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Psychopharmacology and the Classification of Functional Psychoses

7. Delusional Development and Delusional Psychoses

Delusional Development

It was recognized that psychogenic paranoid reactions are resistant to treatment and may persist in spite of the administration of antipsychotic drugs. As by definition a psychogenic reaction has a time limited course, its persistence, especially if associated with further delusional elaborations, indicates that the diagnosis should be changed from psychogenic paranoid reaction to "delusional development," also referred to as "paranoiac development" (Meyer 1917) or "paranoid psychosis" (Gaupp 1914a,b, 1938, 1974a,b).

Paranoiac development, described by Adolf Meyer, refers to an anomalous development which depends partly on the person's genetic-constitutional make-up and partly on environmental factors. At first, delusional psychotic development was regarded as a disorder providing for the transition between psychogenic and endogenous psychoses. More recently there has been increasing evidence provided that delusional psychotic development is a form of chronic delusional psychosis (Clérambault 1923, 1942).

The concept of delusional development dates back to the Tübingen school of psychiatry and the work of Gaupp (1914a,b, 1938, 1974a,b) who, in his articles on the mass murderer, Ernest Wagner, made the first attempt to demonstrate that paranoid psychoses are not always endogenous, i.e., the result of an intruding "process" of inner origin. According to Gaupp, some delusional psychotic developments are "understandable psycho1ogically" and can be viewed as developmental anomalies that are the "direct result of experiences in persons with an abnormal psychopathic personality." Gaupp's concept was further elaborated by Kretschmer (1927) who put forward the notion that paranoid psychoses, which he referred to as "the sensitive delusions of reference" (*der sensitive Beziehungswahn*), are understandable developments of sensitive

personalities. For Kretschmer the term "sensitive" implies sensitiveness about one's own shortcomings (regardless whether social, physical or psychological) to the extent that it interferes with one's success.

A common characteristic of sensitive personalities is the coexistence, i.e., simultaneous presence of conflicting traits, such as gentleness, softness, sensitiveness and excessive vulnerability on the one hand and assertiveness, ambitiousness and stubbornness on the other. According to Kretschmer, it is in such a person that a full-blown paranoid psychosis may develop in reaction to a key experience (that exposes the patient's weakness). Kretschmer placed special emphasis on the personality type, that he considered to be on a continuum from the normal through abnormal to psychotic, in the development of paranoid psychosis. Thus, in Kretchmer's conceptual framework there is a quantitative but not a qualitative difference between a normal subject and a psychotic patient. Kretchmer's typology was adopted in France where, according to Pichot (1983), "it was even more successful than in its country of origin." Nevertheless, by the late 1960s the trend was reversed. With the recognition of a qualitative difference (i.e., contiguity) between the thinking of non-psychotic subjects and the thinking of psychotic patients, it was recognized that "understanding" the meaning of a delusional state is not possible. In Gruhle's (1915, 1936) words: "A delusional state does not arise from subliminal wishes or from certain suppressed movements of the mind. It is the production of cerebral pathology which cannot be derived from and grasped by intuition."

There is now substantial evidence that "delusional development" is distinct from psychogenic paranoid psychosis in terms of the ro1e of the identifiable trauma, and/or the time relationship between the precipitating trauma (if present) and the manifest syndrome which is characterized by a logically derived systematized delusional system. In this respect the paranoid psychosis of prisoners and deaf people are closest to delusional development. Other delusional developments include the Allers syndrome, usually referred to as monosymptomatic hypochondriacal delusions and induced psychosis, also referred to as symbiotic or shared paranoid psychosis (Strömgren 1968). The essential feature of the latter is a delusional system, usually persecutory, that develops as a result of a close relationship with another person who already has a disorder with the same or similar delusions. Other features distinguishing delusional development from psychogenic paranoid psychoses, include the tendency for chronicity and for transformation of personality.

Delusional Psychoses

Paranoia and Paraphrenia

Arguably, delusional development shares some common characteristics with psychogenic paranoid reactions, but the same does not apply to "paranoia," a term adapted from the Greek by Heinroth in 1818. By describing delusional states as "disorders of intellect" (*Verrückheit*) that virtually do not affect other faculties of the mind, Heinroth opened the path for Kahlbaum (1874) and Kraepelin (1919) to develop their concepts of paranoia and paraphrenia, respectively.

Kahlbaum used the term "paranoia" for a disorder that was characterized by chronic fixed delusions of persecution and/or grandeur and distinguished the disorder from those "endogenous" disorders characterized by a deteriorating course (e.g., schizophrenias). Kahlbaum's characterization was further elaborated by Kraepelin. He characterized "paranoia" as a disorder with a "permanent and unshakable delusional system, which is accompanied by perfect preservation of clear and orderly thinking, will power and action"; and separated paraphrenia, another content disorder of thinking with a logically derived systematized delusional system. While paraphrenia perceptual psychopathology (hallucinations) is interwoven with a systematized delusional system as in paranoid schizophrenia, in paraphrenia deterioration does not occur in the course of the illness. In the 8th edition of his textbook, Kraepelin (1908) separated paraphrenia from dementia praecox on the basis of the absence of emotional and volitional pathologies in the clinical picture (Ban 1973). Late paraphrenia, first described by Roth (1955), is a special form of paraphrenia, which can only be distinguished from "paraphrenia by its time of onset in the late middle age or even later" (Hamilton 1976).

Kraepelin's concepts of both paranoia and paraphrenia have been questioned by Koelle (1931) who followed 66 patients diagnosed with paranoia, including the 19 on whom Kraepelin's definition was based. As he found a higher incidence of schizophrenia among the relatives of these patients than in the general population but a lower incidence than among the relatives of schizophrenics, he contended "that paranoia must be regarded as a variety of schizophrenia" (Hamilton 1976).

Similarly, Meyer (1917) followed the 78 patients on whom Kraepelin's definition of paraphrenia was based. As he found that 40% of these patients showed obvious signs of "dementia

praecox" within a few years he concluded "that paraphrenia was not a disease entity, which could be sharply distinguished from schizophrenia."

Koelle and Meyer's findings brought to attention that paranoia and paraphrenia cannot be distinguished from schizophrenia within a two-dimensional classification of mental disorders.

Acute Delusional Psychosis

The origin of the diagnostic term "acute delusional psychosis" is in the work of Magnan (1886) who first described a syndrome he referred to as *bouffées delirantes* because of the sudden appearance of spontaneous delusions. Prior to him, Westphal (1880) had recognized "acute paranoia" as a distinct disorder characterized by acute delusional experiences. His work, however, remained isolated from the mainstream. In contrast, Magnan's concept of *bouffées delirantes* received support from the work of Seglas (1895), Halberstadt (1922), Dublineau (1931) and Ey (1954).

In their *Manual of Psychiatry*, Ey, Bernard and Brisset (1960, 1974) characterized *bouffées delirantes* or "acute delusional psychoses" by the sudden onset of a transient delusional state. They emphasized the importance of "true delusional experiences" in the sense that the delusions are "lived out as part of an altered state of consciousness," as experiences which are "imposed on the subject." With consideration of the prevalent state of consciousness, they consider "acute delusional psychoses" similar to "oneroid states" described by Mayer Gross in 1924.

The dominant psychopathology in "acute delusional psychosis" is the "acute delusional experience." In describing this experience Magnan used the term *délire d'emblée* (immediate delusion) because from the first moment the delusions are fully formed and "are truly all of a piece." The sudden onset of delusional ideas corresponds with Jaspers' (1963) concept of "primary delusional experience" and Clérambault's (1942) "mental automatisms." It also corresponds with the concept of "primary delusions" which are "without prior condition or motive" as described independently by Gruhle (1936) and Schneider (1949).

Polymorphousness (multiformness) is another important characteristic of acute delusional states. This implies the presence of many and various themes which are blend into each other and change as in "kaleidoscopic succession of oneiric images."

Corresponding with the sudden appearance of delusional activity and the constantly

changing clinical picture are mood changes which are congruent with the pathological experience. The altered state of consciousness is characterized as a "dreamlike state," which is polarized between the "dominating delusions and reality." While the patient seems to be detached, their whole attention is diverted by the shifting delusions which are "like the unfolding of an experience of which [he] is at once the plaything, the spectator, and the author and from which he will emerge, when he recovers, as from a nightmare or some strange spell."

On the basis of the prevailing clinical features there are three types of "acute paranoid psychoses." These are "acute imaginative psychosis," described by Dupre (1913), characterized by the "sudden confabulatory flowering of rich and varied themes"; "acute interpretative psychosis" described by Vallence (1927), characterized by "delusional attacks, entirely interpretative in nature"; and "acute hallucinatory psychosis "in which "all types of hallucinations," superimposed on the delusions, "dominate the clinical picture." However, because similar clinical forms have been described in "chronic delusional psychoses" there is the possibility that patients who present with these specific manifestations suffer from "chronic delusional psychoses."

In his original formulation Magnan (1886) suggests that *bouffées délirantes* are disorders seen in a single episode and "not followed by sequelae or mental complications." However, Legrain (1886) has shown that "recurrent delusional psychoses" may occur. He referred to these recurrent, intermittent delusions as *délires à éclipses*. Regardless whether single or recurrent, the diagnosis of "acute delusional psychosis" is of prognostic significance because if the diagnosis is correct there is usually full remission within a few weeks.

In their publication, Ey, Bernard and Brisset (l960) assert that "acute delusional psychoses" respond promptly to treatment with antipsychotic neuroleptics such as "chlorpromazine" or "reserpine" and also to treatment with "electroshock" Allaix (1953). In this respect it is distinct from both, "psychogenic paranoid reaction" and "chronic delusional psychosis" which respond considerably less favorably to similar therapeutic approaches. If the favorable treatment response can be substantiated in properly designed clinical studies, it will support the contention that "acute delusional psychosis" is a biologically distinct and clinically meaningful diagnostic group.

Chronic Delusional Psychosis

"Imaginative psychosis" (Dupre 1913), "interpretative psychosis" (Serieux and Capgras

1911) and "hallucinatory psychosis"(Ballet 1913a,b; Ballet and Mallet 1913) have also been described as subtypes of Magnan's (1886) chronic delusional psychosis (*delire chronique a evolution systematique*). In spite of this there are indications that acute and chronic delusional psychoses are distinct. This is best exemplified by the differential therapeutic response to antipsychotics in patients with acute (favorable response) and chronic (unfavorable response) delusional psychoses.

On phenomenological grounds, based on patients' experience of their illness Clérambault (1923) and Baruk (l959, 1974) differentiated two major groups of illnesses within the chronic delusional psychoses: one characterized by interpretative delusions and the other by delusions of passion. While Clérambault distinguished three subtypes of delusions of passion, i.e., erotomania, querulant delusions and delusions of jealousy, some believe that all three subtypes (and even delusions of passion) are parts of a syndrome referred to as *idéalistes passionnés* by Dide (1913a,b). However, Clérambault and Lamache (1923) argue that "erotomanics" are not true "idealists" because their feelings of idealism are mixed with pride and fantasy or even with straightforward eroticism. Patients with "erotomania" are less spiritual and more carnal in their interests than Dide's *idéalistes passionnés*.

There are distinct phenomenological differences between the two major groups of delusional psychoses with the essential difference being in that "interpretative delusions" constitute a passive-defensive experience with an insidious onset, while "delusions of passions" constitute an active driving experience with an acute beginning. According to Baruk, patients with "interpretative delusions" live in a state of constant expectations: "His path seems to be beset by mystery, he is anxious, surprised and passive, questioning everything he sees, and seeking explanation which he only discovers gradually." Another important characteristic of patients with "interpretative delusions" is a feeling of suspiciousness. The whole personality is affected by the gradually widening, logically derived, consistently changing and progressive delusional system.

In contrast, patients with "delusions of passion" are constantly striving. They advance toward their goal with conscious and clear-cut demands from the outset. They are deluded only about their own desires while their thoughts are polarized in relation to their will power. Delusions of passions are characterized by emotional excitement (hypersthenic state), the quality of which may extend to the point of hypomania. Other distinguishing features include the "initial

act of the will, the sense of purpose, the one dominant concept, the accompanying vehemence, the fact that patient's ideas are fully formed from the start, and the claims made on other people" (Baruk 1959).

Among the three subtypes of delusions of passion, “erotomania” is encountered in both acute and chronic forms. However, even if encountered as an acute syndrome, “erotomania” shares common characteristics with "chronic delusional psychoses” in a relatively unfavorable therapeutic response to antipsychotic drugs.

Although the term “erotomania” or "amorous delusions" was used by Esquirol (1838), it was Clérambault and Lamache (1923) who employed it first for the designation of a specific clinical syndrome which develops in two stages: a phase of hope, followed by a phase of resentment. At the core of erotomania is the belief that the person on whom the patient is fixated (referred to as the "desired object") is in love with the patient and, consequently, it is not the patient but the “desired object” who has made the "initial advances." The patient believes that the "desired object" is single or not properly married and, even more important, cannot find happiness and be a complete person without the patient. From these "fundamental postulates" a continuous vigilance and/or protection of the "desired object" follows with indirect conversations with the "object.” The patient pursues the "desired object" by any and all means and none of the "paradoxical and contradictory behavior" of the "desired object" modifies the strength of the delusions.

Distinctly different from "erotomania" or "the fantasy lover” is "delusions of jealousy." One of the prototypes is the husband who becomes more and more convinced about his wife's infidelity and whose ideas at a certain point reach delusional intensity. The helpless spouse is interrogated unceasingly and may be kept awake for hours at night; has under clothes searched for stains of semen; and her vaginal moisture is "pieced together" in "evidence" of "frequent sexual intercourse with someone else" (Fish 1974).

The third subtype of "passionate delusions" are "querulant delusions" first classified by Beer in 1869 and specially studied by Krafft-Ebing (1879). According to Baruk (1959) patients with this clinical syndrome “indulge in a host of claims, legal proceedings and complaints lodged with the authorities.” Closely related to the “querulants” are the "litigious" patients and closely related to the "litigious" are the "hypochondriacal claimants." While the "litigious" patient undertakes a series of lawsuits, the first leading to others, the "hypochondriacal claimant"

reproaches the doctor for not having cured them or even for giving them some harmful treatment.

In some instances, delusions of passion are centered either on religious or philosophical themes or on political ideas. Considering the dominant characteristic of these patients Dide (1913a,b) refers to them as *idealistes passionnelles* and perceives them as a distinct diagnostic group. Regardless of the topic (content) of the delusions, patients with "delusions of passion" constitute a dangerously violent diagnostic group. The problem is compounded by limited success with different treatment approaches including antipsychotic drugs. In spite of the commonly held belief that diphenylbutylpiperidines, such as pimozide, seem to be superior in their therapeutic effect to other psychotropic drugs probably because of their greater specificity for the DA_2 receptors, there is no evidence on the basis of properly designed clinical experiments that any one of the antipsychotic drugs is superior to another in this diagnostic group (Table 3).

Table 3

Variables	Connell's 29 Patients	Kalant's 87 Patients
Ideas of reference	59%	19%
Delusions of persecution	81%	83%
Visual hallucinations	50%	54%
Auditory hallucinations	69%	40%
Somatic or tactile hallucinations	19%	12%
Olfactory hallucinations	9%	6%
Disorientation	7%	7%

Psychopathological symptoms encountered during chronic amphetamine administration in percentages of patients in Connell's (1958) and in Kalant's (1966) study.

Psychopharmacological Implications

Delusional psychoses, acute and chronic, are syndromic diagnoses and their systematic exploration set French psychiatry on a different path from German psychiatry. They provided the link between reactive (psychogenic) and endogenous (autochthonous) psychoses, and between endogenous and exogenous psychoses. Accordingly, psychogenic paranoid reactions may yield to chronic delusional psychoses bridging the psychogenic with the endogenous psychoses; and acute delusional psychoses may result from a variety of structurally different psychoactive-psychomimetic drugs linking an assumedly specific-endogenous syndrome (*bouffées délirantes)* with non-specific exogenous factors. The various drugs which may induce the syndrome include hashish, the substance which provided Moreau de Tours (1845) with the experience for giving his precise account of a "primary delusional state;" opium (Dupouy 1912); cocaine, (Maier 1926, 1928); alcohol, chloral (Clérambault 1942); atabrine (Fabre 1949); peyote, mescaline (Rouhier 1927; Beringer 1927; Allaix 1953); ergot alkaloids and lysergic acid diethylamide (Stoll 1947; Delay and Benda 1958a,b). Because the syndrome has also been encountered in patients with epidemic encephalitis, acute delusional psychoses fulfill criteria of a non-specific exogenous psychosis in which a specific gene structure predisposing to delusional development is activated by a brain disease. The nature of such psychoses is unrelated to the specific action mechanism of drugs which can induce the syndrome. This implies that one should not expect to attain a better understanding of the nature of the syndrome by employing psychopharmacologic means. In this respect "acute delusional psychoses" resemble "exogenous psychoses" in which one-dimensional cross-sectional psychopathology (symptom analysis) does not suffice to provide the necessary clues for prognosis and/or treatment because of the lack of specificity of the response.

Although delusional psychoses can be induced by various structurally different psychotropic drugs, they are most frequently seen in the course of chronic consumption of amphetamines. In fact, they were encountered in 201 of 242 reported cases of chronic amphetamine toxicity reviewed by Kalant (1966).

It is a common clinical experience that the psychotic syndrome of chronic amphetamine toxicity closely resembles paranoid schizophrenia. An examination of the psychopathologic symptom profile of Kalant's 201 reported cases, however, revealed that the syndrome fits more

closely delusional psychoses and especially *bouffées délirantes* and the hallucinatory form of Magnan's (1886) *delire chronique*.

The first report which brought attention to the possible link between chronic consumption of amphetamine and psychotic illness was published by Young and Scovill in 1938. As the title of this paper reveals it was "paranoid psychosis" and not paranoid schizophrenia which they observed in the course of "benzedrine treatment" in patients with "narcolepsy." Three years later Staehelin (1941) in Switzerland and Greving (1941) in Germany independently described one and two cases of methamphetamine psychoses and noted the resemblance to cocaine- and mescaline-induced psychoses. Both of these substances were listed by Ey, Bernard and Brissett (1960, 1974) among the various agents which can induce *bouffée délirante*. In keeping with this are the findings of Daube (1942) who presented four patients in whom prolonged methamphetamine abuse induced illusions and hallucinations of all sensory modalities. Because the perceptual psychopathology was associated with anxiety and ideas of reference (also ideas of influence) the possibility has been raised that the methamphetamine-induced psychosis might be a suitable model for the study of schizophrenia.

The most comprehensive report on amphetamine psychosis is that of Connell's (1958, 1964). His findings in 29 carefully analyzed cases were compared in terms of psychopathology and other features with the 87 cases of Kalant (1966). The comparison revealed considerable similarities between the two samples. In both samples the most frequently considered psychopathological symptoms were delusions of persecution and the second most frequently encountered symptoms were hallucinations. In Kalant's sample delusions of persecution were present in 83% of patients; visual hallucinations in 54%; auditory hallucinations in 40%; somatic and/or tactile hallucinations in 12%; and olfactory hallucinations in 6%. Corresponding figures in Connell's sample were 81%, 50%, 69%, 19% and 9%, respectively (Table 3). While ideas of reference were present in only 19% of the patients in Kalant's series, they were present in 59% of the patients in Connell 's series. On the other hand, disorientation was present in 7% of the patients in both series. As the other psychopathological symptoms encountered in Kalant's series were hyperactivity or excitation (41%), anxiety (26%), hostility or aggressiveness (22%), agitation (17%) and depression (15%), he concluded that the psychopathological manifestations during the psychotic episode in the majority of patients are essentially the same as those described by Connell and consist of (in Connell 's words) "primarily a paranoid psychosis with ideas of

reference, delusions of persecution, auditory and visual hallucinations, in a setting of clear consciousness." Thus, the psychoses associated with chronic amphetamine use may share some common features with paranoid schizophrenia. They resemble, however, much more closely acute and chronic delusional psychoses. Or, in other words, if a model psychosis based on a one-dimensional, cross-sectional syndrome is acceptable at all to provide for the basis of further research, the amphetamine model of psychosis might be relevant for delusional psychoses but not for paranoid schizophrenias.

If the amphetamine hypothesis of paranoid schizophrenia is correct regardless of the psychopathological data, it would imply a more favorable therapeutic response in paranoid schizophrenia to antipsychotics/neuroleptics (i.e., drugs which counteract some of the amphetamine effects in animals) than in the other types of schizophrenia. This, however, does not seem to be the case. In fact, there are indications that during the second half of the 20th century the greatest reduction in patient populations occurred in the catatonic schizophrenias and not in the paranoid schizophrenias. Nevertheless, since the decrease in catatonic patients in the hospitalized population preceded the psychopharmacological era, some believe that it resulted from the introduction of social therapies and not from the introduction of new drugs.

While clinical psychopharmacological findings do not support the amphetamine hypothesis of paranoid schizophrenia, they are in favor of an amphetamine hypothesis of acute delusional psychoses (*bouffées délirantes*) which is distinct from psychogenic paranoid reaction and chronic delusional psychoses by responding favorably to antipsychotic-neuroleptic drugs (Table 4).

Table 4

Symptoms	In % of Patients
Hyperactivity or Excitation	41
Hostility or Aggressiveness	22
Agitation	17
Depression	15

Psychopathological symptoms present in chronic amphetamine toxicity in percent of 87 patients in Kalant's (1966) study. In a considerable proportion of these patients, delusions of persecution and various hallucinations were also present.

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