

Chapter 1

Introduction

There is generally a lack of studies examining prevalence and phenomenology of bipolar disorder in Africa. (1) In literature, a unipolar manic course of illness in particular is reported to be rare. (2) The purpose of this study was to investigate and describe the course of illness and clinical features in a cross-section of patients diagnosed with bipolar disorder attending public hospitals in Limpopo Province, South Africa and to determine the rate of a unipolar manic course in this sample of patients.

The distinction between schizophrenia (dementia praecox) and manic depressive insanity as proposed by Kraepelin in 1896 was the subject of vigorous debate in the first decades of the 20th century. (3) This debate on the dichotomous nature of psychotic illness could in one way be seen as the nosological birth of bipolar disorder in the sense that it was the first attempt at drawing a clear line between these two illnesses. However, our modern understanding of bipolar disorders as they are known today is credited to Falret and Ballarger in many circles. (4)

The study could potentially aid in presenting new data for the inclusion of a new diagnostic category within the psychotic spectrum of disorders or

at the very least unipolar mania could come to be used as a specifier in the bipolar spectrum of mental illness.

Considering that finding phenotypes for disorders continues to be a challenge in psychiatric genetic research, a case will be made that the data presented in this study could possibly signify the existence of a homogeneous phenotype on the schizophrenia-bipolar spectrum. This phenotype could possibly lay the foundation for future genetic studies.

The idea for this MD came about in 2006 while I was working at Mokopane Hospital in Limpopo Province where I noticed that the number of patients presenting with manic symptoms, carrying a diagnosis of bipolar disorder, far outnumbered those presenting in the depressive phase of the illness. They seemed to have a recurrent unipolar manic course, the mania accompanied by severe psychotic symptoms of a schizophrenic nature from the onset of the illness, and they seldom presented either to hospital or out-patient clinics with symptoms of depression.

Presenting my literature findings at the South African Society of Psychiatrists (SASOP) Conference of August 2008, a psychiatrist from Cape Town approached the presenter and observed that he was seeing

the same phenomenon in the Xhosa speaking population. In informal discussions with other South African psychiatrists working in rural areas, they concur that bipolar depression is hardly ever seen. And considering that a poster presentation summarising the findings of this study at the 2012 SASOP Conference in September was voted the “Best Poster” by both the Scientific Judging Committee as well as congress delegates gives credence to the fact that a unipolar course in bipolar mood disorder is an area ready to be researched in South Africa.

The subsequent journey that was born out of curiosity inevitably led me to delve ever deeper into the history of bipolar disorder and along the way I could not help but become increasingly aware of the shortcomings of our profession’s diagnostic classification system with regard to the schizophrenia/bipolar dichotomy and the psychotic spectrum illnesses. All the while observing my own clinical approach to our field of practise carefully, I also became acutely aware of our inability to decide which drugs works best for which presentations – and our heavy dependence on a sometimes very undependable pharmacopeia of drugs. In the process we attributed the successes of our drugs to hypothetical drug actions in the brain and rationalised away the numerous treatment failures, hiding behind terms such as “treatment resistance” or “unwanted side effects”.

I do believe that our understanding of the brain and mechanisms of action of psychotropic drugs have increased immensely in the last two decades and that these drugs have undoubtedly made a huge contribution to improved quality of life for many of our patients with severe and enduring mental illness. Still, the arguments put forth in her book “ The Myth of the Chemical Cure” (5), by Joanna Moncrieff, have to be considered if we are to be honest with ourselves. In this book Moncrieff makes a compelling argument for a drug-centred- versus a disease-centred model of approach to mental illness. I believe that many psychiatrists start following this approach unintentionally when they are faced with patients that are particularly hard to fit into contemporary diagnostic classification systems.

The current area of research that will in future possibly have the biggest influence on approaches to diagnosis and classification of major psychiatric illness is molecular genetic studies. The researchers in the field of genetic studies have already begun challenging and will possibly in future overturn in particular our dichotomous view of the distinction between schizophrenia and bipolar disorder. (6) The so-called “Kraepelinian Dichotomy” presumes that schizophrenia and bipolar disorder are distinct entities with separate underlying disease processes

and treatments and is based on Emil Kraepelin's view that schizophrenia and manic-depressive illness are two separate illnesses. (7)

The Kraepelinian Dichotomy has probably survived in part because individuals diagnosed with 'typical schizophrenia' are recognised to be different from those having 'typical bipolar disorder' on the basis of clinical features and outcome. The dichotomy is conceptually simple and appeals to clinicians as it allows psychiatrists to demonstrate diagnostic expertise in an often complex patient with a confusing clinical picture. (6)

However, a substantial body of evidence from genetic studies is accumulating, challenging this dichotomous view, and providing convincing evidence that genetic susceptibility is shared between bipolar disorder and schizophrenia. The main findings of these genetic studies consist of family studies; genome-wide association studies (GWAS) and analysis of structural genomic variation or rare copy-number variants (CNV's).

In the largest family study of the two disorders ever conducted, overlap in genetic susceptibility across bipolar and schizophrenia is shown. More than two million families identified from a Swedish population and hospital discharge registers showed that there is an increased risk of

both schizophrenia and bipolar disorder in first-degree relatives of probands with either disorder. Evidence from half-siblings and adopted-away relatives has furthermore revealed this increased risk to be due to genetic factors. (8)

In a genome-wide association study of European individuals, molecular genetic evidence for a substantial polygenic component to the risk of both schizophrenia and bipolar disorder involving thousands of common alleles of very small effect was shown. This study provides compelling evidence that the aggregate polygenic contribution of many alleles of small effect adds to susceptibility for schizophrenia but also influences susceptibility to bipolar disorder. (9)

Recent studies of de novo copy-number variants (CNV's) indicate that they may also have an influence on the risk for developing bipolar disorder albeit slightly less so than for schizophrenia. Malhotra et al estimate the overall frequency of de novo CNV's of more than 10 kb to be approximately 4% in bipolar disorder and 5% to 10% in schizophrenia. These authors' preliminary findings also suggest that individuals with early onset of mania might constitute a subclass of bipolar disorder in which there is a greater contribution of rare alleles of

large effect. They conclude that rare spontaneous mutations are an important contributor to risk for bipolar disorder. (10)

Hamshere maintains that “cases with a rich mixture of clinical features of bipolar mood episodes and the psychotic symptoms typical of schizophrenia (a broadly defined schizoaffective illness) may be particularly useful for genetic studies”. (11) This statement lends credibility to this current study as being possibly very important for doing genetic research on this particular group of patients who seem to present a very specific phenotype on the schizophrenia-bipolar spectrum.

It is envisaged that the present study will help to define a specific phenotype on the schizophrenia-bipolar spectrum. Defining accurate phenotypes in psychiatric genetics is important for future research in disentangling the etiopathogenesis of these illnesses.

Chapter 2

The History of Bipolar Disorder

2.1 Introduction

The purpose of this chapter is to orientate the reader as to the history of bipolar disorder. Starting from the classical period and the initial use of terms such as mania and melancholia, through the commencement of contemporary concepts of bipolar disorder and ending with the evolution of our current nosology in existing diagnostic manuals.

2.2 The Classical Period

Most present-day authors on the history of bipolar disorder seem to agree that the concept of bipolar disorder was first recognised by Greek and Roman physicians in the classical period between 500 and 400 BC. (12) Hippocrates is credited with the shift of Western medicine away from the religious to the “rational.” He believed doctors should analyse symptoms on a case-by-case basis, instead of having blanket causes for each disease. To accomplish this, he developed the practice of Clinical Observation that had four stages; diagnosis, prognosis, observation and treatment. He also believed that the Four Humours (fluids in the body) were the keys to health and healing. (13)

Blood, the liquor of vitality, made the body hot and wet. *Choler*, bile or gastric juice, made the body hot and dry. *Phlegm* was colourless secretions as in sweat, tears and nasal secretions and also made the body cold and wet. Phlegm was also found in the brain, where one of its roles was to cool the eagerness of the blood. Black bile or *melancholy* was the one hidden humour, seen only insofar as it led to the darkening of other fluids, such as blood and stools; it made the body cold and dry.

(14)

Hippocrates was also the first to systematically describe mania and melancholia. He based his work on the views of Pythagoras and Hippocrates's scholars, Alcmaeon and Empedocles of Crotona. Alcmaeon experimented with the brains of animals trying to find the auditory and visual channels of the brain. He believed that the origin of diseases was to be found in the disturbed interaction of body fluids in the brain. (15)

Psychiatry was one of Hippocrates's main interests and he supplemented the abovementioned theories with superb bedside observations as well as longitudinal follow-up. He furthermore formulated the first classification of mental disorders -namely melancholia, mania and paranoia. (16) Hippocrates and his school also

described organic and toxic delirium, post-partum psychosis and coined the term “hysteria”. Hippocrates described personality in terms of humoral theories dividing the different types of personality into choleric, phlegmatic, sanguine and melancholic. Hippocrates thought the brain to be the organ of mental functions and mental disorders. He writes in his famous work ‘On the Sacred Disease’:

The people ought to know that the brain is the sole origin of pleasure and joy, laughter and jests, sadness and worry, as well as dysphoria and crying. Through the brain we can think, see, hear and differentiate between feeling ashamed, good, bad, happy ... Through the brain we can become insane, enraged, we develop anxiety and fear, which can come in the night or during the day, we suffer from sleeplessness, we make mistakes and have unfounded worries, we lose the ability to recognize reality, we become apathetic and we cannot participate in social life. We suffer all these things mentioned above through the brain when it becomes ill.

It would appear to the modern-day psychiatrist reading the above quote that Hippocrates is referring to mental illnesses such as generalised anxiety disorder, major depressive disorder, manic symptoms and psychosis.

Investigating the origins of the word “mania” is challenging as it could suggest a number of different meanings. In the classical period four meanings for “mania” were described (4) :

1. A reaction to an event meaning rage, anger or excitement;
2. A biologically defined disease;
3. A divine state; and
4. A kind of temperament, especially in its mild form.

Caelius Aurenianus suggests in his book on chronic diseases:

In the Phaedrus, Plato declares that there are two kinds of mania, one involving a mental tension that arises from a bodily cause of origin, the other divine or inspired, with Apollo as the source of inspiration. This latter kind, he says, is now called ‘divination’, but in early times was called ‘madness’; that is, the Greeks now call it ‘prophetic inspiration’ (*mantice*), though in remote antiquity it was called ‘mania’. Plato goes on to say that another kind of divine mania is sent by Father Bacchus, that still another, called ‘erotic inspiration’, is sent by the god of love and that a fourth kind comes from the Muses and is called ‘protreptic inspiration’ because it seems to inspire men to song. The Stoics also say that madness is of two kinds, but they hold that one kind consists in lack of wisdom, so that they consider every imprudent person mad; the

other kind, they say, involves a loss of reason and a concomitant bodily affection. (17)

As with the previous quote from Hippocrates, one gets the distinct impression that again reference is being made to modern biological psychiatric concepts e.g. “tension arising from a bodily cause of origin” and “a loss of reason and a concomitant bodily affection”. Hence it appears the even the philosophers of old seemingly were not at odds with the idea that certain changes in behaviour of individuals may be ascribed to something going awry in their physiology.

It is held that Socrates’s proposition: “The highest of all good things are given to us by mania” referred to “divine mania”, or “creativity”; or, like some authors would suggest today “hypomania”, “hyperthymia” or a “hyperthymic temperament”. (18)

However, the Greeks also associated melancholia or melancholic personality with genius and creativity. In in his book ‘Problemata Physica’, Aristotle asks: “Why are extraordinary men in philosophy, politics or the arts melancholics?” And Hippocrates declared to the citizens of Abdira, after examining the philosopher Democritus that their

fellow citizen suffered not from melancholia- “but is simply a genius”.

(16)

Aretaeus of Cappadocia was however, the first of his contemporaries to explicitly link mania and melancholia and may arguably be considered the first to conceptualise the bipolar nature of this disease. Born in Alexandria, he was the most prominent representative of the ‘Eclectics’ who were not bound by any systems of therapy. Aretaeus was very careful in his description of diseases, favoured observation of details and was free of dogma and superstition. The position of Aretaeus, as described in his book ‘On the Aetiology and Symptomatology of Chronic Diseases’ can be summarised as follows (19):

1. Melancholia and mania have the same aetiology, namely disturbance of the function of the brain.
2. Mania is worsening of melancholia.
3. Mania is the phenomenological counterpart of melancholia.

Aretaeus’s concepts of melancholia and mania were broader than modern concepts and probably included depression, psychotic depression, schizoaffective disorders, mixed states, schizophrenia with affective symptomatology and organic psychoses.

He differentiated between melancholia (a biologically caused disease) and reactive depression (a psychologically caused state).

Not all authors however agree that the concept of mania and melancholia as described by Hippocrates, Aretaeus and other ancient Greek and Roman physicians could be considered akin to our modern day understanding of bipolar affective disorder. Healy cogently argues that “whilst terms such as mania, melancholia, insanity, dysphoria, dysthymia, paranoia and lunacy all go back to the Greeks and Romans, manic-depressive disease does not and indeed could not”. Healy reasons that visible signs made it reasonable for the Greeks to locate the problem in the body of the sick person and today we depend on what people say to make a diagnosis with the result that mental illness is “negotiated” between doctor and patient.

Healy claims: “to argue that Hippocrates describes manic-depression involves a careful selection of the facts and a gross selection of text”. (20) For Hippocrates, the foreheads of maniacs and melancholics would commonly have literally felt hot with fevers that gave rise to delirious or frenzied states. Mania, therefore, was probably what would today be seen as delirium. Before antibiotics, high fevers gave rise to agitated and raving states far more commonly than any ‘mental disorder’ did and

against a background of terrifying and lethal epidemics, what is now called “manic-depressive illness” was almost an irrelevance, a rare disorder. (20)

2.3 Commencement of the contemporary concept of bipolar disorder

The conclusion that bipolar disease was a distinct entity was drawn for the first time in France in the middle of the 19th century at the *Hospice de La Salpêtrière* in Paris by Jean-Pierre Falret. In 1851 Falret issued a statement in the hospital gazette describing a separate entity of mental disorder, which he named *folie circulaire*, characterised by a continuous cycle of depression, mania and free intervals of varying length. Three years later Falret published the ‘*Leçons Cliniques de Médecine Mentale faites à l’Hospice de la Salpêtrière*’ and presented the concept to the *Académie de la Médecine*. (21)

In 1854 Jules Baillarger, arguing forcefully against Falret, presented his concept of *folie à double forme* in a paper as well as a presentation to the *Académie de la Médecine*. (22) Falret and Baillarger could therefore be seen as the fathers of our modern concept of bipolar disorder albeit in this fairly reluctant nuptial as their concepts varied considerably and there seemed to be some animosity between the two colleagues. Baillarger assumed a type of disease in which mania and melancholia

change into one another but the interval is of no importance. Falret in contrast, involved the interval between the manic and melancholic episode in his concept.

Both concepts, however, found widespread distribution in France and soon also in other European nations. In 1863 Karl Kahlbaum, who supported Falret's view and opposed Baillarger, introduced both "*folie circulaire*" and "*folie à double forme*" into German psychiatry in his book 'The Grouping and Classification of Mental Disorders', (23) contributing in this way to the establishment of the two terms in German psychiatry.

Karl Kahlbaum is an intriguing figure in the history of psychiatry and his contribution to the field of psychiatry appears to be undervalued as he rarely presented material and wrote only 16 papers. It fell to Ewald Hecker his colleague, and later brother-in-law, to outline many of his ideas. (20) At the sanatorium in Gorkitz near Dresden where they worked, they introduced innovative reforms such as greater patient freedom and removal of restraints. When discussing patients, they shunned fashion and described their cases in a new way, considering the longitudinal course of a patient's condition -an approach, Kahlbaum argued, that should give rise to clinical entities or syndromes. (23)

In 1882 Kahlbaum outlined two affective disorders – cyclothymia and dysthymia – against a background of circular or cyclic insanity. Circular insanity, he argued, was a severe disorder that led to hospitalisations for both manic and depressive episodes and in which the patient was typically psychotic. Cyclothymia in contrast, was a pure mood disorder, which showed minimal intellectual derangement and typically did not require hospitalisation. Patients cycled from “excess vitality to lack of vitality” which is a state that might today be referred to as “bipolar type II”. (24)

2.4 The Kraepelinian Dichotomy – opposition, alternative options and personal misgivings

Debatably referred to as the “father of modern psychiatry”, Emil Kraepelin’s separation of ‘endogenous’ psychosis into ‘dementia praecox’ and ‘manic depressive insanity’ was extremely important for the development of psychiatry .(25) Contrary to popular belief, Kraepelin himself was not rigid concerning his taxonomies or concepts and was open to persuasion by data-orientated research.

He often revised his concepts, discussing his doubts and questions in publications as illustrated in the following extract:

Apart from our experience that in a whole series of manic episodes a depressive one can occur unexpectedly, and those cases are immensely rare in which apart from manic irritability not the slightest feature of depression is visible, it is absolutely impossible to distinguish these manic episode fits of circular insanity from periodic mania. But if periodical mania is identical with circular insanity we cannot deny the possibility that also periodic melancholia, or at least some of the cases designated so, must in fact be understood as a kind of circular insanity in which all the episodes take on a depressive hue, just as in periodic mania they all have a manic tinge. (26)

In the quotation above it would appear that Kraepelin was also of the view that periodic or unipolar mania was a rare occurrence. He also comments on a debate still taking place today as to when a patient presenting with a depressive episode might not be in fact suffering from a bipolar type of illness.

Kraepelin stressed the relationship between the syndromes of depression and mania, contributing to the current understanding of manic-depressive illness and also described cases of manic irritability with no features of depression, which he termed “periodic mania”. (27)

Kraepelin did not however use periodicity as a distinguishing feature of the “manic-depressive insanities” because in his view periodicity was also characteristic of “epileptic insanity, hysterical insanity and dementia praecox”. (28) Fascinatingly, it was this general tendency to periodicity which gave rise to the mediaeval English word “lunatic”, meaning a person affected with intermittent insanity – the intermittency being attributed to changes in the moon. (29)

Kraepelin’s system, albeit eagerly embraced by many clinicians, also elicited much criticism from the moment it was propagated. Hoche attacked what he considered to be an unwarranted assumption of a linear relationship between localised brain lesions or microchemical alterations and the clinical symptoms of psychotic illness. Attempts to identify mental “diseases” on the basis of relationships between anatomical changes and mental phenomena are bound to be futile he felt. Instead he argued that psychopathology should limit its aim to achieving an exact description of symptom complexes that are aetiologically neutral. (30)

Bonhoeffer, in a similar line of reasoning, used the example of alcoholism to illustrate how the same aetiology can result in widely different clinical diseases and that conversely, diverse aetiological

factors may lead to identical clinical manifestations. (31) Conrad maintained that the sharp distinction between schizophrenia and bipolar illness was “Kraepelin’s most questionable misjudgement”, claiming that both the clinical evidence (cases with early depressive or manic symptoms and a periodic course that later develops delusional features) and genetic evidence (schizophrenia in the pedigrees of pure bipolar cases) suggest that the two clinical forms are different expressions of a single “endogenous psychosis”. (32)

Alternative views in this protracted controversy of the two major psychoses included the so-called Wernicke-Kleist-Leonhard School whose classification of bipolar disorders as we know them today were really very complicated. Wernicke took a fundamentally different approach to the psychoses, proceeding largely from concepts derived from neurology, postulating that disturbances (resulting from different aetiologies) of the three functional brain systems involving the association cortex; psychomotor, psychosensory and intrapsychic – supporting respectively the awareness of one’s body, awareness of the external world and awareness of one’s own personality, lead to psychotic syndromes that can be classified as somatopsychoses, allopsychoses and autopsychoses. (33) These ideas influenced Kleist

and Leonard, who developed a complex classification of psychoses incorporating Wernicke's notion of a functional cerebral system.

Karl Kleist (a colleague of Wernicke at Halle) opposed Kraepelin's concept of manic-depressive insanity, differentiating between unipolar (*"eipolig"*) and bipolar (*"zweipolig"*) affective disorders and recognising unipolar mania as a separate entity. (34) The concepts of Wernicke and Kleist were completed by Leonard. Karl Leonard (a colleague of Kleist) classified the "phasic psychoses" into "pure phasic psychoses" (such as "pure melancholia" or "pure mania") and "polymorphous phasic disorders".(35) Within the affective disorders, Leonard was the first to propose the distinction between bipolar and unipolar disorders that has since been adopted by mainstream classifications. Neither Kleist nor Leonard considered unipolar mania to be a component of bipolar disorders in present-day terms.

Another conceptualisation was proposed by Kretschmer who introduced an example of multidimensional classification of the major psychoses, suggesting a typology of character trait clusters underlying the predisposition to for example schizophrenia or affective psychoses. Kretschmer suggested that the psychoses are not circumscribed disease entities but episodes rooted in the biological constitution of the individual

with all the possible transitions between sub-clinical manifestations and florid psychosis. (36)

As suggested earlier however, Kraepelin himself was anything but dogmatic in his views and had the intellectual integrity to accept many of the arguments of his critics. He surmised in 'Patterns of Mental Disorder' that "it is natural to turn away from arranging illnesses in orderly well-defined groups and to set ourselves instead the undoubtedly higher and more satisfying goal of understanding their essential structure". As regards the dichotomy of affective and schizophrenic disorders, Kraepelin conceded that "we cannot distinguish satisfactorily between these two illnesses and this brings home the suspicion that our formulation of the problem may be incorrect". (7)

2.5 Schizoaffective disorder

The first psychiatrist of modern times to describe schizoaffective disorder appears to be Karl Kahlbaum. (23) Kraepelin however, appeared more interested in the conundrum of these "in-between-cases" and more intent on solving this annoying enigma. Critical of his own taxonomy, he speculated that mental disorders can have elements of both dementia praecox and manic-depressive insanity and that they can also have a different course and a different prognosis to that of dementia praecox.

(7) In the wake of an investigation by his pupil and colleague Zendig, Kahlbaum's doubts became stronger.

In a paper, 'Contributions to Differential Diagnosis of Manic-Depressive Insanity and Dementia Praecox' by Zendig, (37) he reported that approximately 30% of Kraepelin's sample diagnosed with dementia praecox had a course and outcome not corresponding to the diagnosis. He attributed the better outcome to incorrect diagnosis in the first place.

The term "schizoaffective disorder" was introduced by Kasanin (38) thereby challenging Kraepelin's dichotomous view that two separate diseases account for severe mental illness. Kasanin recognised the diagnostic significance of mood symptoms in psychotic patients and consequently establishing at last a connection between schizophrenia and bipolar disorder.

Kraepelin admitted later "- ... it is becoming increasingly clear that we cannot distinguish satisfactorily between the two illnesses ..." and:

The cases which are not classifiable to either manic depressive insanity or dementia praecox are unfortunately very frequent. We have to live with the fact that the criteria applied by us are not

sufficient to reliably differentiate in all cases between the two disorders and that there are many overlaps in this area. (7)

Kraepelin's about-turn was not widely recognised for over 50 years. Instead, the dichotomy became a keystone of psychiatry.

Nearly 100% of functionally psychotic patients were diagnosed with schizophrenia during the 1950s and 1960s (39) and Kraepelin's reversal was only revived in the 1970s when the diagnosis of schizoaffective disorder increased among psychotic patients at the expense of schizophrenia and studies started to question the disease specificity of the diagnostic criteria. Some authors concluded that schizoaffective disorder was either a subtype of schizophrenia (40) or a disease separate from bipolar mood disorder (41). Others implied that schizoaffective disorder and schizophrenia were indistinguishable from psychotic bipolar disorder (42) and some implied schizoaffective disorder and schizophrenia were a single disease (43) (44).

This search for disease specificity of diagnostic criteria is continuing today as can be seen in the preparation of the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM 5), where the DSM Task Force of the American Psychiatric Association has gone to great lengths

to consult with stakeholders in order to produce more disease specific diagnostic criteria.

Considering the historical origins of the concept of schizoaffective psychosis and its pivotal position in nosology, the genetics involved particularly deserves special interest.

Three studies during the 1970s and 1980s investigated the risk of psychosis in first-degree relatives of probands with schizoaffective illness. Angst found the risk of schizophrenia and affective disorder to be approximately equal in first-degree relatives of schizoaffective probands and the risk of schizoaffective illness less than that of either of the prototypical psychotic illnesses. (45) In two other studies, one by Tsuang and the other by Baron, schizoaffective disorder was found to be more closely related to affective illness than schizophrenia, both authors concluding that schizoaffective illness is genetically not separate from the major psychoses. (46) (47)

These findings led to the continuum theory in the 1980s, which was strongly endorsed by several authors who argued that the psychoses are represented on a continuum from pure affective illness to deteriorating schizophrenia. (48) (49) This concept considers psychotic

symptoms as disease non-specific and not diagnostic and is supported by substantial heritability and molecular genetic data since genes linked to psychosis appear to be inherited similarly across diagnoses.

Crow argues that schizoaffective disorder, schizophrenia and bipolar disorder represent a spectrum of variation at a single genetic locus that regulates severity of symptoms irrespective of diagnosis. Crow infers that no unequivocal demarcation of the functional psychoses can be made on the basis of symptoms, outcome or response to treatment and concludes that the affective psychoses and schizophrenia are related to each other on a continuum and that this continuum has a genetic basis.

(50)

Lake and Hurwitz take the continuum theory one step further, viewing the concept of a continuum as consistent with a single disease and arguing that this single disease is a mood disorder that can account for the symptoms typically assigned the diagnoses of schizoaffective disorder or schizophrenia. These authors state: “If schizoaffective disorder, schizophrenia and psychotic mood disorders are essentially the same disease, schizoaffective disorder and schizophrenia are redundant diagnoses.” Their argument is substantiated by their review of more than

60 articles published since 2000 on the relationship between schizoaffective disorder, schizophrenia and mood disorders. (39)

The dichotomous view of Kraepelin has however survived and may be explained by the fact that early research focused on schizophrenia and not bipolar disorder. The massive data thus accumulated on schizophrenia are interpreted as supportive of the validity of schizophrenia as a distinct disorder but subsequent focus on bipolar patients has revealed considerable overlap. Eloquently articulated by Kendell and Jablensky:

Unfortunately, once a diagnostic concept such as schizophrenia ... has come into general use, it tends to become reified. That is, people too easily assume that it is an entity of some kind that can be invoked to explain the patient's symptoms and whose validity need not be questioned. (51)

2.6 Bipolar disorder born again

In 1966, the next phase in the understanding of bipolar disorders saw the light in the form of two large studies, one by Angst ('On the Aetiology and Nosology of Endogenous Depressive Psychosis') (52) and the other by Perris ('A Study of Bipolar and Unipolar Recurrent Depressive

Psychoses’) (53). These two authors confirmed and further developed the opinions of Falret and the “Wernicke-Kleist-Leonhard School”-namely that unipolar and bipolar disorders are distinct entities. Both the authors showed that unipolar mania was clinically and genetically very strongly related to bipolar disorder and contended that the assumption regarding the separation of the group of unipolar mania was an artefact. Thus, 67 years after Kraepelin’s creation of manic-depressive insanity and some 150 years after Falret’s and Baillarger’s statements, the concept of bipolar disorders experienced a ‘rebirth’. (54)

2.7 Nosology in modern times – The history of the Diagnostic and Statistical Manual of Mental Disorders and the International Classification of Diseases

In order to gain an understanding of our modern concept of bipolar disorder and how we arrived at it, it is important to consider the history of the development of the psychiatric classification systems that predominate in the psychiatric literature. To this end there are two diagnostic classification systems that are mainly used in research i.e. the DSM and the International Classification of Diseases and Related Health Problems (ICD).

There are also other national and regional psychiatric associations that have developed substantial adaptations of the ICD to suit their particular circumstances. Notable in this instance are the Chinese Classification of Mental Disorders (CCMD-3) published by the Chinese Society of Psychiatry in 2001 (55), the French Classification of Child and Adolescent Mental Disorders prepared by the French Federation of Psychiatry (56), the Third Cuban Glossary of Psychiatry (GC-3) (57) and the Latin American Guide of Psychiatric Diagnosis produced by the Latin American Psychiatric Association. (58)

The CCMD-3 deserves mention in particular as it appears to be the only classification system that allows for the diagnosis of “unipolar mania”, considering it a valid entity in Chinese patients. (55)

The ICD is a medical classification system that provides codes to classify disease. Under this system, every health condition is assigned a unique category and given a code. It is published by the World Health Organization (WHO) and used worldwide for morbidity and mortality statistics and reimbursement systems. The system is designed to promote international comparability in the collection, processing, classification and presentation of statistics. It is revised periodically and is currently in its tenth edition. (59)

The ICD-6, published in 1949, was the first to contain a section on mental disorders. ICD-6 included ten categories for psychoses, nine for psychoneuroses and seven for disorders of character, behaviour, and intelligence. The American Psychiatric Association Committee on Nomenclature and Statistics developed a variant of the ICD-6 that was published in 1952 as the first edition of the DSM (DSM-I). In part because of the lack of widespread acceptance of the mental disorder taxonomy contained in ICD-6 and ICD-7, the WHO sponsored a comprehensive review of diagnostic issues that was conducted by the British psychiatrist Erwin Stengel. His report can be credited with having inspired many of the recent advances in diagnostic methodology -most especially the need for explicit definitions as a means of promoting reliable clinical diagnoses. (59)

The phenomenon of recurrent mania was interestingly enough given separate diagnostic status in ICD-9, “296.1 (0-6) Manic disorder, recurrent episode. Any condition classifiable to 296.0, stated to be recurrent. Excludes: circular type, if there was a previous attack of depression” (60) but this category disappeared in ICD-10; patients with two or more episodes of mania are now understood to be bipolar and are included under the category of bipolar disorders. (61) DSM-III (62) and DSM-III-R (63) included all manic episodes under bipolar disorders.

The nearest diagnostic category to unipolar mania in DSM-IV-TR (64) is “bipolar disorders not otherwise specified”, which includes recurrent hypomanic episodes with no intercurrent depressive features.

Fascinating, however, as mentioned earlier, is that CCMD-3 gives separate nosological status to recurrent unipolar mania. This separate status is largely based on a prospective ten-year follow-up study by Xu and Chen in 1992 [60] demonstrating that in Chinese patients presenting with recurrent mania, no depressive episodes were observed in a ten-year follow-up period, as well as field trials prior to publication indicating that recurrent mania remains a valid entity in China. Lee states that: “These findings question the obligatory labelling of Chinese patients with recurrent mania as bipolar.” (65)

Similar to DSM and ICD, the CCMD-3 is a medical classification based on both symptoms and etiological as well as pathological factors. In CCMD-3, it appears that Chinese psychiatrists sought consensus with ICD-10 on the one hand but at the same time maintained a nosology that considered Chinese cultural characteristics. Therefore, broad similarities between the ICD-10 and CCMD-3 exist. The CCMD-3 task force, however, is of the opinion that a separate nosological status for unipolar mania will facilitate research into its biologic correlates,

treatment response, and outcome. Unipolar mania therefore remains in the CCMD-3. (65)

2.8 DSM and the evolution of the diagnostic entity of bipolar disorder

The DSM is published by the American Psychiatric Association and provides a common language for the classification of mental disorders. It is used by clinicians, researchers, drug-regulating agencies, health insurance companies, pharmaceutical companies and policy makers around the world in varying degrees. It has attracted controversy and criticism as well as praise and since first being published has gone through several revisions with the fifth edition due for publication in 2013.

2.8.1 DSM I

DSM-I was published in 1952, was 130 pages long and listed 106 mental disorders. (66) The DSM evolved from systems for collecting psychiatric hospital statistics and a manual developed by the United States Armed forces as US psychiatrists were involved in the selection, assessment and treatment of soldiers during World War II. (59)

A fundamental etiological classificatory distinction in DSM-I is a division

between: (1) mental disorders caused by brain impairment, and (2) mental disorders of psychogenic origin suggesting a basic distinction between mental disorders with physical causes (e.g. brain damage) and mental disorders with psychological causes.

The basic division in this nomenclature is into those mental disorders associated with organic brain disturbance, and those occurring without such primary disturbance of brain function, and not into psychoses, psychoneuroses, and personality disorders. Other categorizations are secondary to the basic division.

The Psychotic Disorders were grouped in DSM-I in the following way: affective disorders (characterised by severe mood disturbance, with associated alterations in thought and behaviour, in consonance with the affect): schizophrenic reactions (characterised by fundamental disturbances in reality relationships and concept formations, with associated affective, behavioural, and intellectual disturbances, marked by a tendency to retreat from reality, by regressive trends, by bizarre behaviour, by disturbances in stream of thought, and by formation of delusions and hallucinations): and paranoid reactions (characterised by persistent delusions and other evidence of the projective mechanism).

(66)

Bipolar Mood Disorder in DSM-I was classified under the psychotic disorders as follows: “Psychotic Disorders - Affective Reactions, which could be sub-classified as Manic depressive reaction, manic type, Manic depressive reaction, depressed type, Manic depressive reaction, other and Psychotic depressive reaction”.

Schizoaffective disorder in DSM-I was classified as “schizophrenic reaction, schizo-affective type”. Unipolar Mania in this context would possibly have been diagnosed as “manic depressive reaction, manic type”.

2.8.2 DSM II

DSM-II was published in 1968 and included 182 disorders. (67) Whereas DSM-I featured three major categories of mental disorders, DSM-II organised mental disorders into ten categories. It was quite similar to DSM-I. The term “reaction” was dropped but the term “neurosis” was retained. Still reflecting the predominating psychoanalytic approach of the day, DSM-II also included biological perspectives and concepts of Kraepelin’s system of classification.

In the foreword by Ernest Gruenberg, Chairman of the Committee on Nomenclature and Statistics of DSM-II, it is indicated that the intention of

the DSM to provide a service to the psychiatrists of the United States and to present a nomenclature usable in all mental hospitals, psychiatric clinics and office practice.

Gruenberg goes on to state that it in fact could have a wider usage because of the growth of psychiatric work in general hospitals as well as in community mental health centres. It was also suggested for use in consultations to courts and industrial health services. Gruenberg concedes that it could not incorporate all the accumulated new knowledge of psychiatry at that particular point in time but that the Committee on Nomenclature and Statistics attempted to put down what they judged to be generally agreed upon by well-informed psychiatrists of the day. In the case of diagnostic categories about which there was controversy concerning the disorder's nature or cause, the Committee attempted to select terms which it thought would least bind the judgment of the user.

Gruenberg states:

Inevitably some users of this Manual will read into it some general view of the nature of mental disorders. The Committee can only aver that such interpretations are, in fact, unjustified. Consider, for example, the mental disorder labelled in this Manual as

"schizophrenia," which, in the first edition, was labelled "schizophrenic reaction." The change of label has not changed the nature of the disorder, nor will it discourage continuing debate about its nature or causes. *Even if it had tried, the Committee could not establish agreement about what this disorder is; it could only agree on what to call it.* (Italics inserted by author for emphasis.) (67)

Classification of mental illness became more categorised and mood disorders were classified as follows:

- Major affective disorders (affective psychoses)
 - Involutional melancholia
 - Manic-depressive illness, manic type (Manic-depressive psychosis, manic type)
 - Manic-depressive illness, depressed type (manic-depressive psychosis, depressed type)
 - Manic-depressive illness, circular type (manic-depressive psychosis, circular type)
 - Manic-depressive illness, circular type, manic
 - Manic-depressive illness, circular type, depressed
 - Other major affective disorder (affective psychoses, other)

- Unspecified major affective disorder
 - Affective disorder not otherwise specified
 - Manic-depressive illness not otherwise specified

In DSM-II, unipolar mania would possibly have been diagnosed as “manic-depressive psychosis, manic type” or “affective Psychosis, other” or “unspecified major affective disorder”.

And under the section ‘Psychoses not Attributed to Physical Conditions Listed Previously’ which includes schizophrenia, schizoaffective disorder is classified as “schizophrenia, schizoaffective type” with the choice of specifiers being either “excited” or “depressed”.

2.8.3 DSM-III

In 1974, Robert Spitzer was appointed as the chairman of the APA Task Force on Nomenclature and Statistics, which was officially formed to coordinate DSM-III with the ninth edition of the WHO’s ICD and to update the manual to reflect the current state of knowledge on mental disorders. A key aim was to base categorisation on informal English descriptive language rather than assumptions of etiology, although the DSM’s categorical approach assumed each particular pattern of symptoms in a category reflected a particular underlying pathology. (62)

Described as the so-called “neo-Kraepelin” approach (a term originally coined by George Klerman who reported a Kraepelinian revival in psychiatry), (68) the movement supported Kraepelin’s biological approach to psychiatry as opposed to Freudian psychoanalysis. (69)

In contrast to DSM-I and DSM-II, DSM-III provided specific diagnostic criteria as guides for making each diagnosis since “such criteria enhances inter-rater diagnostic reliability”. DSM-III also recommended the use of a multi-axial system for evaluation to ensure that certain information that may be of value in planning treatment and predicting outcome for each individual was recorded on each of five axes.

A controversy emerged regarding the elimination of the concept of neurosis, a mainstream psychoanalytic concept but considered vague and unscientific by the DSM task force. In his introduction in DSM-III, Spitzer goes to some length explaining the task force’s position stating specifically that “the term neurotic disorder is used in DSM-III without any implication of a special etiological process”. (63)

Bipolar mood disorder is classified under the heading “Affective disorders” and it is detailed as follows:

Major Affective Disorders include Bipolar Disorder and Major Depression, which are distinguished by whether or not there has ever been a manic episode. A category of Manic Disorder is not included in this classification; instead, when there have been one or more manic episodes, with or without a history of a major depressive episode, the category Bipolar Disorder is used. Bipolar Disorder is sub classified at the fourth digit as Mixed, Manic, or Depressed.

Schizophrenia is classified as a “Schizophrenic disorder”, the essential features described thus:

The presence of certain psychotic features during the active phase of the illness, characteristic symptoms involving multiple psychological processes, deterioration from a previous level of functioning, onset before age 45, and a duration of at least six months.

An explanatory footnote apologetically states:

Although Schizophrenia is most likely a group of disorders of differing aetiologies, common usage refers to "Schizophrenia" rather than the technically more accurate term, Schizophrenic Disorders.

Schizoaffective disorder is categorised under the section “Psychotic Disorders Not Elsewhere Classified”.

Notably it is acknowledged that the boundaries of the concept of schizophrenia are unclear and that some approaches to defining the concept have emphasised the tendency toward a deteriorating course or an underlying disturbance in certain psychological processes with specific pathognomonic symptoms. In DSM-III the concept was not limited to illnesses with a deteriorating course, although a minimal duration of illness was required since the accumulated evidence at the time suggested that illnesses of briefer duration (called Schizophreniform Disorder in DSM-III) are likely to have different external correlates such as family history or likelihood of recurrence.

DSM-III recommends that individuals who develop a depressive or manic syndrome for an extended period relative to the duration of certain psychotic features or before the psychotic features appear not be classified as having schizophrenia but rather as having either an “Affective Disorder” or Schizoaffective Disorder”. It is specifically suggested that the diagnosis of “Schizoaffective Disorder” be made whenever the clinician is unable to differentiate between a manic episode and schizophrenia. (70)

2.8.4 DSM-III-R

In 1987 the DSM-III-R (63) was published as a revision of DSM-III. It contained 292 diagnoses.

Bipolar disorders are classified under the “Mood Disorders” and three diagnostic groups are recognised namely “Bipolar Disorder”, “Cyclothymia” and “Bipolar Disorder Not Otherwise Specified”.

The diagnostic criteria for a manic episode did not differ greatly from those set out in DSM-III however.

Schizoaffective disorder is classified under the “Psychotic Disorders Not Elsewhere Classified” and it is stated:

The approach taken in this manual emphasizes the temporal relationship of schizophrenic and mood symptoms. This diagnostic category should be considered for conditions that do not meet the criteria for either Schizophrenia or a Mood Disorder, but that at one time have presented with both a schizophrenic and a mood disturbance and, at another time, with psychotic symptoms but without mood symptoms.

Under the heading “Cautions in the use of DSM-III-R” the following cautionary statement is made:

The Use of DSM-III-R in Different Cultures; When the DSM-III-R classification and diagnostic criteria are used to evaluate a person from an ethnic or cultural group different from that of the clinician's, and especially when diagnoses are made in a non-Western culture, caution should be exercised in the application of DSM-III-R diagnostic criteria to assure that their use is culturally valid. (63)

2.8.5 DSM-IV

The DSM-IV was published in 1994 and consisted of 297 disorders. (71) A key change from previous versions was the inclusion of a “clinical significance” criterion which required that symptoms cause “clinically significant distress or impairment in social, occupational, or other important areas of functioning”.

In the Introduction the revision process is thus described:

The third edition of the DSM-III represented a major advance in the diagnosis of mental disorders and greatly facilitated empirical research. The development of DSM-IV has benefited from the substantial increase in the research on diagnosis that was generated in part by DSM-III and DSM-III-R. Most diagnoses now

have an empirical literature or available data sets that are relevant to decisions regarding the revision of the diagnostic manual.

The task force for DSM-IV and its Work Groups conducted a three-stage empirical process that included comprehensive and systematic reviews of the published literature, reanalyses of already-collected data sets, and extensive issue-focused field trials.

Twelve DSM-IV field trials were conducted aimed at comparing alternative options and studying the possible impact of suggested changes. Field trials compared DSM-III, DSM-III-R, ICD-10, and proposed DSM-IV criteria sets in five to ten different sites per field trial. The field trials included more than 70 sites and evaluated more than 6,000 subjects.

Bipolar mood disorder is again assigned to the “Mood Disorders” and the group is somewhat expanded with the inclusion of Bipolar II Disorder. This group consists of: “Bipolar I Disorder”, “Bipolar II Disorder”, “Cyclothymic Disorder” and “Bipolar Disorder Not Otherwise Specified”.

Also now included is “Other Mood Disorders” which included “Mood Disorder Due to a General Medical Condition”, “Substance-induced Mood Disorder” and “Mood Disorder Not Otherwise Specified”.

Specifiers are added to describe the most recent mood episode as “Mild”, “Moderate”, “Severe Without Psychotic Features”, “Severe With Psychotic Features”, “In Partial Remission”, “In Full Remission”, “Chronic”, “With Catatonic Features”, “With Melancholic Features”, “With Atypical Features”, “With Postpartum Onset”.

Specifiers describing course of recurrent episodes were also added and included “Longitudinal Course Specifiers” – “With Full Interepisode Recovery”, “Without Full Interepisode Recovery”, “With Seasonal Pattern” or “With Rapid Cycling”.

Schizoaffective disorder now falls under the heading “Schizophrenia and Other Psychotic Disorders” and described is as “ a disturbance in which a mood episode and the active-phase symptoms of Schizophrenia occur together and were preceded or are followed by at least 2 weeks of delusions or hallucinations without prominent mood symptoms”. (71)

2.8.6 DSM-IV-TR

A text revision of DSM-IV, known as DSM-IV-TR was published in 2000.

(64) Diagnostic categories remained the same and for the most part the criteria for diagnoses were unchanged. The text sections contained some extra information on some diagnoses and the diagnostic codes were updated to maintain consistency with the ICD.

In the introduction, the following rationale is given for the revised text:

One of the most important uses of DSM-IV has been as an educational tool. This is especially true of the descriptive text that accompanies the criteria sets for DSM-IV disorders. Given that the interval between DSM-IV and DSM-V is being extended relative to the intervals between earlier editions (from 7 years between DSM-III and DSM-III-R and between DSM-III-R and DSM-IV, to at least 12 years), the information in the text (which was prepared on the basis of literature dating up to 1992) runs the risk of becoming increasingly out-of-pace with the large volume of research published each year.

It is stated that a revision of DSM-IV text was undertaken in order to bridge the span between DSM-IV and DSM-V. The goals of DSM-IV-TR being to correct any factual errors that were identified in the DSM-IV text;

to review the DSM-IV text to ensure that all of the information was still up-to-date; to make changes to the DSM-IV text to reflect new information available; to make improvements that will enhance the educational value of DSM-IV and to update those ICD-9-CM codes that had been changed since the 1996 coding update. All changes proposed had to be supported by empirical data as with DSM-IV. (64)

There are no significant changes in terms of diagnostic categories and criteria with regard to mood disorders and in particular bipolar mood disorder between DSM-IV and DSM-IV-TR. There appears to be no noteworthy changes in terms of the conceptualisation of schizoaffective disorder either between these last two DSM's.

2.8.7 DSM-5

The fifth edition of DSM, is currently in planning, preparation and consultation and is due for publication in 2013 and there appears to be a move away from roman numerals in the title of the publication. The APA has a website (<http://www.dsm5.org>) (72) concerning the development of DSM 5, which includes draft versions. Diagnoses are discussed under headings such as “Proposed revised criteria” and “Rationale” in order to orientate the reader to the difference between DSM IV criteria, the proposed changes, and the rationale behind the suggested changes. As

part of the development process, these preliminary draft revisions to the current diagnostic criteria for psychiatric diagnoses are available for public review and the content of the website is updated regularly. (72)

It is proposed that the diagnostic category for bipolar disorder be listed in DSM-5 in the category “Bipolar and Related Disorders” as opposed to “Mood Disorders” which is where it was listed in DSM-IV. It has also been proposed that the “Mixed Episode” diagnosis be eliminated in favour of a “Mixed Features Specifier”, which would apply to manic, hypomanic, and depressive episodes. Criteria for a manic episode will not change significantly except for increased energy/activity that has been added as a core symptom of manic and hypomanic episodes.

The category “Bipolar and Related Disorders” will probably include the following; “Bipolar I Disorder”, “Bipolar II Disorder”, “Cyclothymic Disorder”, “Substance-Induced Bipolar Disorder”, “Bipolar Disorder Associated with a Known General Medical Condition” and “Bipolar Disorder Not Elsewhere Classified”.

The diagnosis of “Bipolar Disorder Not Elsewhere Classified” is reserved for individuals with manic or hypomanic and depressive symptoms that do not meet diagnostic criteria of any other disorder from the “Bipolar

and Related Disorders” chapter and are not attributable to the direct physiological effects of a substance or a general medical condition.

Specifiers will most likely include;

- Current or Most Recent Episode Manic
- Current or Most Recent Episode Hypomanic
- Current or Most Recent Episode Depressed
- With Mixed Features
- With Psychotic Features
- With Catatonic Features
- With Atypical Features (for depression)
- With Melancholic Features (for depression)
- With Rapid Cycling
- With Suicide Risk Severity
- With Anxiety, mild to severe
- With Seasonal Pattern
- With Postpartum Onset

It would appear at this stage that DSM-5 will continue not to consider the clinical course of the disorder with regard to polarity. This is in spite of the fact that, considering experience in everyday practice, there is no

doubt that clinicians deem a clearly determined predominant polarity over the course of the illness important in order to decide the long-term maintenance treatment. Considering this fact, Colom and Vieta proposes the introduction of a specifier for “Predominant Polarity” as a course specifier in DSM-5 in order to help clinicians make therapeutic decisions.

(73)

“Unipolar Mania” will therefore continue to find itself relegated to “Not Elsewhere Classified” (NEC) status. On the website it is at present specifically explained that “to aid in the sub-classification of this diverse group of conditions, the recorded name of the condition should not be “Bipolar Disorder NEC”, but, rather, one of the diagnostic terms provided” which in this case shall be “Uncertain Bipolar Conditions”. Since unipolar mania does not fit with any of the “recorded” names and neither is it allowed to be classified as under “NEC”, only “Uncertain Bipolar Conditions” is left, which appears to be an even further downgrading of status for unipolar mania.

Schizoaffective disorder now finds itself in the diagnostic category of “Schizophrenia Spectrum and Other Psychotic Disorders” and the following diagnostic criteria are proposed on the website: (72)

- A. An uninterrupted period of illness during which, at some time, Criterion A symptoms of Schizophrenia are present, and there is also either a Major Depressive Episode or a Manic Episode.
- B. During the lifetime duration of the illness, delusions and/or hallucinations are present at least for 2 weeks in the absence of a major mood episode (depressive or manic).
- C. A major mood episode is present for the majority ($\geq 50\%$) of the total duration of the time after Criterion A has been met. (Note: periods of successfully treated mood symptoms count towards the cumulative duration of the major mood episode).
- D. Disturbance is not due to direct physiological effects of a substance (e.g., a drug of abuse, medication) or a general medical condition.

Specify Type:

- Bipolar Type: If the disturbance includes a Manic or a Mixed Episode (or a Manic or a Mixed Episode and Major Depressive Episodes)

- Depressive Type: If the disturbance only includes Major Depressive Episodes
- Specify if: With Catatonic Features

Criticism expressed by a number of authors was considered in the revised criteria. Maj reported the inter-rater reliability of the DSM-IV criteria for schizoaffective disorder to be unsatisfactory. (74) Addressing the controversy regarding the diagnostic validity of schizoaffective disorder, Malhi et al (75) indicated that the distinctions between the diagnostic categories of schizophrenia, schizoaffective disorder and bipolar disorder are not clearly established through findings from neuropsychological, neuroimaging, molecular neurobiology, or genetic epidemiology studies.

On the contrary, evidence seems to imply overlap across current diagnostic boundaries in the heritability and pathophysiology of psychotic and affective disorders which suggests that schizoaffective disorder exists as the mid-point on a continuum between schizophrenia and bipolar disorder. It is proposed by the authors that these two disorders be incorporated onto one dimension as a suitable alternative to the current state of affairs. Malhi et al. also recommend that schizoaffective disorder should be omitted in future revisions of the DSM

in order to allow for the development of a meaningful nomenclature that rests upon investigation of differences and similarities between disorders. (75)

In Hecker's review of schizoaffective disorder, he suggests that the fifth edition of the DSM provides the opportunity to improve the reliability and clinical utility of the schizoaffective disorder diagnosis and since the criteria has been unchanged since 1987, a serious need exists to revise current criteria. (76)

Jager et al also found no clear boundaries between schizophrenia, schizoaffective disorder and affective disorders with respect to psychopathological symptoms in their review and also express a need for revision and unification of the current diagnostic concepts of schizoaffective disorder. (77)

Whether the proposed changes for schizoaffective disorder in DSM-5 will change the future directions that classification systems for the psychotic disorders will take remains to be seen. Considering the present system, schizoaffective disorder as a diagnostic entity certainly has value but may become extinct once the psychotic illnesses are to be considered

on a continuum and a dimensional approach to diagnosis find favour amongst members of our profession.