on Psycho analysis. N.Y. Basic Books 1960.
- Abraham, K. (1924): A short study of the development of the Libido viewed in the light of mental disorders in Selected papers on psycho analysis. N.Y. Basic Books 1960.
- Adams, A., Foulds, G. A. (1962): Depression and Personality. J. Ment. Sci., 108, 474-486.
- Adcock, C. J. (1965): A comparison of the concepts of Cattell and Eysenck. Brit. J. educ Psychiat. 35, 90-97.
- Allen, M. (1837): Essay on the classification of the insame. London.
- Andry, R. G. (1962): Paternal and maternal roles and delinquency Deprivation of maternal care. WHO Public Health Papers 14, Geneva.
- Angst, J. (1966): Zur Ätiologie und Nosologie endogenen depressiver Psychosen Monogr. Gesant Neurol. Psychiatrie Heft 112 Berlin.
- Aristotle (384-322 B.C.) as quoted by Zilbeorg and Henry (1941),
from Michela (1843)
- Ascher, E. (1952): A criticism of the concept of neurotic depression. An. J. Psychiat. 108, 901-908.
- Astrup, C., Fossum, A. and Holmboe, R. A. (1959): Follow up study of 270 patients with acute affective psychoses. Acta Psychiat. Neurol Scand. Suppl. 135, 34.
- Ayd, F. J. (1961): Suicide: A hazard in depression. J. Neuro psychiatry, 2, 52-54.

- Babcock, H. and Levy, L. (1940): The Measurement of Efficiency of Mental Functioning. Chicago. Stoelting.
- Babcock, H. (1941): Time and Mind. Cambridge Mass Sci Art Publ.
- ~~Baillarger, J. (1853): De la Mélancolie avec stupeur
Annales Medico - Psychologiques, 5, 251.~~
- Baillarger, J. C. (1854): Note sur un genre de folie etc.
Gazette hebdomadaire.
- Ball, J. R. B. and Kiloh L. G. (1959): A controlled trial of imipramine in treatment of depressive states.
Brit Med J. ii, 1052-1055.
- Bannister, D. (1960): Conceptual Structure in thought-disordered schizophrenics. J. Ment Sci., 106, 1230-1249.
- Bannister, D. (1962): The nature and measurement of schizophrenic thought disorder. J. Ment Sci., 108, 825-842.
- Bannister, D. (1963): The genesis of schizophrenic thought disorder on serial invalidation hypothesis. Brit J. Psychiat. 109, 680-686.
- Bannister, D. (1965): The genesis of schizophrenic thought disorder: retest of the serial invalidation hypothesis.
Brit J. Psychiat III, 377-382.
- Bannister, D. and Fransella, F. (1966): A grid test of schizophrenic thought disorder. Brit. J Soc Clin Psychol. 5, 95-102.
- Bannister, D. and Salmon, P. (1966): Schizophrenic thought disorder. Specific or diffuse. Brit J. Med Psychol. 39, 215-219.
- Bannister, D. and Fransella, F. (1967): The grid test of schizophrenic thought disorder : A standard Clinical Test.
Barnstaple Devon Test Publ.
- Bannister, D. and Mair, J. M. M. (1968): The Evaluation of personal constructs. NY and London Academic Press.

- Bannister, D., Fransella, F., and Agnew, J. (1971): Characteristics and Validity of the Grid Test of Thought Disorder. Brit. J. Soc and Clin Psychol., 10, 144-151.
- Batchelor, I. R. C. and Napier, M. B. (1953): Broken homes among attempted suicides. Brit J Delinqu. 4, 99.
- Bateson, G., Jackson, D. D., Haley, J. and Weakland, J. H. (1956): Toward a theory of schizophrenia. Beh Sci., 1, 251-264.
- * Beck, A. T., Feshback, S. and Legg, D. (1962): The clinical utility of the Digit-Symbol test. J. Consult. Psychol 26, 263-268.
- Beck, A. T., Sethi, B. B. and Tuthill, R. W. (1963): Childhood bereavement and Adult Depression. Arch gen Psychiat., 9, 295-302.
- Beck, A. T. (1967): Depression: Clinical Experimental and Theoretical Aspects. Staples Press, London.
- Becker, J. (1960): Achievement related characteristics of manic-depressives. J. Abn. Soc. Psychol., 60, 334-339.
- Bendig, A. W. (1962): Factor Analysis of the Guildford Zimmerman Temperament Survey and the Maudsley Personality Inventory. J. Gen Psychol 67, 21-26.
- Bibring, E. (1953): The mechanism of depression Affective Disorders. ed. P. Greenacre 13-48. N.Y. intern Univ Press.
- Binswanger, L. (1931/32): Ueber Ideenfluct, Arch. Suisses de Neur et Psychiat., vols. 28, 29, 30.
- ** Boerhaave, H. (1728): Aphorism de Cognoscendis et Curandes Morbes. Lugduni Bat av.
- Boissier de Sauvages, F. (1759): Pathologica Methodica seu de Cognoscendis Morbis Lugduni Nosol. Pathol Sect. 1.
- Bonhoeffer, K. (1909): Zur Frage der exogen Psychosen. Zontrablatt fur die gesante Neurologie und Psychiatrie 20, 499.
- Bowlby, J. (1951): Maternal Care and Mental Health. WHO Publ.
- ** Bleuler, E. (1922): Die Probleme der Schizodie und der Syntonie. Z Schr. ges. Neurol. Psychiat. 78, 373-420.
- * Beck, A.T., Ward, C.H., Mendelson, M., Mock, J. and Erbough, J. (1961): An inventory for measuring depression. Arch Gen Psychiat. 4, 561-571

- Bowlby, J. (1953): Child care and the growth of love. Penguin Books.
- Brown, F. W. (1942): Heredity in psychoneurosis.
Proc Roy. Soc Med., 35, 785-790.
- Brown, F. (1961): Depressions and Childhood bereavement.
J. Ment. Sci., 107, 754-777.
- Brown, J. (1780): The Elements of Medicine Translated from the Latin in 1795. London Vol. 1., Part 2.
- Bruner, J. S. (1956): You are your constructs.
Contemp. Psychol., 1, 355-357.
- Burrows, G. (1828): Commentaries on the Causes, Forms, Symptoms and Treatment, Moral and Medical, of Insanity.
- Buzzard, E. (1926): Discussion of manic-depressive psychosis.
Brit Med J. 11, 877.
- Buzzard, E. (1930): Discussion on the diagnoses and treatment of the milder forms of the manic-depressive psychosis.
Proc Roy Soc. Med 23, 881-883.
- Caine, T. M. (1965): Obsessoid and Hysteroid components of Personality. In Foulds, G. A.: Personality and Personal Illness. London, Tavistock.
- Caine, T. M., Foulds, G. A. and Hope K. (1967): Manual of the Hostility and Direction of Hostility Questionnaire (H.D.H.Q.). Univ. Lond Press.
- Cattell, R. B. (1940): The description of personality. I. Foundations of Trait Measurement. Psychol Rev., 50, 559-594.
- Cattell, R. B. and Eber, H. W. (1964): Handbook for the sixteen Personality Factor Questionnaire. Ill. I.P.A.T.
- Cattell, R. B. (1965): The Scientific Analysis of Personality. Baltimore: Penguin.
- Cattell, R. B., Eber, H. W. and Tatsuoka, M. M. (1970): Handbook for the sixteen personality Factor Questionnaire. N.F.E.R., Berks.

- Cameron, N. (1939): Schizophrenic Thinking in a problem-solving situation. J. Ment. Sci., 85, 1012-1035.
- Carney, M. W. P., Roth, M. and Garside, R. F. (1965): Diagnosis of Depressive Syndromes and Prediction of E.C.T. Response. Brit. J. Psychiat., 111, 659-674.
- Cheyne, G. (1733): The English Malady, London.
- Claridge, G. S., Wawman, R. J., Davies, M. H. and Burns, B. H. (1966): Sedation threshold spiral after-effect and overinclusion. Brit. J. Soc. Clin. Psychol., 5, 63-70.
- Clarke, A. D. B. and Clarke, A. (1954): Cognitive changes in the Feeble-minded. Brit. J. Psychol., 45, 173-179.
- Cohen, M. B., Baker, G., Cohen, R. A. et al. (1954): An intensive study of 12 cases of manic depressive psychosis. Psychiat. 17, 103-137.
- Cook, L. C. (1944): Convulsion Therapy. J. Ment. Sci., 90, 435-464.
- Coppen, A. and Metcalfe, M. (1965): Effect of a depressive illness on M.P.I. scores. Brit. J. Psychiat., 111, 236-239.
- Coppen, A. (1966): The Maske-Nyman Temperament Scale. An English Translation. Brit. J. Med Psychol., 39, 55-59.
- Coppen, A. (1967): The Biochemistry of Affective Disorders. Brit. J. Psychiat., 113, 1237-1264.
- Costello, C. G. and Selby, M. M. (1965): Sleep Patterns and reactive and endogenous depressions. Brit. J. Psychiat., 111, 447-501.
- Couch,^A and Keniston, K (1960): Yeasayers and Naysayers Agreeing Response Set as a Personality Variable. J. Abnorm Soc. Psychol., 60, 151-174.
- Court, J. H. (1968): Manic-depressive Psychosis: an alternative conceptual model. Brit. J. Psychiat., 114, 1525-1530.
- Crichton, A. (1798): An Inquiry into the Nature and Origin of Mental Derangement. Vol. I., London.

- Cronbach, L. J. (1946): Response Sets and Test Validity. Educ. Psychiat. Miasmt., 6, 475-494.
- Crookes, T. G. and Pearson, P. R. (1970): The Relationship between E.P.I. scores and 16 P.F. second-order factors in a clinical group. Brit. J. Soc. clin Psychol., 9, 189-190.
- Curran, D. (1937): The Differentiation of neuroses and manic-depressive psychosis. J. Ment. Sci., 83, 156-174.
- Curran, D. and Mallinson, W. P. (1941): Depressive States in War. Brit. Med. J., 1, 305-309.
- Denis, (1669): from Zilboorg and Henry, 1941.
- Dennehy, E. (1966): Childhood Bereavement and Psychiatric Illness. Brit J. Psychiat., 112, 1049-
- Deütsch, H. (1933): Zur Psychologie den manisch-depressiven Zustaeude insbesondere der chronischen Hypomanie. Intern Zt_schr f. Psa, 19.
- Dixon, N. F. and Lear, T. E. (1962): Perceptual Regulation and mental Disorder. J. Ment Sci., 108, 356-361.
- Dreyssig, W. F. (1799): Handbuch der Pathologie der sag. Chronischen Krankheiten Leifzig.
- Edwards, A. L. (1959): Manual of Edwards Personal Preference Schedule. Psychol. Corp. N.Y.
- Ent, G. (1667): quoted by Zilboorg and Henry (1941).
- Epstein, S. (1953): Overinclusive thinking in a schizophrenic and a control group. J. Consult Psychol., 17, 384-388.
- Esquirol, E. (1838): Des Maladies mentales Bruxelles Pt.1.
- Ettmullen, M. (1682): Dissertatio de Chirurgia Transfusoria.
- Ey, H. (1954): Etudes Psychiatriques, Vol. 3, Paris.
- Eysenck, H. J. (1950): Criterion analysis. An application of the hypotheticos-deductive method to factor analysis. Psychol Rev. 57, 38-53.

- Eysenck, H. J. (1959): The manual of the Maudsley Personality Inventory. London University of London Press.
- Eysenck, H. J. (1960): Classification and the problems of diagnosis. In: Handbook of Abnormal Psychology London. Pitman.
- Eysenck, H. J. and Claridge, G. S. (1962): The position of Hysterics and Dysthynics in a two-dimensional framework of personality description. J. Abn Soc Psychol., 64, 46-55.
- Eysenck, H. J. and Eysenck, S. B. G. (1963): On the Dual Nature of Extraversion. Brit J Soc Clin Psychol., 2, 46-55.
- Eysenck, H. J. and Eysenck, S. B. G. (1964): Manual of the Eysenck Personality Inventory. Univ. of London Press.
- Eysenck, H. J. (1970): The classification of Depressive Illness. Brit. J. Psychiat., 117, 241-250.
- Falret, P. (1854): De la Folie Circulaire. Bull de l'Acad. Med. Paris, 19, 382.
- Fawcett, B. (1780): Observations on the nature, causes, and cure of Melancholy, etc., Shrewsbury.
- Penichel, O. (1945): Psychoanalytic theory of Neurosis. N.Y., W. W. Norton & Co., Inc.
- Fisher, K. A. (1949): Changes in test performance of ambulatory depressed patients undergoing electric shock therapy. J. gen. Psychol., 41, 195-232.
- Fisher, S. (1964): Depressive Affect and Perception of up-down. J. Psychiat. Res., 2, 25.
- Forrest, A. D., Fraser, R. H. and Priest, R. G. (1965): Environmental factors in depressive illness. Brit. J. Psychiat., 111, 243-253.
- Foulds, G. A. (1951): Temperamental differences in maze performance. Pt. I. Characteristic differences among psychoneurotics. Brit. J. Psychol., 42, 209-217.

- Foulds, G. A. (1952): Temperamental differences in maze performance Pt.II. The effect of distraction and electroconvulsive therapy on psychomotor retardation. Brit. J. Psychol., 43, 33-41.
- Foulds, G. A. (1960): Psychotic Depression and Age: J. Ment. Sci. 106, 1394.
- Foulds, G. A., Caine, T. M. and Creasy, M. A. (1960): Aspects of extra- and intro-punitive expression in mental illness. J. Ment. Sci., 106, 599-609.
- Foulds, G. A. (1962): A quantification of diagnostic differentiae. J. Ment. Sci., 108, 359-405.
- Foulds, G. A. (1964): Personal continuity and psychopathological disruption. Brit. J. Psychol. 55, 269-276.
- Foulds, G. A. (1965a): Personality and Personal Illness. Tavistock Publ.
- Foulds, G. A. (1965b): The significance of intra-individual diagnostic levels. Brit. J. Psychiat. 111, 761-768.
- Foulds, G. A. (1966): Psychic. Somatic symptoms and hostility. Brit. J. Soc. clin. Psychol., 5, 185-189.
- Foulds, G. A. (1967): Some Differences between Neurotics and Character Disorders. Brit. J. Soc. clin. Psychol., 6, 52-59.
- Foulds, G. A., Hope, K., McPherson, F. M. and Mayo, P. R. (1967): Cognitive Disorder among the schizophrenics. I-II, Brit. J. Psychiat., 113, 1361-1374.
- Foulds, G. A. and Mayo, P. R. (1967): Neurotic Symptoms, intro-punitiveness, and psychiatric referral. Brit. J. Med. Psychol., 40, 151-152.
- Foulds, G. A. (1968): Neurosis and Character Disorder in Hospital and in Prison. Brit. J. Crim., 8, 46.
- Foulds, G. A. and Hope, K. (1968): Manual of the Symptom-Sign-Inventory (S.S.I.). Univ. Lond. pr.

- Foulds, G. A. (1971): Personality Deviance and Personal Symptomatology. Psychol. Med., 1, 222-233.
- Friedman, A. S. (1964): Minimal effects of severe depression on cognitive functioning. J. Abn. Soc. Psychol., 69, 237-243.
- Friedman, A. and Kaplan, H. (1967): Comprehensive textbook of psychiatry. Baltimore.
- Freud, S. (1917): Mourning and Melancholia in Collected Papers, London, Hogarth Press, 1950.
- Freud, S. (1922): Group Psychology and the Analysis of the Ego, London, Hogarth Press.
- Furneaux, W. D. (1952): Some speed, error, and difficulty relationships, within a problem-solving situation. Nature, 170, 37.
- Furneaux, W. D. (1956): Manual of Nufferno Speed Tests. Nat. Found. for Educ. Res.
- Furneaux, W. D. (1960): Intellectual abilities and Problem-solving behaviour in Handbook of Abnormal Psychology ed. H. J. Eysenck, ch.5, 167-192. Pitman Med. Publ. Co. Ltd., Lond.
- Galen, (130-200) as quoted by Zilboorg and Henry (1941).
- Garmany, G. (1958): Depressive states, their aetiology and treatment. Brit Med. J. ii 342-344.
- Gathercole, C. E. (1965): A note on some tests of "overinclusive thinking". Brit. J. Med Psychol. 38, 59-62.
- Gero, G. (1936): The construction of Depression. Internat J. Psychoanal 17, 426-461.
- Gibson, H. B. (1965): Manual of the Gibson Spinal Maze. University of London Press.
- Gibson, R. W., Cohen, M. B. and Cohen, R. A. (1959): On the dynamics of the Manic-depressive Personality. Amer J. Psychiat., 115, 1101-1107.

- Gibbons, J. L. (1968): Biochemistry of Depressive Illness in Recent Developments in Affective Disorders. ed. A. Coppen and A. Walk RMPA publ.
- Gilbert, J. (1935): Mental efficiency in senescence. Arch. Psychol., No. 188.
- Gillespie, R. D. (1926): Discussion Brit. Med. J. 2. 872.
- Gillespie, R. D. (1930): The Clinical Differentiation of types of Depression. Med World 32.
- Goldfarb, W. (1947): Variations in adolescent adjustment of institutionally reared children. Am. J. Orth psychiat. 17, 449-457.
- Goldfarb, W. (1949): Rorschach Test differences between family reared, institution reared and schizophrenic children. Am. J. Orthopsychiat. 19, 624-633.
- Granville-Grossman, K. L. (1968): The early Environment in Affective Disorder. In Recent Developments in Affective Disorders ed. A. Coppen and A. Walk, RMPA publ.
- Granvick, S. (1963): Comparative Analysis of psychotic depressives with matched normals on some untimed verbal intelligence tests. J. Consult. Psychol., 27, 439-443.
- Gregory, I. (1962): *selected personal and family data on 400 psychiatric inpatients.* Amer. J. Psychiat. 119, 371-403.
- Gregory, I. (1958): Studies of parental deprivation in psychiatric patients. Amer. J. Psychiat., 115, 432.
- Griesinger, W. (1867): Mental Pathology and Therapeutics The New Syderham Society London, 3.
- Grinker, R. R., Miller, J., Sabshin, M., Nunn, R. and Nunally, J.J. (1961): The Phenomena of the Depressions. NY Paul B. Hucker Ltd.
- Guilford, J. P. (1956): Fundamental Statistics in Psychology and Education. McGraw Hill Book Co. Inc.
- Hamilton, D. A. and White, J. M. (1959): Clinical syndromes in depressive states. J. Ment. Sci. 105, 985-998.
- Hamilton, M. (1960): A rating scale for depression. J. Neurol. Neurosurg. Psychiat.

- Haslam, J. (1798): Observations on Insanity. London.
- Hawks, D. V. (1964): The clinical usefulness of some tests of overinclusive thinking in psychiatric patients. Brit. J. Soc Clin Psychol., 3, 186-195.
- Hawks, D. V. and Marshall, W. L. (1971): A parsimonious theory of overinclusive thinking and retardation in schizophrenia. Brit. J. Med Psychol., 44, 75-83.
- Hecker, E. (1898): Die zyklotymie Zeitschr. f. frabt. Anzte No.1
- Henderson, D. and Gillespie, R. D. (1956): A textbook of psychiatry for Students and Practitioners. London.
- Hildreth, H. M. (1946): A battery of feeling and attitude scales for clinical use. J. clin Psychol., 2, 214-22.
- Hirton, J. M. (1963): Patterns of insomnia in depressive states. J. Neurol. Neurosurg. Psychiat. 26, 184-189.
- Hippocrates: as quoted by Zilboorg and Henry, 1941.
- Hoche, A. (1910): Die Melancholicfrage Centralbl. f. Nervenheilk.
- Hoffman, M. (1662): from Zilboorg and Henry, 1941.
- Hoffman, F. (1740): Opera Omnia Physico-medica Genevae Med. Rational Syst; 4.
- Hope, K. (1963): The structure of hostility among normal and neurotic persons. Unpublished Ph.D. thesis Univ. of London.
- Hope, K. (1969): Review of Kendells "The Classification of Depressive Illness". Brit J. Psychiat., 115, 731-734.
- Horder, A. (1965): Depressive States A physico therapeutic study. Springfield Ill C. Thomas.
- Horn, J. L. (1963): Second-order factors in questionnaire data Educ. and Psychol Meas. 23, 117-134.
- International Classification of Diseases (*eighth* edition), 1965. Geneva: World Health Organisation.

- Jacobson, E. (1953): Contributions to the Metapsychology of cyclothymic Depression. in *Affective Disorders*, ed. P. Greenacre, N.Y. intern. Univ. Press.
- Jacobson, E. (1954): Transference problems in the psychoanalytic treatment of severely depressive patients. J. Amer. Psychoanalyt. Ass., 2, 595-606.
- Jasper, H. H. (1930): The measurement of depression-elation and its relation to a measurement of extraversion - introversion. J. Abn. Soc Psychol., 25, 307-318.
- Jastak, J. (1949): Problems of psychometric scatter analysis. Psychol. Bull. 46, 177-197.
- Kahlbaum, K. L. (1882): *Uber Zyllisches Irresem. Irrenfreund*, 10.
- Kant, I. (1798): *Anthropologie*, Konigsberg.
- Katan, M. (1953): Mania and the pleasure Principle, 152-156, in "Affective Disorders", ed. P. Greenacre, N.Y., intern.Univ.Press.
- Kay, D. (1959): Observations on the natural history and genetics of old age psychoses. Proc. Roy Soc Med., 52, 791-794.
- Kay, D. W. K., Garside, R. T., Beamish, P. and Roy, J. R. (1969): Endogenous and Neurotic syndromes of depression. A factor Analytic study of 104 cases. Clinical Features. Brit. J. Psychiat., 115, 377-388.
- Kear-Colwell, J. J. (1970): The B factor scale of the 16 P.F. as a measure of intelligence in psychiatric patient. J. Clin. Psychol., 26, 477-479.
- Kelly, G. A. (1955): *The psychology of Personal Constructs* vols. 1-2, N.Y. Norton.
- Kendell, R. E. (1968): *The Classification of Depressive Illnesses*. Oxford Univ. Pr., Lond.
- Kendell, R. E. and Di Scipio, W. J. (1968): EPI scores of patients with depressive illnesses. Brit. J. Psychiat., 114, 771-773.
- * Knowles, J. B. (1960): The temporal stability of MPI scores in normal and psychiatric populations. J. Consult.Psychol, 24, 278.

- Kiloh, L. G. and Ball, J. R. B. (1961): Depression treated with imipramine: A follow-up study. Brit. Med. J. 1, 168-171.
- Kiloh, L. G., Ball, J. R. B. and Garside (1962): Prognostic Factors in the treatment of depressive states with imipramine. Brit. Med. J. 1, 1225-1227.
- Kiloh, L. G. and Garside, R. F. (1963): The independence of neurotic depression and endogenous depression. Brit. J. Psychiat. 109, 451-463.
- Klein, M. (1934): Contributions to Psychoanalysis, 1921-1945, London, Hogarth Press, 1948, 282-310.
- Knowles, J. B. (1963): Techniques of Assessment: Response sets and the questionnaire measurement of personality. London B.P.S. publ.
- Kraepelin, E. (1921): Manic-Depressive Insanity and Paranoia. (eighth edition). Transl. by Mary Barclay, Edinb. Livingstone.
- Kraines, S. H. (1957): Mental Depressives and their treatment. N.Y. MacMillan.
- Kretschmer, E. (1925): Physique and Character. N.Y. Harcourt.
- Kretschmer, E. (1936): Physique and Character. Transl. by W. S. H. Spott, Lond. Kegan Pamp.
- Lange, J. (1926): Uben Melancholie. Zietschr f. d ges Neur. und Psych. 101 - 93.
- Lentz, T. F. (1938): Acquiescence as a factor in the measurement of personality. Psychol. Bull 38, 659.
- Leonhard, K. (1959): Aufteilung der endogen Psychosen Berlin 2nd Ed.
- Leonhard, K., Korff, I., Schulz, H. (1962): Die temperamente in den Familien der monopolaren und bipolar phasischen Psychosen. Psychiat Neurol (Basel) 143, 416-434.
- Lewin, B. (1950): The psychoanalysis of elation. N.Y. W.W. Norton and Co. Inc.

- Lewis, A. (1934a): Melancholia: A clinical survey of depressive states. J. Ment. Sci., 80, 277-378.
- Lewis, A. (1934): Melancholia. A Historical Review. J. Ment Sci. 80, 1-42.
- Lewis, A. (1936): Melancholia: A prognostic study. J. Ment. Sci. 82, 488-558.
- Lewis, A. (1938): States of Depression. Their clinical and aetiological differentiation. Brit Med J. 2, 875-878.
- Lewis, A. (1971): "Endogenous" and "exogenous" A useful dichotomy. Psychol Med. 1, 191-196.
- Lorry, A. C. (1765): De Melancholia et Morbis Melancholicis Lutet Paris.
- Lundquist, G. (1965): Olika typen av psykisk depression 1901-1964. Sv Lakartedingen 62, 1991-1994.
- Magnan, V. (1893): Leçons cliniques sur les maladies Mentales, Paris.
- McClelland, D. C., Atkinson, J. W., Clark, R. A. and Lowell, E.L. The achievement motive. Appleton Century-Craft, N.Y.
- McConaghy, N., Joffe, A. D. and Murphy, B. (1967): The independence of neurotic and endogenous depression. Brit. J. Psychiat., 113, 479-
- McDonald, K. G. and Parker, A. D. (1971): Gibson Spiral Maze and MPI scores: A comparison using Normal adolescent subjects. Brit. J. Soc. clin. Psychol. 10, 191-192.
- McGhie, A. and Russell, S. M. (1962): The subjective assessment of normal sleep patterns. Brit. J. Psychiat., 108, 642-653.
- McGhie, A., Chapman, T. and Lawson, J. S. (1964): Disturbances in selective attention in schizophrenia. Proc Roy Soc. Med., 57, 419-422.
- McGhie, A. (1967): Studies of cognitive disorders in schizophrenia. In Recent Developments in Schizophrenia (ed. Coppen, A. and Walk, A.) R.M.P.A. Special Publ.

McPherson, F. M. (1967).

McPherson, F. M., (1969): Thought process disorder, delusions of persecution and non-integration' in schizophrenia. Brit. J. Med. Psychol., 42, 55-57.

McPherson, F. M., Barden, V., Hay, A. J., Johnstone, D. W., Kushner, A. W. (1970): Flattening of affect and personal constructs. Brit. J. Psychiat., 116, 39-42.

Mapother, E. (1926): Manic Depressive Psychosis. Brit. Med. J. Nov.

Maudsley, H. (1867): The physiology and pathology of the Mind. London.

Mayer-Gross, W. (1954): The diagnosis of Depression. Brit. Med. J., 2, 948-950.

Mayo, P. R. (1968): A comparative study of people with psychoneurotic symptoms who seek treatment and those who do not seek treatment. Unpubl. Ph.D. thesis, Univ. of Edin.

Mayo, P. R. (1967): Some psychological changes associated with improvement in depression. Brit. J. Soc. clin. Psychol. 6, 63-68.

Mellsop, G. W., Spelman, M. S. and Harrison, A. W. (1971): The performance of manic patients on the Grid test for schizophrenic thought-disorder. Brit. J. Psychiat., 118, 671-673.

Mendels, J. (1965): Electroconvulsive therapy and depression: significance of endogenous and reactive syndromes. Brit. J. Psychiat., 111, 682-686.

Mendels, J. (1968): Depression. The Distinction between Syndrome and Symptom. Brit. J. Psychiat., 114, 1549-1554.

Mendels, J. and Cochrane, C. (1968): The Nosology of Depression: The endogenous reactive concept. Am. J. Psychiat., 124, suppl. 1-11.

Metcalf, M. (1968): The personality of Depressive Patients in Recent Developments in Affective Disorders. ed. A. Coppen and A. Walk, R.M.P.A. Publ.

- Meyer, A. (1922): Inter-relations of the Domain of Neuro-Psychiatry. Arch. Neurol. & Psychiat. 15.
- Mezey, A. G. and Cohen, S. C. (1961): The effect of depressive illness on time judgement and time experience. J. Neurol. Neurosurg. Psychiat., 24, 269-270.
- Michéa, C. F. (1843): Des Doctrines psycho-physiologiques considérées chez les Anciens. Annales Medico-psychologiques, Paris.
- Möbius, (1893): Abriss der lehre der Nervenkrankheiten. Abel: Leipzig.
- Morgagni, J. B. (1961): De sedibus et Causis Morborum per Anatomen indigatis, Venetijs. Epistola Anatomica. Medica, 8.
- Munro, A. (1965): Childhood parent loss in a psychiatrically normal population. Brit. J. Prev. soc. Med. 19, 69-79.
- Nelson, E. H. (1953): An experimental investigation of intellectual speed and power in mental disorders. Unpubl. thesis in the library of the Univ. of London.
- Nyman, G. E. (1956): Variations in personality. Acta psychiat. Kbh Suppl. 107.
- Nyman, G. E. and Marke, S. (1962): Sjobrings Differentiella Psykologi (with an English summary) Lund Gleesup.
- O'Connor, N. (1956): The evidence for the permanently disturbing effects of mother-child separation. Acta Psychol., 12, 174-191.
- Oltman, J. E., McGarry and Friedman, M. D. (1952): Parental deprivation and the broken home in dementia praecox and other mental disorders. Amer J. Psychiat., 108, 658-694.
- Orlansky, H. (1949): Infant care and personality. Psychol. Bull. 46, 1-48.

- Oswald, I., Bergen, R. J., Jasamillo, R. A., Keddie, K. M. G., Olley, P. G. and Plunkett, G. B. (1963): Melancholia and barbiturates in a controlled E.E.G. body and eye movement study of sleep. Brit. J. Psychiat. 109, 66-78.
- Partridge, M. (1949): Some reflections on the nature of affective disorders arising from the results of prefrontal leucotomy. J. Ment. Sci 95, 795-825.
- Payne, R. W., Hirst, H. L. (1957): Overinclusive thinking in a depressive and a control group. J. Cons. Psychol. 21, 186-188.
- Payne, R. W. (1960): Cognitive Abnormalities, in Handbook of Abnormal Psychology, ed. H. J. Eysenck. N.Y. Basic Books.
- Payne, R. W. and Hewlett, J. H. G. (1960): Thought disorder in psychotic patients. in Experiments in personality vol. II. ed. H. J. Eysenck London Routledge and Kegan Paul.
- Payne, R. W. and Friedlander, D. (1962): A short battery of simple tests for measuring overinclusive thinking. J. Ment. Sci. 108, 362-367.
- Payne, R. W., Friedlander, D., Laverty, S. G. and Haden, P. (1963): Overinclusive thought disorder in chronic schizophrenics and its response to Probetazine. Brit. J. Psychiat. 109, 523-530.
- Perris, C. and Elia, G. (1964): Pathoplastic significance of the premorbid situation in depressive psychoses. Acta Psychiat. Scand. Suppl. 180, 87-100.
- Perris, C. (1966): A study of Bipolar (Manic-Depressive) and Unipolar (Recurrent Depressive) Psychoses. Acta Psychiat. Scand. suppl. 194, 42.
- Perris, C. (1971): Personality patterns in patients with affective disorders. Acta Psychiat. Scand. Suppl. 226, 43-51.

- Philip, A. E. (1968a): Personality factors involved in suicidal behaviour. Unpubl. thesis, University of Edinburgh.
- Philip, A. E. (1968b): Constancy of Structure of a Hostility Questionnaire. Brit. J. Soc. Clin. Psychol., 7, 16-18.
- Philip, A. E. (1969): The Development and use of the Hostility and Direction of Hostility Questionnaire. J. Psychosom Res 13, 283-287.
- Philip, A. E. (1971): Psychometric changes associated with response to drug treatment. Brit. J. Soc. Clin. Psychol. 10, 138-143.
- Pinel, P. (1809): Traité Médico - philosophique sur l'Aliénation Mentale, Paris.
- Pitts, F. N., Meyer, J., Brooks, M. and Winokur, G. (1965): Adult psychiatric illness assessed for childhood parental loss and psychiatric illness in family members etc. Amer J Psychiat, 121, 1.
- Platen, F. (1656): Prox Med. De Funct. Laes 1, cap iii (as quoted by Lewis 1934).
- Plato (427-347 B.C.): as quoted by Zilboorg and Henry, 1941, ^{from Michela (1845)}.
- Presly, A. S. (1969): Slowness and performance on the grid test for thought disorder. Brit. J. Soc. Clin. Psychol. 8, 79-80.
- Price, R. H. (1970): Task requirements in tests of schizophrenic overinclusions. Brit. J. Soc. Clin. Psychol. 9, 60-67.
- Prichard, J. (1835): A treatise on insanity and other disorders affecting the mind. London.
- Rado, S. (1927): Das Problem der Melancholie. Internat. ztschr. f. Psa, 13, 439-455.
- Rapaport, D. (1945): Diagnostic Psychological testing; the theory, Statistical Evaluation and Diagnostic Application of a Battery of Tests, vol.1, Chicago Yearbook.

- Rawnsley, K. (1968): Epidemiology of Affective Disorders. In Recent Developments in Affective Disorders, ed. by A. Coppen and A. Walk - R.M.P.A. Publ.
- Reimanis, G. (1965): Cattell 16 P.F. study in a VA domiciliary Newsletter for Res in Psychol. 7, 39-42.
- Riverius, L. (1646): Observ. Med. et Curat Insig. Cent. Prim. Observ. IXXIV (658) Praxis Medice, Hagae Comitit, lib.1. (reported by A. Lewis, 1934).
- Roberts, J. M. (1959): Prognostic factors in the electroshock treatment of depressive states. J. Ment. Sci. 105, 703-713.
- Rogerson, C. H. (1940): The differentiation of neuroses and psychoses. J. Ment. Sci., 86, 632-644.
- Rose, J. T. (1963): Reactive and Endogenous depressions - response to E.C.T. Brit. J. Psychiat. 109, 213-217.
- Rosenblatt, B. D. (1956): The influence of affective states upon body image and upon the perceptual organisation of space. Ph.D. Dis. Clark Univ. Mass. (as reported by A.T.Beck, 1967).
- Rosenthal, S. H. and Klerman, G. L. (1966): Content and Consistency in the Endogenous Depressive Pattern. Brit. J. Psychiat., 112, 471-484.
- Rosenthal, S. H. and Gudeman, J. E. (1967): The endogenous depressive pattern. An empirical Investigation. Arch. Gen. Psychiat., 16, 241-249.
- Ross, T. A. (1926): Discussion on manic-depressive psychosis. Brit. Med. J. ii, 877-878.
- Roth, M. (1959): The phenomenology of depressive states. Canad. Psychiat. A. J., 4, Special Suppl.
- Rowe, C. J. and Daggett, D. R. (1954): Prepsychotic personality traits in manic-depressive disease. J. Neur. Ment. Dis. 119, 412-420.

- Sainz, A. and Bigelow, N. (1961): Relative Antidepressant Activity of various chemical groups. Proc. of the 3rd World congress of Psychiatry, 1389-B93. McGill Univ. Press.
- Sands, D. E. (1947): Paper read to International Conference of Physicians London. (quoted by Partridge, 1949).
- Sargant, W. W. and Slater, E. (1946): Physical Methods of Treatment in Psychiatry. Edinburgh, Livingstone.
- Schwartz, D. A. (1961): Some suggestions for a unitary formulation of the manic-depressive reaction. Psychiat. 24, 238-245.
- Shapiro, M. B., Campbell, D., Harris and Dewsbury, J. P. (1958): Effects of E.C.T. upon psychomotor speed and the distraction effect in depressed psychiatric patients. J. Ment. Sci., 104, 681-695.
- Sims, J. (1799): Pathological Remarks upon various kinds of Alienation of Mind. Memoirs of the Med. Soc. of London, 5.
- Sims, N. B. and Clower, R. P. (1966): Correlation between WAIS I.Q. and 16 P.F. B Factor scores of general hospital patients. Newsletter for Res. in Psychol., 8, 10-14.
- Sjöbring, E. (1958): Struktur och utveckling: Gleerup. Lund.
- Sjöbring, E. (1963): La Personnalité. Ed. Doin, Paris.
- Skæer, D. (1863): Of the classification of the various forms of insanity on a rational and practical basis. (Traits in Royal Society of Medicine Collection, 1864-65, iii).
- Skeels, H. M., Updegraff, R., Wellman, B. L. and Williams, H. M. (1938): Iowa Studies in Child Welfare, 15, 4.
- Slater, E. (1936): The inheritance of neurosis and manic-depressive insanity. Proc. Roy. Soc. Med. 29, 981-990.
- Slater, E. and Slater, P. (1944): A Heuristic theory of neurosis. J. Neurol Neurosurg. Psychiat., 7, 49-55.
- Slater, E. and Roth, M. (1969): Clinical Psychiatry. London.

- Spitz, R. (1946): Anaesthetic Depression. in the Psychoanalytic study of the child. N.Y. Intern. Univ. Press, vol. 2.
- Sprenger and Kraemer (1925 English translation by Montague Summers): Malleus Maleficarum.
- Stahl, G. E. (1708): Theoria Medica vera (quoted by Zilboorg and Henry, 1941).
- Stenstedt, A. (1952): A study in manic-depressive psychosis, clinical, social and genetic investigations. Acta psychiat. Scand. Suppl. 7
- Stenstedt, A. (1959): Involuntional Melancholia. An etiologic clinical and social study of endogenous depression in later life, with special reference to genetic factors. Acta Psychiat et Neurol. Scand. 34, suppl. 127.
- Strauss, E. B. (1930): Discussion on the Diagnosis and treatment of the milder forms of the manic-depressive psychosis. Proc. Roy. Soc. Med., 23, 894-895.
- Szasz, T. S. (1961): The Myth of Mental Illness. N.Y. Harper Bros.
- Tredgold, R. F. (1941): Depressive states in the soldier. Brit. Med. J. 2, 109-112.
- Trélat, U. (1839): Recherches historiques sur la folie Paris.
- Unzer, J. A. (1857) in Deutsche Irrenarzte von Theodore Kirchhoff vol.1. (quoted by Zilboorg and Henry, 1941).
- Vinoda, K. S. (1964): A study of personality characteristics of attempted suicides. Unpubl. thesis Univ. of London. Lib.
- Waldschmidt, J. J. (1691): Prox Med Ration Succine Parasias (quoted by A. Lewis 1934).
- Warburton, F. W. (1963): The psychometric approach to the assessment of personality. London. British Psychological Society.

- Watson, C. G. (1967): Inter-relationships of six overinclusion measures. J. Consult. Psychol. 32, 517-520.
- Weyer, J. (1579): De praestigijs daemonum (French text reprinted in 1885 by the Bibliothèques Diabolique in two volumes: Histories, disputes et discours des illusions et impostures d'un diable, etc. vol. 1).
- Welford, A. T. (1958): Ageing and Human skill London Oxford Univ Press.
- Welford, A. T. (1962): Changes in performance time with age. A corrected and methodological note. Ergonomics 5, 581-582.
- Whiting, H. T. A., Johnson, C. F. and Page, M. (1969): The Gibson Spiral Maze as a possible screening device for minimal brain damage. Brit J Soc Clin Psychol, 8, 164-168.
- Whitwell, J. R. (1936): Historical Notes on Psychiatry. London John Lewis.
- Willis, T. (1681): As quoted by Calmeil: De la folie considérée sur le point de vue pathologique, philosophique, historique et Judiciaire Vol. I, Paris, 1845.
- Winokur, G., Clayton, P. J. and Reich, T. (1969): Manic-Depressive Illness. St. Louis Mosby Co.
- Wittenborn, J. R. (1955): Psychiatric Rating Scales. Psychol. Corp. N.Y.
- Wootton, B. (1959): Social Science and Social Pathology. London.
- Wynne, L. C., Singen, M. T. (1963): Thought disorder and family relations of schizophrenics. Arch Gen. Psychiat, 9, 191-206.
- Yates, A. (1960): Abnormalities of psychomotor function in H. J. Eysenck Handbook of Abnormal Psychology - London. Pitman.

Zilboorg G. (in coll. with Henry G. W.) (1941): History of
Medical Psychology. N.Y. W. W. Norton & Co.

Zuckert, K. (1764): Medizinische und Moralische Abhandlungen,
von den Leidenschaften, Berlin (as quoted by Lewis, A., 1934).

Zung, W. W. K. (1965): A self-rating depression scale.
Arch. Gen. Psychiat., 12, 63-70.

APPENDIX A

Test Measures

P. AND P.I. QUESTIONNAIRES **SYMPTOM-SIGN INVENTORY**

(SSI)

G. A. FOULDS

SURNAME.....

CHRISTIAN NAMES.....

AGE

SEX.....

OCCUPATION.....

MARITAL STATUS S M W D Sep.

REFERENCE NUMBER.....

DATE OF TESTING

This form should be filled in by a qualified psychologist.

It should *not* be put into the hands of the patient.



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If an item is scored positively, a tick should be placed to the left of that item's number.

- A1 Does your hand often shake when you try to do something?
2 Do you sweat very easily, even on cool days?
3 Do you suffer from palpitations or breathlessness?
4 Are there times when you feel anxious without knowing the reason?
5 Are you afraid of being in a wide-open space or in an enclosed space?
6 Are you afraid that you might be going insane?
7 Have you a pain, or feeling of tension, in the back of the neck?
8 Have you any difficulty in getting off to sleep (without sleeping pills)?
9 Are you afraid of going out alone?
10 Have you any particular fear not mentioned above?
- B1 Do you cry rather easily?
2 Have you lost interest in almost everything?
3 Have you ever attempted to do away with yourself?
4 Is the simplest task too much of an effort?
5 Are you depressed because of some particular loss or disappointment?
6 Have you found it difficult to concentrate recently?
7 Does the future seem pointless?
8 Are you more absent-minded recently than you used to be?
9 Are you slower recently in everything you do?
10 Do you ever seriously think of doing away with yourself because you are no longer able to cope with your difficulties?

Past week

- C1 Do you ever feel so confident and successful that there is nothing you can't achieve?
2 Do you ever become very excitedly happy at times, for no special reason?
3 Are you ever so cheerful that you want to laugh and joke with *everyone*?
4 Are there times when exciting new ideas and schemes occur to you one after the other?
5 Are you ever so full of pep and energy that you carry on doing things indefinitely?

Past week

- 6 Do you ever become so excited that your thoughts race ahead faster than you can express them?
7 Are you ever so cheerful that you want to wear lots of gay things, like button-holes, flowers, bright ties, jewellery, etc.?
8 When you get bored, do you ever like to stir up some excitement?
9 Do you ever feel so full of energy and ideas that you don't want to go to bed?
10 Are you a much more important person than most people seem to think?
- D1 Are people talking about you and criticizing you through no fault of your own?
2 Have you an important mission to carry out?
3 Are there people who are trying to harm you through no fault of your own?
4 Is someone trying to poison you or make you ill in some way?
5 Have you some special power, ability or influence which is not recognized by other people?
6 Is someone, other than yourself, deliberately causing most of your troubles?
7 Are people plotting against you through no fault of your own?
8 Do you ever take strong action against an evil person for the sake of a principle?
9 Do you ever see someone do or say something which most people do not take much notice of, but which you know has a special meaning?
10 Can people read your thoughts and make you do things against your will by a sort of hypnotism?

- E1 Are you distressed by silly, pointless thoughts that keep coming into your mind against your will?
- 2 Are you compelled to think over abstract problems again and again until you can't leave them alone?
- 3 Are you unnecessarily careful in carrying out even simple everyday tasks like folding up clothes, reading notices, etc.?
- 4 Are you unable to prevent yourself from doing quite pointless things, counting windows, uttering phrases, etc.?
- 5 Are you afraid you might do something seriously wrong against your will?
- 6 Do distressing thoughts about sex or religion come into your mind against your will?
- 7 Do you feel you just have to check things again and again—like turning off taps or lights, shutting windows at night, etc.—although you know there is really no need to?
- 8 Have you an unreasonable fear that some careless act of yours might have very serious consequences?
- 9 Are you excessively concerned about cleanliness?
- 10 Do you have an uneasy feeling if you don't do something in a certain order, or a certain number of times?
- F1 Do you feel that there is some sort of barrier between you and other people so that you can't really understand them?
- 2 Do you ever see visions, or people, animals or things around you that other people don't seem to see?
- 3 Do you often wonder who you really are?
- 4 Do you ever have very strange and peculiar experiences?
- 5 Do you think other people regard you as very odd?
- 6 Do you often feel puzzled, as if something has gone wrong either with you or with the world, without knowing just what it is?
- 7 Do you ever hear voices without knowing where they come from?
- 8 Do you feel you cannot communicate with other people because you don't seem to be on the same 'wave-length'?
- 9 Do you have very strange and peculiar thoughts at times?
- 10 Is there something unusual about your body—like one side being different from the other and meaning something different?
- G1 Do you ever lose the use of an arm or leg or face muscle?
- 2 Do you ever have fits or difficulty in keeping your balance?
- 3 Do you ever completely lose your voice (except from a cold)?
- 4 Do you ever lose all feeling in any part of your skin—so that you wouldn't be able to feel a pin prick—or do you ever have burning or tingling sensations?
- 5 Do you ever have 'black-outs', dizzy spells or faints?
- 6 Have you been in poor physical health during most of the past few years?
- 7 Do you often suffer from blurring of vision or any other difficulty with your sight which no one seems to be able to put right?
- 8 Are you often bothered with pains over your heart, in your chest or in your back?
- 9 Do you ever do things in a dream-like state without remembering afterwards what you have been doing?
- 10 Are you worried about your physical health?
- H1 Are you worried about having said things that have injured others?
- 2 Are you an unworthy person in your own eyes?
- 3 Have you some bodily condition which you find disgusting?
- 4 Are you a condemned person because of your sins?
- 5 Are you troubled by waking in the early hours and being unable to get off to sleep again (if you don't have sleeping pills)?
- 6 Because of things you have done wrong, are people talking about you and criticizing you?
- 7 Are you ever so low in spirits that you just sit for hours on end?
- 8 Do you cause harm to people because of what you are?
- 9 Are you ever so 'worked up' that you pace about wringing your hands?
- 10 Do you ever go to bed feeling you wouldn't care if you never woke up?

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P. AND P.I. QUESTIONNAIRES

**PERSONALITY QUESTIONNAIRE
(HDHQ)**

by T. M. CAINE
and G. A. FOULDS

SURNAME

CHRISTIAN NAMES

AGE

SEX.....

OCCUPATION.....

MARITAL STATUS

DATE.....

Instructions :—

Please fill in this form by putting a circle round the "True" or the "False" after each of the statements overleaf. If you find it difficult to decide, ask yourself whether you think the statement is *on the whole* true or false and put a circle round the appropriate word.

Remember to answer each statement.

- 1. Most people make friends because friends are likely to be useful to them . True False
- 2. I do not blame a person for taking advantage of someone who lays himself open to it True False
- 3. I usually expect to succeed in things I do True False
- 4. I have no enemies who really wish to harm me True False
- 5. I wish I could get over worrying about things I have said that may have injured other people's feelings True False
- 6. I think nearly anyone would tell a lie to keep out of trouble True False
- 7. I don't blame anyone for trying to grab everything he can get in this world True False
- 8. My hardest battles are with myself True False
- 9. I know who, apart from myself, is responsible for most of my troubles . True False
- 10. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right True False
- 11. Some of my family have habits that bother and annoy me very much . . True False
- 12. I believe my sins are unpardonable True False
- 13. I have very few quarrels with members of my family True False
- 14. I have often lost out on things because I couldn't make up my mind soon enough True False
- 15. I can easily make other people afraid of me, and sometimes do for the fun of it True False
- 16. I believe I am a condemned person True False
- 17. In school I was sometimes sent to the principal for misbehaving . . . True False
- 18. I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing True False
- 19. Most people are honest chiefly through fear of being caught True False
- 20. Sometimes I enjoy hurting persons I love True False
- 21. I have not lived the right kind of life True False
- 22. Sometimes I feel as if I must injure either myself or someone else . . . True False
- 23. I seem to be about as capable and clever as most others around me . . . True False
- 24. I sometimes tease animals True False

- | | | |
|---|------|-------|
| 25. I get angry sometimes | True | False |
| 26. I am entirely self-confident | True | False |
| 27. Often I can't understand why I have been so cross and grouchy | True | False |
| 28. I shrink from facing a crisis or difficulty | True | False |
| 29. I think most people would lie to get ahead | True | False |
| 30. I have sometimes felt that difficulties were piling up so high that I could not overcome them | True | False |
| 31. If people had not had it in for me I would have been much more successful | True | False |
| 32. I have often found people jealous of my good ideas, just because they had not thought of them first | True | False |
| 33. Much of the time I feel as if I have done something wrong or evil | True | False |
| 34. I have several times given up doing a thing because I thought too little of my ability | True | False |
| 35. Someone has it in for me | True | False |
| 36. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing | True | False |
| 37. I am sure I get a raw deal from life. | True | False |
| 38. I believe I am being followed | True | False |
| 39. At times I have a strong urge to do something harmful or shocking | True | False |
| 40. I am easily downed in an argument. | True | False |
| 41. It is safer to trust nobody | True | False |
| 42. I easily become impatient with people | True | False |
| 43. At times I think I am no good at all | True | False |
| 44. I commonly wonder what hidden reason another person may have for doing something nice for me | True | False |
| 45. I get angry easily and then get over it soon | True | False |
| 46. At times I feel like smashing things. | True | False |
| 47. I believe I am being plotted against. | True | False |
| 48. I certainly feel useless at times | True | False |
| 49. At times I feel like picking a fist fight with someone | True | False |
| 50. Someone has been trying to rob me | True | False |
| 51. I am certainly lacking in self-confidence | True | False |

Please check to see that you have given answers for every statement.



16 PF TEST PROFILE

Name: _____

Comments: _____

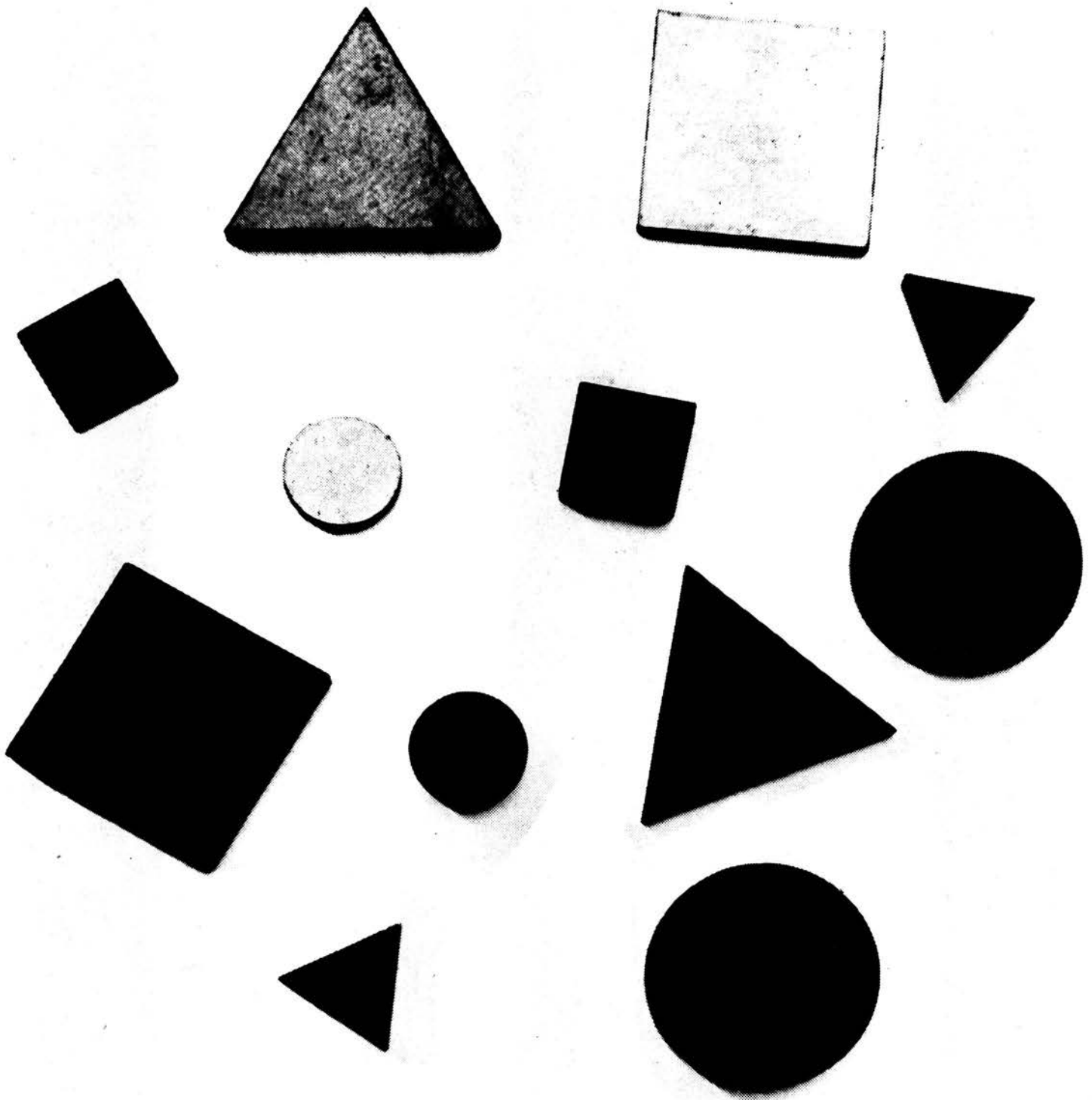
FACTOR	Raw Score			Standard Score	LOW SCORE DESCRIPTION	STANDARD TEN SCORE (STEN)										HIGH SCORE DESCRIPTION
	Form A	Form B	Total			1	2	3	4	5	6	7	8	9	10	
A					RESERVED, DETACHED, CRITICAL, ALOOF (Sizohymio)	1	2	3	4	5	6	7	8	9	10	OUTGOING, WARMHEARTED, EASY-GOING, PARTICIPATING (Affecthymia, formerly cyclothymio)
B					LESS INTELLIGENT, CONCRETE-THINKING (Lower scholastic mental capacity)					B						MORE INTELLIGENT, ABSTRACT-THINKING, BRIGHT (Higher scholastic mental capacity)
C					AFFECTED BY FEELINGS, EMOTIONALLY LESS STABLE, EASILY UPSET (Lower ego strength)					C						EMOTIONALLY STABLE, FACES REALITY, CALM, MATURE (Higher ego strength)
E					HUMBLE, MILD, ACCOMMODATING, CONFORMING (Submissiveness)					E						ASSERTIVE, AGGRESSIVE, STUBBORN, COMPETITIVE (Dominance)
F					SOBER, PRUDENT, SERIOUS, TACITURN (Desurgency)					F						HAPPY-GO-LUCKY, IMPULSIVELY LIVELY, GAY, ENTHUSIASTIC (Surgency)
G					EXPEDIENT, DISREGARDS RULES, FEELS FEW OBLIGATIONS (Weaker superego strength)					G						CONSCIENTIOUS, PERSEVERING, STAID, MORALISTIC (Stronger superego strength)
H					SHY, RESTRAINED, TIMID, THREAT-SENSITIVE (Threctio)					H						VENTURESOME, SOCIALLY BOLD, UNINHIBITED, SPONTANEOUS (Pomtio)
I					TOUGH-MINDED, SELF-RELIANT, REALISTIC, NON-SENSITIVE (Hortio)					I						TENDER-MINDED, CLINGING, OVER-PROTECTED, SENSITIVE (Premtio)
L					TRUSTING, ADAPTABLE, FREE OF JEALOUSY, EASY TO GET ALONG WITH (Alaxio)					L						SUSPICIOUS, SELF-OPINIONATED, HARD TO FOOL (Protension)
M					PRACTICAL, CAREFUL, CONVENTIONAL, REGULATED BY EXTERNAL REALITIES, PROPER (Proxenio)					M						IMAGINATIVE, WRAPPED UP IN INNER URGENCIES, CARELESS OF PRACTICAL MATTERS, BOHEMIAN (Aurtio)
N					FORTHRIGHT, NATURAL, ARTLESS, UNPRETENTIOUS (Artlessness)					N						SHREW, CALCULATING, WORLDLY, PENETRATING (Shrewdness)
O					SELF-ASSURED, CONFIDENT, SERENE (Untroubled adequacy)					O						APREHENSIVE, SELF-REPROACHING, WORRYING, TROUBLED (Guilt proneness)
Q ₁					CONSERVATIVE, RESPECTING ESTABLISHED IDEAS, TOLERANT OF TRADITIONAL DIFFICULTIES (Conservatism)					Q ₁						EXPERIMENTING, LIBERAL ANALYTICAL, FREE-THINKING (Radicalism)
Q ₂					GROUP-DEPENDENT, A "JOINER" AND SOUND FOLLOWER (Group adherence)					Q ₂						SELF-SUFFICIENT, PREFERENCES OWN DECISIONS, RESOURCEFUL (Self-sufficiency)
Q ₃					UNDISCIPLINED SELF-CONFLICT, FOLLOWS OWN URGES, CARELESS OF PROTOCOL (Low integration)					Q ₃						CONTROLLED, SOCIALLY PRECISE, FOLLOWING SELF-IMAGE (High self-concept control)
Q ₄					RELAXED, TRANQUIL, UNFRUSTRATED (Low ergic tension)					Q ₄						TENSE, FRUSTRATED, DRIVEN, OVERWROUGHT (High ergic tension)

A sten of 1 2 3 4 5 6 7 8 9 10 is obtained by about 2.3% 4.4% 9.2% 15.0% 19.1% 19.1% 15.0% 9.2% 4.4% 2.3% of adults

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'Elements' for Repertory Grid test of thought disorder. (Bannister + Fransella, 1966)





The Object-Classification Test material.

THE GIBSON SPIRAL MAZE

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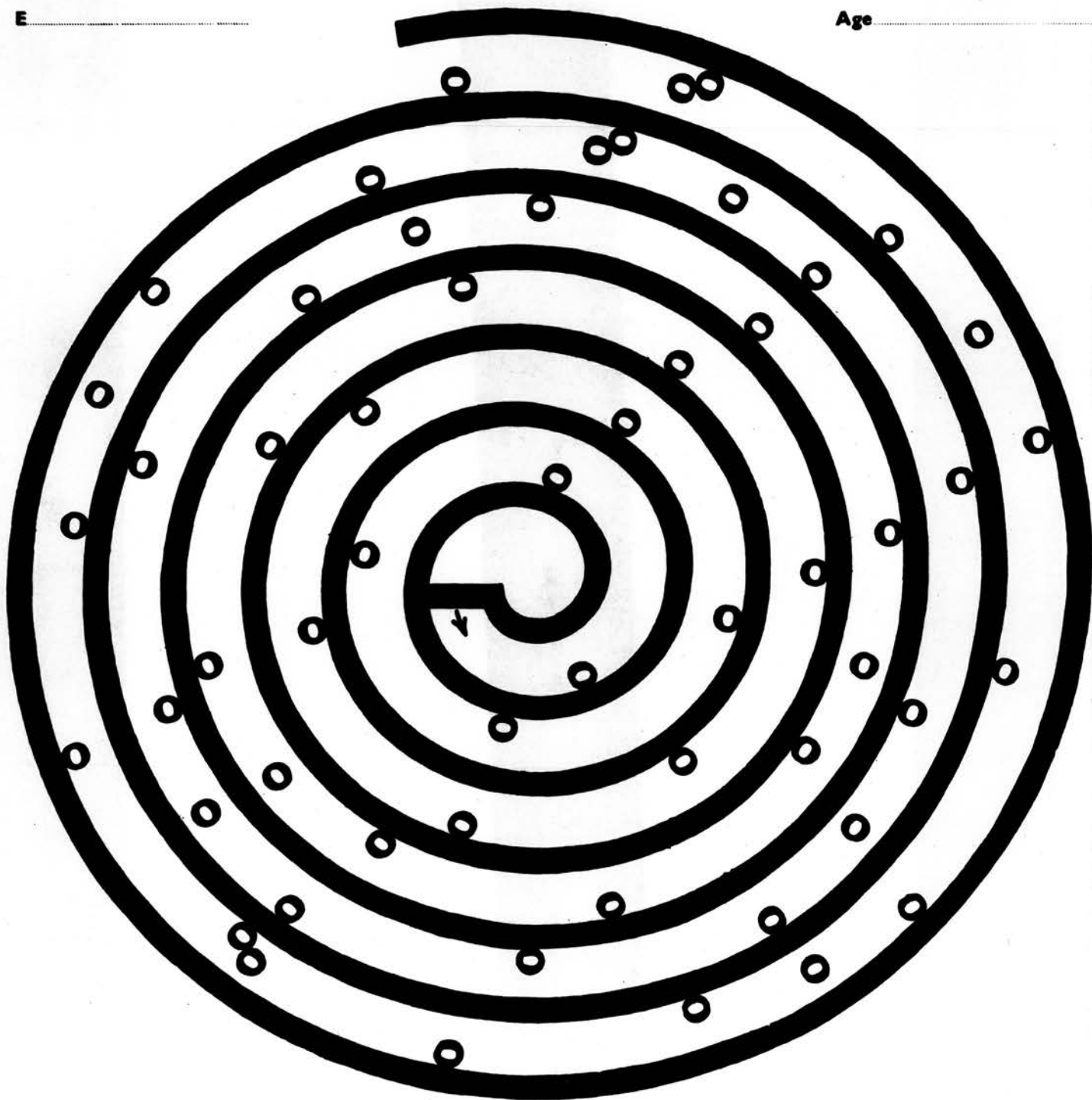
SBN 340 06763 2 Reprinted 1969

T.....

Name.....

E.....

Age.....



News Clip played back on tape for "external distraction"
during psycho-motor speed task.

Don't park on a PC's foot - it's assault

It may well have been just a mistake that Vincent Fagan, 25-year-old carpenter, parked his car on a policeman's foot. But the conversation that followed, as recalled in the High Court, London, yesterday, went like this:-

'Get off, you are on my foot,' said the constable.

'----- you, you can wait,' said Mr. Fagan.

In spite of the constable's protests, Mr. Fagan stayed where he was.

And in the High Court three judges disagreed on whether that amounted to assaulting a policeman in the execution of his duty. But by 2-1 they upheld the decision of magistrates and quarter sessions that an assault was proved against Mr. Fagan.

The incident happened last August when Mr. Fagan was reversing his car in a North London street. PC David Morris directed him to drive the car forwards to the kerbside and, standing in front of the car, pointed out a suitable spot to park.

Doubt

At first Mr. Fagan, of Wembley, Middlesex, stopped too far from the kerb for the constable's liking and he was asked to park closer. He drove forwards and stopped his car with the off-side wheel on the constable's foot.

PC Morris repeated several times: 'Get off my foot,' and Mr. Fagan said reluctantly: 'Okay, man, okay.' Then he slowly turned on the ignition and reversed off the foot.

At the quarter sessions it was found there was doubt as to whether the mounting of the wheel on to the officer's foot was deliberate or accidental.

But the court was satisfied that Mr. Fagan 'knowingly, provocatively and unnecessarily allowed the wheel to remain on the foot' after the officer told him to get it off.

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TEST GIS/14 E.36

FORMS A(1) and A(2)

Surname
 (Block Letters)

First Name(s)

(1)

(2)

3.

Answers
(1) R S R S R .
(2) U U U U U .
(3) P Q R S T .
(4) G H I G H I G .
(5) Q P O N M .
(6) H H H H H .
(7) I J K L M N .
(8) F E F E F .
(9) H G F E D .
(10) Y Z A B C .
(11) G G G G G .
(12) J K J K J .
(13) O N O N O .
(14) B A Z Y X .
(15) R R R R R .
(16) H I J K L .
(17) R S R S R .
(18) T U T U T .
(19) M L K J I .
(20) Y Y Y Y Y .
(21) O P Q R S .

STOP. DO NOT TURN OVER

2.

Start Below
(1) A
(2) B
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)
(13)
(14)
(15)
(16)
(17)
(18)
(19)
(20)

STOP

1.

INSTRUCTIONS

In this test each problem is made up of a row of letters which is arranged according to some definite rule of its own. Study Example (1) at the foot of this column. It runs ABCDEFG, and it is easy to see that the letters here are simply in the usual alphabetical order. At the end of the row there is a dot and you have to work out which letter could be written in place of the dot without breaking the rule which applies to the rest of the series. For Example (1) the answer is 'H', which continues the alphabetical order, and this has been entered for you in the answer space belonging to Example (1). You do NOT write your answers on the dots themselves.

Look at Example (2). This follows a different rule. It is simply the alphabet written backwards, but with every alternate letter left out. The answer is 'p', and you should write this in the answer space by the side of Example (2) below as soon as you understand how the problem is solved.

Example (3) goes BBB CCC so each letter appears three times and the answer must be the letter 'D'. Write this in when you understand the example.

The remaining examples will be explained to you in a few minutes. While you are waiting, try them yourself for practice and write in the answers to those which you solve.

EXAMPLES	ANSWERS
(1) A B C D E F G .	(1) H
(2) Z X V T R .	(2)
(3) B B C C C D D .	(3)
(4) G H I J K L .	(4)
(5) D C B A Z Y X .	(5)
(6) A Z B Z C Z .	(6)
(7) C D E X Y Z C D E X .	(7)
(8) A B B C D D E F F G H .	(8)
(9) A Z A B Y B C X C D .	(9)

STOP. DO NOT WRITE ANYTHING ELSE YET.

Appendix B

HDHQ Sten scores for WOMEN (n = 372, Age 22.87 ± 8.35)

Raw Scores

Sten	Total Hostility	% f	Extra-punitive	% f	Intro-punitive	% f	Reversed Sten
1	0 - 3	2	0	1	0 - 1	3	10
2	4 - 6	5	1 - 2	5	2	4	9
3	7 - 9	11	3 - 4	13	3	6	8
4	10 - 12	18	5 - 6	16	4 - 5	17	7
5	13 - 15	18	7 - 8	17	6 - 7	23	6
6	16 - 19	16	9 - 10	20	8 - 9	17	5
7	20 - 22	15	11 - 13	16	10 - 11	17	4
8	23 - 25	8	14 - 16	6	12	7	3
9	26 - 29	4	17 - 19	4	13 - 14	4	2
10	30 - 51	2	20 - 34	2	15 - 18	1	1

MEN (n = 154, Age 27.74 ± 8.26)

1	0 - 2	0	0	0	0	4	10
2	3 - 4	6	1	1	1	8	9
3	5 - 7	8	2 - 3	9	2	12	8
4	8 - 9	13	4 - 5	14	3	12	7
5	10 - 12	19	6 - 7	25	4 - 5	21	6
6	13 - 15	19	8 - 10	20	6 - 7	19	5
7	16 - 19	15	11 - 13	15	8 - 9	10	4
8	20 - 23	11	14 - 16	9	10 - 11	6	3
9	24 - 27	4	17 - 18	4	12 - 13	5	2
10	28 - 51	3	19 - 34	1	14 - 18	1	1

Appendix c

Case Histories

Summaries of typical examples of bi-polar and unipolar affective illness, and of more ambiguous cases for whom final diagnosis was less certain.

These short case histories do not give much detail about personal history, but stress instead episodes of illness and treatment received as the relevant aspects for this study.

Typical Bi-polar Affective cases

1. D.M.L.P.: (housewife, trained nurse, 55 yrs., married).

Seen at 14th episode of illness with a diagnosis of hypomania-(~~manic-depressive~~) psychosis.

Personal history: Childhood normal, no neurotic traits, average scholar, was trained as a nurse, got on quite well. Married at age 25 yrs., happy marriage; has two children.

Psychiatric history:

- 1927 - depression for three months - no treatment.
- 1936 - depression for five months - no treatment.
- 1945 - Seven months after the birth of her second child - depression for 6 months - admitted to hospital.
- 1946 - hypomania, with elation, pressure of talk and insomnia. Admitted to hospital. Spontaneous recovery in five weeks.
- 1955 - hypomania in April, followed by depression in August, which lasted until February 1956, when overactivity and pressure of talk returned. Affect at this time was normal. She was auditorily hallucinated and expressed paranoid delusions against her sister-in-law when admitted to hospital in May 1956. Discharged against medical advice in June 1956.

- 1956 (July) - Mania - with excitement, irritability, pressure of talk, disinhibition, anorexia and insomnia.
Treated with reserpine. Discharged May 1957.
- 1957 (December) - hypomania - overactive, demanding, didactic, talkative. Admitted to hospital 15.12.57, and discharged against advice on 16.1.58.
Readmitted on same day as a certified patient, and given chlorpromazine. Remained hypomanic for 3 months.
- 1959 - Depressed, in bed at home for 3 weeks.
Readmitted to hospital. Treated with Tofranil.
- 1960 - Mixed affective state, progressing to hypomania.
Treated with largactil.
- 1961 - Hypomania : treated in hospital with chlorpromazine and Melleril.
- 1962 - Hypomania, treated in hospital with Melleril.
- 1967 - Hypomania. Admitted to hospital.
- 1968 - Depression - admitted to hospital in April.
Very retarded and uncommunicative. Low spirits and paranoid delusions. Treated with Tryptizol. Discharged in July.
- 1968 (October) - Readmitted - Hypomania.

The patient was seen at this last admission.

Admission Notes: "She shows pressure of speech and flight of ideas. She occasionally jokes inappropriately to her circumstances but consistently with her mood which is essentially labile, fluctuating wildly from jocularity to tears and anger when talking about her sister-in-law. She is overactive and restless. Since admission, her mood has not stabilised despite Lithium Carbonate and Phenothiazines. She remains overactive, overtalkative, restless and at times irritable, provocative to other patients and interfering. Her talk is disinhibited and she occasionally swears and talks openly of sexual difficulties in the marriage. At times she has been vaguely paranoid and upset by believing the other patients to be talking about her. On occasion she hears 'Pakistani voices' talking at night when she is in bed. The voice is that of Dr. A. who formerly looked after her. The other night in bed, she believed she heard the ward consultant's voice in the corridor saying: 'There's that no good woman with her no good husband and horrible son'. Her sleep is still disturbed."

Precipitating factors: Became hypomanic while on Tryptizol following her admission earlier in the year for depression. The immediate precipitants were firstly worry about her husband who was about to be operated on. Secondly, her daughter had become engaged a few days before.

2. J.T. (male, 48 yrs., married, civil servant)

Seen at 5th episode of illness with a diagnosis of hypomania-manic depressive psychosis.

Personal history: No siblings, unhappy home background: parents fought a lot. Left school at 15 after doing very well. Joined the civil service where he has reached middle management level currently. Married age 30 yrs. Two children.

Personality: a worrier - but can be cheerful and talkative.

Psychiatric History:

Sept. 1965 Depression - out-patient treatment with tryptizol and librium.

Dec. 1965 Admitted to general hospital with haenatemeris. Became elated, mind racing, also weepy, and flirtatious. Admitted to psychiatric hospital. Settled on Melleril.

Feb. 1966 Depressed. Treated as out-patient with tryptizol.

June 1966 Depressed again and improved on tryptizol.

"Subsequently, swings of mood: some control with Melleril and Tryptizol. When elated, is very active, over-talkative, flirtatious, overspends. During depressed phases, stays in bed, is tearful, Lacks energy.

Oct. 1968 Hypomania, in-patient treatment with Melleril and discharged on Lithium Carbonate.

The patient was seen at this last admission.

Admission Notes: He had become progressively more elated after stopping Tryptizol. "He became over-talkative, disinhibited and overactive. He liked to rise at 6 a.m., sing in the bath and then, wearing running shorts he would go out for a run or bird-watching through his binoculars. He was not really 'happy' and indeed was easily moved to tears e.g. by the sudden thought 'Dear old teacher'. He described himself as 'ready for anything or anybody', would organise games, etc. and began a large abstract painting on which he lavished great attention in an intermittent way, after having been to an exhibition of modern art. At interview he was usually armed with copious notes and his diary, and would write down all comments or advice given. He could talk non-stop for literally, several hours. The content was rational and there was no delusional material. Insight exceptionally good and intelligence probably high."

Precipitating factor: withdrawal of tryptizol.

Query Bi-polar Cases

1. B.P. (single, 60 yrs., charity worker)

Seen as recovered depressed bi-polar - R.Bp.D.

Personal History: Youngest of 3 sisters, left school at 17, parents now dead. Father was a consulting engineer. Spoilt by parents. Described by older sister as very gay and sociable, fond of country dancing and quite popular.

Psychiatric history:

1955	Became <u>depressed</u> after grossly over-spending on new house. Depression continued till June 1956.
27.3.1957 to 3.5.1957	Depressed, again after running up large bills. Became increasingly depressed, anorexic and sleepless, wept occasionally. On admission, appeared depressed, agitated, timid, frightened and uncommunicative. Treated with 4 x E.C.T. After last E.C.T., for about a week was somewhat <u>elated</u> and mischievous.
August 1958	Depressed: treated with in-patient E.C.T.
June 1960 - September 1960	Depressed: in-patient treated with Tofranil and E.C.T. Discharged Sodium Amytal for mild <u>hypomania</u> .
Dec. 1961 - Jan. 1962	Depression. In-patient E.C.T. and Tofranil.
Nov. 1963 - Feb. 1964	Depression. In-patient treatment with Nortriptyline.

Notes read: "Miss P. had a period of very labile emotions, swinging from fairly severe depression to definite elation although the depressed state was the most persistent."

Aug. 1966

Depression treated with out-patient Tofranil.

1966 -
1968

"She had no prolonged periods of illness between August 1966 - March 1968, and for long periods she appears to have been perhaps mildly hypomaniac involving herself in running her boarding house, doing market research for the B.B.C., working with the W.V.S., and involving herself in voluntary work in hospitals and in the church."

May 1968 -
Sept. 1968

"Prior to admission she seems to have been mildly hypomaniac. She had driving lessons and bought a car without her sister's knowledge - succeeding in hiding the fact for four months."

Admitted with Depression which quickly changed to mild hypomania: "patient laughing, over-talkative, skittish - mood elevated and an obvious swing to mild elation had occurred."

Treated with Tofranil, Epanutin and Lithium Carbonate. Discharged on same drugs.

Miss P. was seen as an out-patient for the research projection 2.9.69. Though her illnesses have been predominantly depressive, she has also had frequent bouts of hypomania with over-talkativeness,

elevated mood, over-spending and excess of energy. She was never treated in hospital for hypomania, but has often needed out-patient drug treatment, for example sodium amytal. She is quoted as a query bi-polar case, but the alternative diagnosis could be unipolar recurrent depression.

2. P.F. (married: 38 yrs., nurse, now housewife)

Seen as recovered bi-polar manic after 12th episode of illness.

Personal History: Third youngest of seven children, left school at 16, qualified as S.R.N. Married at age 24 yrs., has four children. Happy marriage. Describes herself as a leader, not a follower.

Psychiatric History:

1954	Reaction to Dexedrine, became "hectic", then <u>depressed</u> .
1955	<u>Depression and Anxiety</u> (before and after marriage) Recovered with E.C.T.
1957	<u>Depressed</u> after birth of first child. Recovered with E.C.T.
1958	<u>Depressed</u> 4 months after birth of second child. Suicidal attempt.
1959	Admitted and diagnosed as " <u>schizo-affective psychosis</u> ". Had E.C.T. Discharged and readmitted with depression and suicidal ideas.

- 1959 Depression. In-patient Tofranil.
- 1960 Hypomania 2 months after birth of third child.
Largactil and Veractil.
- 1961 Depression - Veractil, E.C.T. and Tofranil.
- 1964 Depression - in-patient Tofranil and veractil.
Became hypomanic and then depressed again.
Pregnancy diagnosed.
- 1965 Excitable, over-talkative and sleepless before
and after birth of 4th child. Settled on Veractil
and amytal. Depressed several months later -
Parstelin and Veractil. Became restless and
aggressive. Admitted and diagnosed as query
mixed affective state. Settled on Veractil and
Librium, but became depressed and was treated with
Tofranil. Continued on Veractil.
- 1967 Admitted with increasing restlessness and irrit-
ability, talks and paces incessantly, talk is rapid
and mostly connected with clang associations.
Expresses some paranoid ideas. Treated with
Melleril and Lithium. Final diagnosis schizo-
affective psychosis.
- 1969 Admitted with hypomania; treated with Melleril.
Discharged on Lithium.

Mrs. P.F. was seen on 5.11.69 as an out-patient. Her case is quoted here as a doubtful case of bi-polar affective illness,

because in her long psychiatric history she had sometimes been diagnosed as mixed affective state or schizo-affective psychosis. The latter diagnosis was made because of some bizarre symptomatology, such as paranoid ideas about the staff, mis-identifying people, having "symbolic dreams", hearing voices which were somewhere above her and talking in "Noddy language" (These were not commentaries and the voices were not distinguishable as persons). However, since she has both elated and depressive episodes which respond to Melleril and E.C.T. or antidepressants, she is considered as a bi-polar affective case.



Edon Grove
Board
1953

Typical Unipolar Affective Cases

1. M.P.W. (Housewife, 58 yrs., worked as office secretary, married.)

Seen as a recovered unipolar depressive patient.

Personal History: One of twins in family of eight children.

Happy home life. Trained at Secretarial College after leaving school at 15. Married age 29. A happy marriage. Husband is a business manager. 3 children: a boy and 2 girls.

Psychiatric History:

- 1951 Depression. Treated as an in-patient with E.C.T. Discharged after 3 months.
- 1952 Suicidal attempt by ingestion of Soneryl tablets, in-patient for 2 months, treated with E.C.T.
- 1953 Depression - in-patient treatment.
- 1953 Depression five months after birth of daughter. E.C.T.
- 1958 Recurrence of depression. Course of 10 E.C.T.
- 1959 2 episodes of depression (March and October). Treated with Tofranil as an out-patient.
- 1961 2 episodes of depression (January and June). Treated with Tofranil. Changed to Tryptizol.
- Aug. 1963 - On Tryptizol almost continuously.
Mar. 1964
- Dec. 1965 - In-patient treatment with Tryptizol.
Apr. 1966

Dec. 1966 - In-patient E.C.T.
Jan. 1967
April - July 10 x E.C.T. as in-patient. Discharged on
1967 lithium carbonate.

Since 1967, until the time when she was seen in October 1969 for psychological assessment, the patient had remained on lithium and had numerous episodes of depression but the general impression was that they had diminished in frequency and also that she had managed at home. They usually lasted one or two weeks and were nearly always triggered off by events involving travel and the family, e.g. children going away, self returning home, holidays etc.

Typical Admission Notes: "Tearful, depressed-looking. Quiet and withdrawn but given the opportunity, able to pour out her worries and floods of tears. Very self-critical and almost guilty regarding her marriage: e.g. 'I shouldn't have married him, it's not fair to him, the poor soul'. Thoughts very gloomy at times, wishing she were dead. Tendency to wake early and 'feel dreadful'. Worse in the morning."

2. M.M. (housewife, 43 yrs., married, worked as domestic help and shop assistant)

Seen as recovered unipolar depressive after 8th episode of illness.

Personal History: Born illegitimately, lived with maternal grandparents until age 9. Then lived with natural uncle and aunt.

Mother and uncle may have died in a psychiatric hospital. Left school at 14 years to start work in hotel. Became pregnant at age 20 and pregnancy terminated at about 5½ months. Married at 29 years. Happily married. 3 children.

Psychiatric History:

Oct. 1965 Depression. in-patient treatment with E.C.T.
Discharged in December.

Mar. 1966 Recurrence of Depression. Out-patient E.C.T.

Oct. 1966 " " " Out-patient E.C.T.

Jan. 1967 Recurrence of Depression, attempted suicide.
in-patient. E.C.T.

July 1968 Depression - out-patient treatment with Tofranil.

Sept. 1968 Depression - treated with Topranil on out-patient
basis.

Oct. 1969 Admitted with severe depression after mild
suicidal attempt. Treated with Tofranil.

Apr. 1969 Depression - treated with E.C.T. as an out-
patient. Started on lithium carbonate after
8 x E.C.T.

Typical Admission Notes: Mrs. M. looks the picture of misery. She is hardly able to complete a sentence coherently At times she appears on the verge of stupor. She was very reluctant to eat at all. Wakes up early.

Mrs. M. is very retarded. It takes her a long time to get any thought content out at all. She is so retarded that it is

not possible to say whether she has any thought blocking. At times she becomes almost mute and motionless.

When she is able to describe her thought content, it reflects her depressive mood. She is consumed with guilt about her pre-marital affair and has paranoid ideas on the basis of this, that she is going to be locked away for ever and that her husband will never come and see her. She expresses delusions of guilt and unworthiness, thinking that her house is dirty and that she has neglected her family (her husband says that this is not so). She has paranoid delusions about her neighbours, thinks that they say unpleasant things about her and that one has interfered with one of her children. She thinks that one of her children has leukaemia. She is very pre-occupied with her mother's history of mental illness

Mrs. M.'s mood is one of unremitting depression. She shows no diurnal variation at present."

Query Unipolar Cases

1. C.R. (Housewife, 52 yrs.)

Seen at 4th admission as a recurrent unipolar depressive.

Personal History: Normal happy childhood. No childhood neurotic traits. Only child. Married business man at age 26 yrs. Two grown up children.

Psychiatric History:

1960 Depression: in-patient treatment with Tofranil and E.C.T. x 3.

1969 Depression. Serious suicidal attempt. in-patient E.C.T. x 7.

Feb. 1970 Depression. Treated with Tryptizol and valium at out-patient.

Apr. 1971 Depression. In-patient treatment with nortryptiline and valium.

The patient was seen at this last admission.

Admission Notes: The patient had become progressively more depressed since January 1971. She felt extremely tense and agitated, and reported some difficulty in getting off to sleep. She admitted to being depressed in mood and commented that this tended to be worse in the afternoons but tended to lift again towards the evening. She felt that her concentration and appetite had deteriorated slightly, and she tended to be very weepy.

Precipitating Factors: The patient's family situation had been somewhat stressful in the recent past: Her husband had also been treated for depression, the business (garage and car sale) was not doing very well, the daughter had married against parents' wishes, while the son had been in some trouble.

This case is quoted as a query unipolar, because of the following comments from her case-notes: "This lady, as will be seen from her case notes, has a long history of depressive illnesses, mainly of the neurotic type, but frequently requiring fairly vigorous anti-depressant medication, and on at least two occasions in her previous history it is reported that, following anti-depressant treatment, whether with E.C.T. or with drugs, she has tended to swing up towards the manic side of normal. The depressive picture has also been coloured by the fact that she has, in the past tended to over-indulge in alcohol and barbiturates."

2. I. A. (Single, 44 yrs. Civil servant)

Seen at admission for 6th admission with recurrent unipolar depression.

Personal History: One of 8 siblings, uneventful childhood, left school at 17 yrs. with highers. Worked in a bank, then in the civil service until 1962 and since, apart from temporary jobs, has stayed at home. Described as a shy person, not a good mixer.

Psychiatric History:

1952 Depression. In-treatment E.C.T.
1957 " " "
1962 Suicide attempt. In-patient E.C.T.
 Imipramine, Amitriptyline and Tranylcypamine
1967 Depression. In-patient E.C.T. Tofranil,
 Marplan, Largactil, Psychotherapy.
1968 Depression. E.C.T. Started on Lithium.
1969 Depression. in-patient treatment. Marplan
 changed to Sparine and Valium, then Prondol.

Typical Admission Notes: This patient had had six previous admissions with severe depression and one serious suicidal attempt when she was seen. There had been no definite history of spontaneous hypomania or mania, but she had been rather elated and overactive on several occasions after treatment, particularly with MAOI drugs. However, the general opinion was that she is best regarded as a case of recurrent unipolar depression.

"Miss A was obviously depressed, but was reluctant to come into hospital. She expressed feelings of great unworthiness and was very bitter about her persistent depression and failure to get effective treatment."

"Looks depressed. Close to tears through the interview. On several occasions burst into tears especially when she talked about her mother and has loss of faith. Eyes downcast. Fiddled nervously with her hankerchief the whole time. Very sad affect."

Or again "This depressive episode has been quite incapacitating: she stays in the house or even in bed and is extremely irritable and tearful, cannot sleep properly, loses weight, feels tired."

Appendix D

Analysis of Variance of the experimental groups.

	df	SS	MS	F	P
<u>Intropunitiveness</u>					
Groups	5	183.42	36.68	7.21	<.001
Error	100	509.00	5.09		
Total	105	692.42			
<u>Extrapunitiveness</u>					
Groups	5	119.41	23.88	9.18	<.001
Error	100	259.55	2.60		
Total	105	378.96			
<u>Anxiety</u>					
Groups	5	122.87	24.58	7.29	<.001
Error	100	336.67	3.37		
Total	105	459.54			
<u>Extraversion</u>					
Groups	5	187.16	37.43	7.28	<.001
Error	100	513.98	5.14		
Total	105	701.14			
<u>Intensity</u>					
Groups	5	557,324.41	111464.88	0.52	N.S.
Error	100	21,592,562.66	215925.63		
Total	105	22,149,887.07			
<u>Consistency</u>					
Groups	5	0.50	0.10	2.00	<.1 (N.S.)
Error	100	5.08	0.05		
Total	105	5.58			
<u>A-Sortings</u>					
Groups	5	20.74	4.17	1.48	<.25 (N.S.)
Error	100	280.89	2.81		
Total	105	301.63			

	df	SS	MS	F	P
<u>Non-A Sortings (logged)</u>					
Groups	5	8.31	1.66	6.15	<.001
Error	100	26.84	0.27		
Total	105	35.15			
<u>Psycho-motor Speed (without distraction)</u>					
Groups	5	6188.78	1237.76	5.10	<.001
Error	100	24252.89	242.53		
Total	105	30441.67			
<u>Psycho-motor Speed Gain (U-C)</u>					
Groups	5	368.34	73.67	0.50	N.S.
Error	100	14690.33	146.90		
Total	105	15058.67			
<u>Psycho-motor Gain (U-S)</u>					
Groups	5	3112.38	662.48	3.5	<.01
Error	100	17780.17	177.80		
Total	105	20892.55			
<u>Mental Speed (S-SP(U) (unstressed)</u>					
Groups	5	4314.53	862.91	2.41	<.05
Error	100	35853.10	358.53		
Total	105	40167.63			
<u>Mental Speed -SP (S) (stressed)</u>					
Groups	5	3068.18	613.64	1.62	N.S.
Error	100	37793.78	377.94		
Total	105	40861.96			
<u>Stress Gain SP(S)-SP(U)</u>					
Groups	5	2371.44	474.29	2.24	<.1 (N.S.)
Error	100	21160.23	211.60		
Total	105	23531.67			