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REVIEW ARTICLE

The clinical features of mania and their representation in modern diagnostic criteria

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This review seeks to determine the degree to which modern operationalized diagnostic criteria for mania reflect the clinical features of mania described historically by expert textbook authors. Clinical descriptions of mania appearing in 18 textbooks published between 1899 and 1956 were reviewed and compared to the criteria for mania from six modern operationalized diagnostic systems. Twenty-two prominent symptoms and signs were reported by five or more authors. Two symptoms (elevated mood and grandiosity) and four signs (hyperactivity, pressured speech, irritability, and new activities with painful consequences) were reported by every author. A strong relationship was seen between the frequency with which the clinical features were reported and the likelihood of their inclusion in modern diagnostic systems. However, many symptoms and signs including impulsivity, hypersexuality, mood lability, altered moral standards, increased humor, hypergraphia, and a vigorous physical appearance were not included in any modern criteria. Indeed, DSM-5 contains only eight of the historically noted clinical features. We conclude that modern operationalized criteria for mania well reflect symptoms and signs frequently reported by historical experts. This suggests that the clinical construct of mania has been relatively stable in western Psychiatry since the turn of the 20th century. However, many useful clinical features of mania described in these textbooks are missing from these criteria thereby illustrating the limitations of clinical evaluations restricted to the assessment of only current diagnostic criteria. The disorders we study and treat are considerably richer clinically than is reflected in the DSM criteria which we use to diagnose them.

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Introduction

> Manic-depressive insanity … includes the whole domain of so-called period and circular insanity [and] … simple mania, [and] the greatest part of the morbid states termed melancholia… In the course of the years, I have become more and more convinced that of the above mentioned states only represent manifestations of a single morbid process… *We distinguish first of all manic states with the essential morbid symptoms of flight of ideas, exalted mood and pressure of activity*.
>
> [Kraepelin's Textbook, 8th edition, translated by M. Barclay, pp. 1–4. Published 1909–1915 (Kraepelin, 1921). Italics added.]

This description of one of his great nosologic constructs – manic-depressive insanity – was written toward the end of Kraepelin's clinical career. In it, he concludes that this syndrome was etiologically homogeneous. Furthermore, he understood one central form of that entity – mania – to have a simple clinical structure resting on two key signs (pressured speech and hyperactivity) and one key symptom (euphoria).

The introduction of operationalized diagnostic criteria in DSM-III in 1980 (APA, 1980; Decker, 2013) changed our approach to psychiatric diagnosis. These criteria now form the focus of our diagnostic teaching and our clinical evaluations. Their use is often required for research funding and publication. While the benefits of operationalized criteria are widely appreciated, their widespread use has had unintended consequences (Andreasen, 2007; Hyman, 2010; Kendler, 2014). Evaluations of our patients are often limited to the DSM criteria as if those were the only symptoms and signs of import. Furthermore, we often assume that our disorders are nothing more than the criteria (Hyman, 2010).

I have engaged in historical reviews to evaluate these concerns for major psychiatric disorders, having previously examined depression (Kendler, 2016*a*) and schizophrenia (Kendler, 2016*b*). Here, I study mania. As in past efforts, I have located and reviewed clinical descriptions of mania found in textbooks between ~1900 and 1960 that adopt a broadly Kraepelinian diagnostic perspective. I do this because the syndrome

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of mania has, over its long history, had many different formulations most of which are not directly comparable with the Kraepelinian syndrome (Berrios 1981, 2004; Healy 2008).

I organize and present the key signs and symptoms described in these sources and rank them by frequency. Then I evaluate the relationship between them and the symptomatic criteria for mania in the major modern US diagnostic systems from Feighner (Feighner *et al.* 1972) through DSM-5 (APA, 2013). Finally, I review what can be learned from this process about the nature and optimal use of DSM criteria.

Method

I identified textbooks of Psychiatry or Psychological Medicine published from ~1900 to 1960 and written or translated into English from three major sources: Amazon.com, the National Library of Medicine and forgottenbooks.com. Textbooks were rejected if they did not adopt a broadly Kraepelinian perspective on mania which also required that I sample textbooks after 1900. Muncie's textbook (Muncie, 1939) was Meyerian in orientation but it was clear that his chapter on 'thymergasic reactions' was describing the manic-depressive syndrome by another name. I used 1960 as a cut-off because that would antedate the development of the first major operationalized diagnostic criteria set – the Feighner Criteria (Feighner *et al.* 1972). In addition, given the latest textbook I reviewed was published in 1957, descriptions of the mania syndrome would not be substantially influenced by the widespread use of antipsychotic and mood-stabilizing drugs (Swazey, 1974; Shorter, 2009).

As in any such review, a number of decisions were necessary. Most textbooks contained a single section providing a clinical description of the manic syndrome. Often this section would begin with a description of the early phases of the disorder, sometimes termed hypomania. Typically, then 'mania' or 'simple mania' and, sometimes, 'acute mania' and/or 'chronic mania' would be described. In this report, I took clinical descriptions from all these subsections. However, some texts included a separate description of what was alternatively termed 'delirious'. 'confused' or 'confusional' mania. This is quite a different syndrome from the more typical manic episodes, closely resembling stage III mania described by Goodwin (Carlson & Goodwin, 1973). It was characterized by clouding of consciousness, confusion, incoherence and marked behavioral disorganization. Often restraint, and forced fluids and food were deemed necessary to prevent death. I did not include, in my review, signs and symptoms noted only in these sections as this form of mania represents a relatively distinct syndrome, symptoms of which are not well represented in the operationalized criteria for mania developed in North America.

When multiple editions were available, I examined the earliest edition available to me. In total, I reviewed 18 textbooks published from 1899 to 1956 from the USA (8), UK (7), Germany (1), Switzerland (1), and France (1). I reviewed the texts in historical order, creating categories for signs and symptoms as I progressed. After going through all the texts one time, developing and scoring the categories, I went back a second time to key texts to insure the consistent application of my approach. I created four categories on first review I then deleted because they were reported by five or fewer of the writers: (i) narcissism (self-centeredness), (ii) menstrual changes in women, (iii) hyperesthesia (sense of improved sight and hearing and increased tactile sensitivity), and (iv) reduced work ability. In Table 1, I included, when possible, short quotes from the text and typically dispensed for convenience with quotation marks and with the … spacing if I deleted words or phrases for brevity's sake.

Three further issues arose during this process. First, I never accepted symptoms or signs contained only in case reports. Second, I did not summarize the numerous comments in most texts about functions considered intact in mania such as orientation and memory. Third, eight authors, including Kraepelin, noted particular signs and symptoms of mania they considered of cardinal clinical importance. Those are identified in Table 1 by an asterisk (*).

Results

Description of findings

The results of this review are summarized in Table 1 which lists the 22 symptoms and signs of mania in the order of the frequency with which they were reported. To help organize these findings, the symptoms are divided into three groups: category A – nine symptoms/signs reported by 16 or more authors; category B – eight symptoms/signs reported by 11–15 authors; and category C – five symptoms/signs reported by 10 or fewer authors.

Category a symptoms/signs

Two symptoms (elevated mood and grandiosity) and four signs of mania (hyperactivity, pressured speech, irritability, and new activities with painful consequences) were reported by all authors. A wide range of terms were used to describe the manic mood: elated, cheerful, exalted, good humored, happy, glad, overjoyed, gay, exhilarated, boisterous, merry, high-spirited, exuberant, excited, and euphoric. The hyperactivity could range from an increased pace of typical

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Table 1. *Clinical features of mania as recorded by 18 textbook authors from ~1900 to 1960*

	Kraepelin 1899 (Kraepelin, 1899)*	**Dana 1904 (Dana, 1904)**	**De Fursac 1905 (De Fursac, 2013)***
Disorder	Manic-Depressive Insanity - Manic States	Manic Phase of Manic-Depressive Insanity	Manic-Depressive Insanity Manic Type
Country	Germany	USA	France
Elevated mood	Elated, cheerful, irrepressible good humor, happy, glad, boisterous, merry, high-spirited*.	Exaltation of feeling, exuberance, excitement.	Morbid euphoria often very marked*, expression happy and animated.
Hyperactivity	In more severe cases, the patient cannot remain sitting for long, walks about, jumps, runs, dances, rolls about on the ground, tears clothes*.	Restless, great psychomotor activity. Actions can become violent so that restraint is needed.	Motor excitement* - imperative desire for movement. Often morbid activity lacking logical sequence. He removes his clothing, executes pirouettes, sings obscene songs.
Increased rate and quantity of speech	Flight of ideas* Everywhere does all the talking. Recites in public. Talks much and with pleasure, long windedly. Chatters incessantly.	Talkative, flight of ideas.	Flight of ideas,* a veritable logorrhea.
Irritability	Generally great emotional irritability. Inconsiderate, snappish, rude. When he meets resistance to his wishes extremely violent fits of anger.	Great irritability and tendency to outbreaks of anger.	Morbid irritability* often with violent outbursts of anger.
Grandiosity	Highly exaggerated self-evaluations… boasts about his achievements and abilities.	Expansive.	Grandiose.
Poor judgment in new activities	Suddenly pays all his business debts, makes magnificent presents, builds all kinds of castles in the air, throws himself with enthusiasm into daring ventures. Pointless purchases. Wanton rash and improper pranks. Theft and fraud. Drinking to excess, inappropriate sexual behaviors, change in dress.	Actions irresponsible, judgment profoundly disordered.	Judgement profoundly disordered. Erotic tendencies from an integral part. Incapable of appreciating the significance of their actions.
Delusions	Often pronounced delusional ideas of grandeur and persecution. Can be quite extravagant. Often very referential – see signs of their importance everywhere. Tend to be fleeting.	Fleeting delusions. Mind full of unstable and expansive delusions.	Delusions of grandeur, changeable, mobile, modified by external impressions. Ideas of persecution may emerge. The patient never has absolute faith in his delusions.
Distractibility	Unsteadiness of interest – sudden jumping from one subject to another. Dominated entirely by momentary impressions. Can be extremely distractible.	Mobility of attention.	Attention is distracted by all external impressions.
Disorganization of speech	Can range from digression, ramblings, to flight of ideas to complete incoherence.	Speech can be extravagant and irrational.	Uncontrolled associations formed at random from similarities of sound.
Hallucinations	Often hears voices, but also visual and olfactory hallucinations. Can feel electricity and have their thoughts suggested to them.	rare.	Rare and fleeting. Illusions frequent – apt to believe himself surrounded by acquaintances.
Altered sleep	Sleep is always very disturbed; occasionally there is almost total sleeplessness. In milder cases, they are late in finding repose and are awake very early.	Usually insomnia.	

Table 1 (*cont.*)

	Kraepelin 1899 (Kraepelin, 1899)*	**Dana 1904 (Dana, 1904)**	**De Fursac 1905 (De Fursac, 2013)***
Disorder	Manic-Depressive Insanity - Manic States	Manic Phase of Manic-Depressive Insanity	Manic-Depressive Insanity Manic Type
Country	Germany	USA	France
Change in moral standards	Theft and fraud in order to get what he wants. Behaves in free and easy way, commits offenses against decency.	Moral sense disturbed.	Moral sense always diminished. Sense of priority greatly affected. Patients abandon themselves to erotic tendencies without shame. Often indulge in alcoholic excesses.
Feelings of well being	Feeling of increased fitness, feeling healthier and fitter than ever before.		Often state 'Never before felt so well.'
Sexual drive	Strong sexual desires frequently arise.		Increased erotic tendencies form an integral part of the picture.
Sense of humor	Sometimes develops a pronounced humorous trait, tendency to see funny side of all things, to jest at himself and others. Witty phrases, puns.		Quite frequently tease and mock others.
Appetite	Is often increased.	Good.	Good.
Hypergraphia	Writing many long letters – handwriting shows big pretentious strokes.	Copious letter writing common.	Many pages scribbled within a few minutes. Lines cross each other I every direction, letters are large in size, flourishes are abundant.
Weight change	Always drops very significantly.	May gain weight.	Weight increases.
Impulsivity	A rudderless will, dominated entirely by momentary impressions and emotions. his actions bear the stamp of impulsiveness, rashness. Every new object arouses his desire.	Impulsions common.	Impulsive character of the reactions* Every moment leaves one task to start another.
Physical appearance	Skin takes on a fresh tone and color. Hair grows better sometimes more pigmented. Reflexes intensified.	Physiognomy of one who is joyously intoxicated.	Face flushed, eyes brilliant.
Mood lability	Mood can change suddenly.		
Lack of insight	No question of any insight, will not be convinced for a moment about the pathological nature of his condition.		Patient is incapable of appreciating the significance of his actions.
	Paton 1905 (Paton, 2014)	**Craig 1912 (Craig, 2013)**	**White 1913* (White, 1913)**
Disorder	Maniacal phase of Manic-Depressive Group	Mania	Manic Phase of Manic-Depressive Psychoses
Country	USA	UK	USA
Elevated mood	Marked feelings of exaltation. In best of humor. Can develop into transports of ecstasy.	Excitement. Exuberant in spirits.	Emotional excitement*, exaltation.

Hyperactivity	Restlessness, never still. Can become wild excitement rushing heedlessly. Absence of fatigue.	Constantly on the move and never rest. May sing, dance, laugh, shout.	Psychomotor excitement*, constantly active. Can run jump, turn somersaults, tear clothing.
Increased rate and quantity of speech	Often steady uninterrupted chatter, flight of ideas.	Talks incessantly. May rhyme.	Flight of ideas* talking continuously.
Irritability	In some cases, exaltation can give way to excessive irritation, subject to violent outbursts.	Irritable, refuses to be controlled. Can be exceedingly quarrelsome.	Attacks of irritability.
Grandiose ideation	Wild exaggerations of strength, status, wealth. Becomes boastful.	Exalted about wealth and social rank. Boastful.	Confidence in his own ability is unqualified. Increased self-esteem. Ideas of personal prowess.
Poor judgment in new activities	Consistent impairment of critical faculties.	Spends money rapidly. Judgement impaired. Gets engaged to several young women. Tendency to indulge in sexual excitements.	Has all manner of schemes of work, business, invention.
Delusions	Insane ideas typically reflect wild exaggerations. Rarely systematized, typically transitory.	Are ever changing, usually exalted in character.	Changeable, usually of grandiose character but lack element of extreme improbability or ridiculousness. Sometimes paranoid.
Distractibility	Power of directing attention seriously impaired. Every idea flashes into patient's mind becomes important.	Power of attention fails.	Constant flow of ideas frequently refers to something seen or heard. Changing from subject to subject.
Disorganization of speech	Associative functions more or less seriously disturbed. Tendency to form sound association, alliterations.	Speech is very incoherent.	Changing topic of speech frequently. Tendency to rhyme, clang associations.
Hallucinations	Vague hallucinations not uncommon but well-defined persistent hallucinations uncommon.	Hallucinations typically temporary and fleeting, auditory more than visual.	Usually elementary in character, transitory.
Altered sleep		Rises very early and retires late to bed. May be absent all together for weeks.	Rises early. Often goes without sleep.
Change in moral standards	With sexual excitement, both sexes can frequently become vulgar, obscene, lose all sense of decency.	Shameless masturbation. Can strip off clothing. Sexual instincts exalted.	Show moral delinquencies, excess alcohol indulgence. Tears of clothes.
Feelings of well being	Absence of sense of fatigue.	Exaggerated sense of well-being.	In good humor.
Sexual drive	Often marked sexual excitement.	Sexual instincts are exalted.	Sexual excitement.
Sense of humor	A retiring individual becomes witty, sharp at repartee or a buffoon. Tendency to joke.	Amusing. More entertaining when ill than during health.	
Appetite	Anorexia nearly always present.	Appetite is capricious, may eat largely or go without food for many hours. Generally bad.	
Excess writing	Inordinate desire to write – quantity of letters frequently astonishing.		Letters extraordinarily numerous.
Body weight		Often loss of weight.	Often loss.
Impulsivity		Loss of control stamps every action. Can be very impulsive and destructive.	
Physical appearance	Facial expression follows emotional tone.		
Mood lability	Sudden shifts of mood.	Emotions may undergo sudden changes.	
Lack of insight			

Table 1 (*cont.*)

	Cole 1913 (Cole, 1913)	**Buckley 1920 (Buckley, 1920)***	**Bleuler 1924 (Bleuler, 1976)***
Disorder	Mania	Cyclothymic Psychoses (Manic-Depressive) Manic Type	Manic-Depressive Insanity – Manic Attack
Country	UK	USA	Switzerland
Elevated mood	Exaltation, excitement.	Emotional exaltation/euphoria*, happiness.	Exalted mood*, euphoria, cheerfulness. Happy, overjoyed.
Hyperactivity	Patients is always on the move. Press of activity.	Increased activity* without fatigue. Can accelerate to becoming restless, noisy, singings, laughing, crying, jumps, climbs, dances, pounds.	Increased/pressured activity. All thoughts quickly translated into resolutions and actions and is pursued until supplanted by another.
Increased rate and quantity of speech	Association of ideas always rapid. Flight of ideas in many cases.	Flight of ideas* flow of ideas increased. Can talk for hours without ceasing.	Flight of ideas*, jumps by by-paths from one subject to another. Talkativeness to incessant logorrhea.
Irritability	Irritable.	Irritability*, easily roused to state of anger, especially when plans are opposed.	Easily shifts to discord, anger, rage.
Grandiose ideation	Boastfulness, bragging, overconfident of powers and abilities.	Distinctly grandiose ideas.	Ideas of over-estimation of self rarely absent.
Poor judgment in new activities	Unless controlled, would spend all his money, overdraw bank accounts. Extravagant.	Judgement impaired. Many schemes in business or other matters. Extravagant. Exceeds bounds of moderation in eating, drinking and sexual relations.	Lack of restraint gets him into trouble. Many unrealistic plans, inventions, for business or finance.
Delusions	Usually fleeting in nature imagines he is possessed of much strength, wealth, person of distinction and title.	Delusions rarely dominant. When occur generally based on 'superiority' but can be persecutory. Typically, are changing constantly.	Delusions of grandeur the content of which does not become senseless, but remains at least imaginable. Delusions of persecution can show lack of fixation.
Distractibility	Will power weakened can give no sustained attention to any subject.	Gives attention to every accidental stimulus. Lack of control of volitional properties. Marked distractibility of attention often occurs.	Attention is characterized by extreme distractibility.
Disorganization of speech	Links of associative chain are often missing. Insane rhyming.	Because of rapidity of thought, difficult for patient to maintain a definite train of thought, themes change rapidly. Circumstantiality.	Only in extreme forms does real confusion or incoherence arise. But there is often unclearness in ideas and logical connections. Cannot adhere to anything.
Hallucinations		True hallucinations elicited with difficulty, never form a conspicuous part of the picture.	Hallucinations of sight and hearing but have little influence on clinical picture.
Altered sleep	Sleeps little, wakes early. Often believes 2-3 hours of sleep sufficient.	Insomnia always present and may persist.	Gets up especially early.

Change in moral standards	Loses higher sentiments and sense of propriety. Tend to strip themselves of clothing. Sexual drive becomes uncontrolled. Can lose all sense of modesty. Turns to alcohol.		Against excesses of all kinds, especially sexual, alcoholic, wastefulness, inhibitions are lacking. Marked eroticism can produce 'the most shameless acts.' 'Falling off of inhibitions.'
Feelings of well being	Exaggerated sense of well-being.	Feeling of buoyancy and ability accomplish more than ever.	All experiences colored with pleasant feelings.
Sexual drive	Increases and becomes uncontrolled.		Many patients are conspicuous for their marked eroticism.
Sense of humor		Jocose and witty. Prone to sarcasm.	Quick, witty, sarcastic remarks common. Often makes jokes.
Appetite			
Excess writing		Often voluminous writing, page after page. Letters written larger than normal heavily flourished.	Handwriting like speech – flighty, helter-skelter, endurance of writing without sense of fatigue.
Body weight		Typically loses weight through insufficient food.	
Impulsivity	Can become passionate and violent. Every idea calls for immediate action. Impulsive from failure of inhibition.	Inhibitory influences of reactions are unrestrained. Every influence causes strong tendency to impulsive action.	
Physical appearance	Eyes, facial expression indicate excitement.	Face flushed.	
Mood lability			Mood is very fluctuating.
Lack of insight			
	Yellowlees 1932 (Yellowlees, 1932)	**Gordon 1936 (Gordon *et al.* 1936)**	**Noyes 1936 (Noyes, 1936)**
Disorder	Manic-Depressive Psychosis – States of Elation	Manic-Depressive Psychoses - Mania	Manic-Depressive Psychoses – Manic Type
Country	UK	UK	US
Elevated mood	Elation. Happiness.	Elation, exaltation.	Unusually happy. Can become exhilarated to the point of noisy hilarity.
Hyperactivity	Motor excitement common. Bold gestures. Astonishing press of activities. In more severe cases, patients will shout, sing, chatter, pray, weep and rave in rapid succession.	Restless. Press of activity. Constantly attempts new lines of action. Will attempt everything and accomplish nothing.	Sings, whistles. Meddles with ward activities, takes his bed apart.
Increased rate and quantity of speech	Acceleration of the flight of ideas through the mind. Can talk incessantly often at the top of their lungs.	More voluble leading to flight of ideas. Free and rapid association.	Talks incessantly. Flight of ideas with puns and rhyming.
Irritability	Can have an 'angry mania' where can be abusive, threatening, overbearing and suspicious.	Irritation or resentment in contradicted.	Outbursts of anger and abuse when plans are opposed.

Table 1 (*cont.*)

	Yellowlees 1932 (Yellowlees, 1932)	**Gordon 1936 (Gordon *et al.* 1936)**	**Noyes 1936 (Noyes, 1936)**
Disorder	Manic-Depressive Psychosis – States of Elation	Manic-Depressive Psychoses - Mania	Manic-Depressive Psychoses – Manic Type
Country	UK	UK	US
Grandiose ideation	Colossal conceit.	Grandeur – his schemes cannot fail, certain to be soon appointed to a position of great importance. Can treat those around him as dirt.	An exaggerated opinion of himself and abilities.
Poor judgment in new activities	Impaired judgment. Careless of details of conduct and manners. In more extreme cases, conduct becomes shameless and indecent.	Self-critical faculty falls into abeyance. Will tear own clothes. Strip to nude.	Develops ambitious but ill-considered schemes. Spends money extravagantly. Unrestrained in sex activities – previously chaste and modest become promiscuous. Can become destructive, tear clothes and destroy furniture.
Delusions	Delusions are merely expressions of his sense of extreme well-being and are fleeting and of no particular importance.	Delusions resulting from exalted state of emotions rarely out of proportion to possibilities of life. Will be a great business magnate when he can perfect his inventions.	Fleeting usually of an expansive and wish-fulfilling nature. Many times the patient half recognizes ideas are imaginary. Can develop ideas of persecution.
Distractibility	Highly distractible – attention easily diverted from one subject to another.	Well defined distractibility. In the midst of pressured speech, an opportune remark will turn the patient's line of thought into another channel.	Attention greatly disturbed, diverted by environmental noises.
Disorganization of speech	A rapid leaping from one idea to the other so the impression of an ordered sequence is lost. Real incoherence only seen with extreme elation.	Ideas can tumble over one another so fast that it is extremely hard to follow their sense.	Associations can become based on sound rather than meaning.
Hallucinations	Fleeting hallucinations can occur.	Hallucinations are rare.	Hallucinations may occur but are not common.
Altered sleep		Some degree of insomnia. Can go without sleep with no signs of exhaustion.	Sleeps little but no fatigue.
Change in moral standards			
Feelings of well being		Extremely well pleased with self and actions.	Consistent good humor esp in early stages.
Sexual drive			Sex drive is increased.
Sense of humor	Witty, can laugh uproariously at his own witticism or at the remarks of others.	Early in illness, especially clever, brilliant repartee.	Full of pranks. Often infectious good humor.
Appetite	Often refuses food but typically because too busy.	Reduced eating due to many distractions.	Often too excited to eat.
Excess writing	Can find as an outlet of their excitement in constant voluminous writings.		Writes numerous letters often in a flowery style.
Body weight			Loses weight during periods of excitement.

Impulsivity	All restraint in abeyance. The patient is a creature of impulse at the mercy of his flood of ideas. Little power of sustained attention.	Can become impulsively angry due to sudden loss of control.	
Physical appearance			Eyes bright, face flushed, step quick, head erect.
Mood lability	Feels widely differing emotional states within a few minutes of each other.		Sudden oscillations of emotion.
Lack of insight			
	Sadler 1936 (Sadler, 1936)	**Muncie 1939 (Muncie, 1939)***	**Henderson 1944 (Henderson & Gillespie, 1944)***
Disorder	Emotional Reaction Types of Psychoses – Manic States	Thymergasic Reactions: Elation or Manic Excitement	Manic-Depressive Psychosis – Manic States
Country	USA	USA	UK
Elevated mood	Unusual elation, exhilaration, euphoria, merriness.	Elation to ecstasy*.	Elation when there is nothing in the external circumstances to justify.* Merry, gay, infectious.
Hyperactivity	Motor activity is sometimes incessant. Extreme restlessness. Not subject to ordinary fatigue.	Overactivity in general motility.* On the go day and night multiples his enterprises.	Excess psychomotor activity.* Extreme restlessness, must be doing something all the time. On the go day and night. Does not experience typical fatigue.
Increased rate and quantity of speech	Flight of ideas, rhyming, can talk continuously.	Overactivity in thought and speech*. Initially speech over productive bombastic. Embellished. Can turn to flight of ideas.	Over-talkativeness – flight of ideas.*
Irritability	Can be impatient, irritable leading to outbursts of anger.	Interference leads to anger. Can be domineering, quarrelsome.	Intolerant of criticism. Can then become sarcastic, rude.
Grandiose ideation	Grandiose urge and ideas.	Self-expansion.	Grandiose.
Poor judgment in new activities	Intensified self-assertion unchecked by any self-criticism. Shopping sprees common. Can lead to assaults and sexual excesses.	Spends money lavishly with legal complications. Sexual promiscuity frequent. Alcohol excesses.	Judgement is impaired. Financial and sexual indiscretions common. Conduct becomes unrestrained.
Delusions	Sometimes grandiose delusions but usually transient and not systematized. Rarely persecutory.		Delusions are of a wish-fulfilling kind, in harmony with the patient's excited mood.
Distractibility	Highly distractible. Rapid and frequent changes in the direction of thought.	Subject to an unusual degree to inner and outer distractions.	Extremely distractible. Attention held only momentarily.
Disorganization of speech	Skip quickly from one subject to the next that can lead to incoherence.		Speech may proceed to incoherence.
Hallucinations	May be present.		Hallucinations occasionally present buy usually transitory.
Altered sleep	Insomnia, get up early in the morning.	Sleep suffers but not an object of complaint. Too excited and enjoying too much to bother to sleep.	Sleeplessness.
Change in moral standards	Excesses both alcoholic and sexual.	Passes bad checks in a guileless fashion. Ill-advised sexual adventures common.	Lacking in moral control – indulge to excess both sexually and with drink.

Table 1 (*cont.*)

	Sadler 1936 (Sadler, 1936)	**Muncie 1939 (Muncie, 1939)***	**Henderson 1944 (Henderson & Gillespie, 1944)***
Disorder	Emotional Reaction Types of Psychoses – Manic States	Thymergasic Reactions: Elation or Manic Excitement	Manic-Depressive Psychosis – Manic States
Country	USA	USA	UK
Feelings of well being	'never felt better in my life.'	Feeling of well-being 'Fine, never better, like a million dollars' More fit than ever before.	
Sexual drive		Is increased.	
Sense of humor	Witty, playfulness and mischievousness		
Appetite	Impaired nutrition.	Appetite suffers due to patient's push and distractibility.	
Excess writing	Often writes, hurried, lengthy, untidy.		Frequently writes long letters to all sorts of officials.
Body weight		Typically suffers.	
Impulsivity	Impulsivity.		
Physical appearance			
Mood lability		Mood may change quickly; tears can interrupt the elation.	Mood unstable. Irritable, cantankerous.
Lack of insight	More or less impaired.		Does not realize he is ill – insight poor.

	Curran 1945 (Curran & Guttmann, 1945)*	**Mayer-Gross 1954 (Mayer-Gross *et al.* 1954)**	**Ulett 1956 (Ulett & Goodrich, 1956)***	**No. endorsed out of 18**	**No. prominent out of 9**
Disorder	Manic-Depressive Psychoses – Manic States	Affective Disorders – Mania	Manic-Depressive Reactions – Manic Type		
Country	UK	UK	US		
Elevated mood	Elation*, gay, cheerful.	Infectious jollity, sparkling cloudless hilarity, wild excitement.	Emotional excitement*. Good humor.	18	9
Hyperactivity	Hyperactivity*.	Hyperactivity, Full of energy, rarely fruitful, never feels tired.	Increased psychomotor activity*. Press of social and business duties.	18	9
Increased rate and quantity of speech	Flight of ideas*.	Stream of thought more rapid than normal. Talk is incessant, flight of ideas.	Flight of ideas*.	18	9
Irritability	Aggression*, irritability, intolerant of interference.	Easily irritable. Can fly into anger. Can become aggressive.	Impatient, irritable, intolerant of restraint.	18	3
Grandiosity	Grandiose ideas common usually changeable.	Radiant self-confidence. Convinced of increased powers, no sharp boundary between natural conceit and grandiosity.	Grandiose.	18	0

Poor judgment in new activities	Indulge in great risks, many new enterprises, activity can become disconnected, purposeless.	Uncritical optimism. Takes considerable and unjustified risks.	Poor judgement coupled with plans, schemes and increased libido can lead to excesses. Shameless hypersexuality.	18	0
Delusions	Delusions of grandeur*, but can develop paranoid delusions.	Grandiose delusions but rarely fixed, seem like playful fabrications. Delusions of persecution can develop.	Grandiose delusions.	17	1
Distractibility	Very distractible, tending to weave what they see or hear in their utterances.	Distractible attention which is intense but fleeting. Unable to keep to any topic.	Distractibility.	17	0
Disorganization of speech		Speech sequence less by meaning than by casual associations, similarity of sounds, rhyming. At height, can break down into scattered sequences.	Rhyming, punning, clang associations.	16	0
Hallucinations	Rare but when they occur usually in keeping with grandiosity and elation.		Hallucinations.	15	0
Altered sleep	Sleeplessness, insomnia.	Wakes early. Increasing sleeplessness.	Early rising.	15	0
Change in moral standards	Lack of sexual inhibition may result in grave difficulties.	Increased sexual behavior may be sources of serious trouble.	Sexual indiscretions.	14	0
Feelings of well being	'feel better than ever before'.	'excellent humor with all the world'		14	0
Sexual drive	Increased sexual desire*.	Increased.	Increased sexual drive.	12	1
Sense of humor	Jokes and rhymes common.	Makes jokes and witticism. Can be amusing company.		12	0
Appetite	Neglect meals.	Intake of food may be seriously compromised by distractibility.		12	0
Hypergraphia		Writing innumerable letters.		12	0
Weight change	Loss of weight.	Can drop quickly.		10	0
Impulsivity				9	1
Physical appearance	Ruddy complexion* presents the picture of perfect health.	Picture of perfect physical health.		9	1
Mood lability		Volatility of mood.		8	0
Lack of insight	Typically, deficient in insight.	Fail to show slightest insight.		6	0

* Signs and symptoms of mania considered by the authors to be of cardinal clinical importance.

daily tasks to poorly organized and rapidly shifting behaviors and, in more severe episodes, destructive agitation. Several authors commented on how little of practical importance was typically produced during these hyperactive episodes and the striking lack of fatigue. Pressured speech was most often described as 'flight of ideas' but other descriptions were used including: talkative, chatters incessantly, and logorrhea. Irritability was also noted by all authors, often with the comment that it would typically emerge when someone tried to interfere with the plans of the manic patient. Other related terms utilized included snappish, rude, angry, quarrelsome, impatient, and abusive.

Grandiose ideation was described by every author in a variety of ways including: exaggerated self-evaluation, expansive, boastful, overconfident, colossal conceit, self-expansion, and radiant self-confidence. I termed the final symptom/sign described by every author 'poor judgment in new activities'. While described in a variety of ways, the essence of this sign was the initiation of new social, interpersonal or business activities which reflected poor judgment about the likely negative consequences. The two most common categories of such new activities involved money and sex. Individuals would give money away, buy unneeded things or begin unsound business ventures. Previously sober individuals would dress indiscreetly, become flirtatious and engage in sexual behaviors typically judged to be wildly inappropriate by their families and peers.

One symptom (delusions) and one sign (distractibility) were described by 17 of the authors. The descriptions of delusions were of particular interest because they differed strikingly from those reviewed in the parallel project on schizophrenia (Kendler, 2016*b*). First, all authors uniformly described the major delusional theme as grandiosity, often noting that the delusions could be easily understood to emerge from the underlying mood state. But a number of authors commented that some patients, often those with more irritability, could manifest paranoid delusions. Second, several authors noted the typical lack of systemization and the instability of the delusional beliefs. Third, the delusions were noted by some to be typically of modest or minor clinical importance. Fourth, a number of these experts noted that the delusions never became 'ridiculous' or 'senseless' and nearly always remained 'at least imaginable'. Finally, several authors stated that the delusions often seemed playful and the patient not always convinced of their reality. Distractibility was most commonly understood by the authors as resulting from the rapid shifting of attention that typically occurred in mania with the particular sensitivity to both internal and especially external stimuli.

One sign, disorganization of speech, was noted by 16 of these authors. Several features of the typical manic thought disorder were noted. First, increased rapidity of speech was nearly always seen in part a result of their distractibility. The patients rapidly changed topics as their thoughts became attracted to one after another of the ideas continually welling up in their consciousness. Second, the playfulness of the thought disorder was often commented on with authors noting the frequency of rhyming and alliterations, with associations often being driven by similarity in sound (e.g. clang associations) rather than content. Third, authors frequently observed the degree of thought disorder closely paralleled the general level of activation of the patient reaching levels of incoherence with severe manic excitement.

Category B symptoms/signs

Two symptoms (hallucinations and feelings of well-being) and four signs (altered sleep, relaxation of prior moral standards, increased humor, and hypergraphia) were described by 12 to 15 of these 18 authors.

In contrast to what was seen in the parallel review with schizophrenia (Kendler, 2016*b*), with mania, the authors often noted the hallucinations – typically auditory – were rare and most commonly fleeting in occurrence. While altered sleep was noted as typical for mania by 15 authors, many of these authors simply described disturbed sleep patterns or insomnia. Only 8 authors described a decreased need for sleep, often commenting on the tendency of patients to awaken very early in the morning after a short sleep feeling refreshed.

While change in moral standards might be considered a generic manifestation of 'poor judgment in new activities', it appeared in many descriptions to be sufficiently distinct to merit separate description. These authors noted that the underlying moral character of the individual seemed to change during the manic episode. The solid, trustworthy banker writes bad checks. The minister, a scion of moral probity in his community, frequents a brothel. The proper social matron dresses provocatively, flirts extensively and engages in sexual affairs entirely out of keeping with her prior character.

While feelings of well-being might be considered only a manifestation of elevated mood, the authors who described this symptom noted that it extended beyond mood to include feelings of physical and mental robustness. The phrase 'Never felt better in my life' or something similar recurred in their descriptions. Similarly, increased sexual behavior might be understood to result solely from a decline in inhibitions.

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However, 12 authors specially noted a mania-associated increase in sexual drive which, when combined with the reduction of inhibitions, was noted to have a range of adverse consequences.

Twelve authors also noted an increase in humor. Several of them commented that the quick witted and frequently mischievousness comments of their manic patients were often genuinely funny and typically quite out of keeping with their prior demeanor. Their humor was often infectious.

Appetite changes was amongst the least consistent of the reported symptoms/signs. Few authors commented on actual changes in the appetitive drive. Most noted only that the manic patients were too preoccupied to eat or when they did wouldn't finish their meals because they were too soon up and about. But some noted an increase in appetite or that the appetite was generally good. This contrasts, for example, with the very frequently reported symptom of reduced appetite in depression (Kendler, 2016*a*).

Several of the twelve textbook writers who described hypergraphia commented on its close relationship with flight of ideas. It was, several often noted, just the written version of the same symptom. A number also commented on the large bold letters and flourishes that characterized the writing of the manic patients, and several, including Kraepelin, providing handwriting examples in their textbooks.

Category C symptoms/signs

Five symptoms or signs of mania were reported by ten or fewer authors: weight change, impulsivity, physical appearance, mood lability, and lack of insight. The descriptions of weight change, like appetite change, were not consistent. Weight loss was reported more frequently than weight gain and often was described as secondary to periods of marked excitement. Impulsivity, lack of insight and mood lability were often implied in the clinical descriptions of our authors, but each were only commented on explicitly by a moderate number. Particularly interesting were the nine authors who commented on the robust, healthy, physical presentation of their manic patients. Noyes wrote 'in excellent health. The eyes are bright, the face flushed, the head erect and the step quick' (Noyes, 1936, p. 202).

Prominent symptoms/signs

Nine authors reported particular symptoms and signs they felt were primary to the diagnosis of mania. All nine described the same three features emphasized by Kraepelin in our introductory quote: elevated mood, hyperactivity and increased rate of speech (Table 1). One prominent sign was noted by three authors (irritability) and four other features by only one.

Relationship of text descriptions to US operationalized diagnostic criteria

Table 2 summarizes the symptomatic diagnostic criteria for mania in the six major US operationalized systems for psychiatric diagnosis. Three technical issues arose in mapping the list of symptoms and signs to these criteria. First, the Feighner, RDC and DSM-III systems stated that the grandiosity may be delusional, but this wording was absent in DSM-III-R, DSM-IV and DSM-5. Second, for sleep changes, the Feighner criteria listed 'decreased sleep', while all other systems listed 'decreased need for sleep'. Third, compared to my reports on sleep changes to these criteria, I needed to create separate symptoms for our 15 authors who commented on altered sleep and the subset of them (eight authors) who specifically noted a reduced need for sleep.

Taking these subtleties into account, we see a very strong association between the frequency with which particular signs and symptoms of mania were noted by the authors and the likelihood they were included in modern operationalized criteria (Table 2). This can be tested by calculating the proportion of symptoms and signs in these three categories which were included in our diagnostic systems. For categories A, B and C, these proportions were 45/54 (83%), 1/36 (3%) and 5/36 (14%) ($\chi^2 = 72.9$, df = 2, $p < 0.0001$). Indeed, the only modern diagnostic criterion for mania not commented on by a large majority of these authors was decreased need for sleep.

Discussion

My initial goal was to present the important signs and symptoms of mania as described in psychiatric textbooks that adopted a Kraepelinian diagnostic perspective and were published in Europe and the US from ~1900 to 1960. Twenty-two signs and symptoms were noted by more than five authors. Six noteworthy conclusions might be drawn from this effort. First, over six decades and two continents, a high degree of agreement was evident regarding the core symptoms and signs of mania. Six clinical features were described by every author: elevated mood, hyperactivity, increased rate of speech, irritability, grandiosity, and poor judgment in new activities. The degree of consensus regarding the key features of mania was substantially greater than that found for depression (Kendler, 2016*a*) and schizophrenia (Kendler, 2016*b*), where, respectively, 2/18 and 3/20

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Table 2. *A comparison between the symptoms and signs of mania described by textbook authors from ~1900 to 1960 and the criteria of major US operationalized psychiatric diagnostic systems**

Symptom/sign	Frequency of reporting	Sign/ symptom	Feighner *et al.* 1972	RDC (Spitzer *et al.* 1975)	DSM-III (APA 1980)	DSM-III-R (APA 1987)	DSM-IV (APA 1994)	DSM-5 (APA 2013)
Elevated mood	*18*	*Symptom*	*Yes – D1*	*Yes A*	*Yes A*	*Yes A*	*Yes A*	*Yes A*
Hyperactivity	*18*	*Sign*	*Yes – O1*	*Yes – B1*	*Yes – B1*	*Yes – B6*	*Yes – B6*	*Yes A/B6**
Increased rate and quantity of speech	*18*	*Sign*	*Yes – O2, O3*	*Yes – B2, B3*	*Yes – B2, B3*	*Yes – B3/ B4*	*Yes – B3/ B4*	*Yes – B3/ B4*
Irritability	*18*	*Sign*	*Yes – D2*	*Yes A*	*Yes A*	*Yes A*	*Yes A*	*Yes A*
Grandiosity	*18*	*Symptom*	*Yes – O4 [D]*	*Yes – B4 [D]*	*Yes – B4 [D]*	*Yes – B1*	*Yes – B1*	*Yes – B1*
Poor judgment in new activities	*18*	*Sign*	*No*	*Yes B7*	*Yes B7*	*Yes – B7*	*Yes – B7*	*Yes – B7*
Delusions (of grandeur)	*17*	*Symptom*	*Yes – O4*	*Yes – B4*	*Yes – B4*	*No*	*No*	*No*
Distractibility	*17*	*Sign*	*Yes – O6*	*Yes – B6*	*Yes B6*	*Yes – B5*	*Yes – B5*	*Yes – B5*
Disorganization of speech	*16*	*Sign*	*No*	*Yes C2*	*No*	*No*	*No*	*No*
Hallucinations	**15**	**Symptom**	**No**	**No**	**No**	**No**	**No**	**No**
Altered sleep	**15**	**Sign**	**Yes – O5**	**No**	**No**	**No**	**No**	**No**
Change in moral standards	**14**	**Sign**	**No**	**No**	**No**	**No**	**No**	**No**
Feelings of well being	**14**	**Symptom**	**No**	**No**	**No**	**No**	**No**	**No**
Sexual drive	**12**	**Sign**	**No**	**No**	**No**	**No**	**No**	**No**
Sense of humor	**12**	**Sign**	**No**	**No**	**No**	**No**	**No**	**No**
Appetite	**12**	**Sign**	**No**	**No**	**No**	**No**	**No**	**No**
Hypergraphia	**12**	**Sign**	**No**	**No**	**No**	**No**	**No**	**No**
Weight change	10	Sign	No	No	No	No	No	No
Impulsivity	9	Sign	No	No	No	No	No	No
Vigorous physical appearance	9	Sign	No	No	No	No	No	No
Mood lability	8	Sign	No	No	No	No	No	No
Decreased need for sleep	8	Symptom	No	Yes – B5	Yes – B5	Yes – B2	Yes – B2	Yes – B2
Lack of insight	6	Symptom	No	No	No	No	No	No

RDC, Research Diagnostic Criteria; APA, American Psychiatric Association.

* Category A, B and C criteria are depicted in *italics*, **bold** and normal type, respectively.

clinical features were described by all authors. Subjectively, in reviewing these texts, there was, for mania, a substantially greater sense of homogeneity in the descriptions than was evident for depression or schizophrenia. Perhaps this was a result of a greater *a priori* agreement among the authors of the key signs to look for in mania. However, my impression was that the manic patients described by these authors were actually more similar to one another than was the case for their patients with depression and schizophrenia.

Second, nine authors listed what they regarded as cardinal features of mania. All of these noted three signs and symptoms (elevated mood, hyperactivity, and increased rate of speech) which might together be viewed as the core symptomatology of mania.

Third, while mania is typically characterized as a mood or affective disorder, a review of the symptoms and signs of our authors reveals a striking diversity of symptomatology. We see changes in motor behavior, language, self-concept, judgment, attention, sexuality, sleep, appetite, impulsivity, and sense of humor.

Fourth, a number of the authors spoke of the change of personhood – that with respect to humor, business plans, attitude toward money, sexual behaviors, moral judgments – the manic individual often acted quite out of keeping with their prior character. They were not the same person.

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Fifth, although we are commonly taught about the problem of the differential diagnosis of mania and schizophrenia (Pope & Lipinski, 1978), this difficulty was not evident in these textbook descriptions. Indeed, the authors minimized the importance of psychotic symptoms in mania. Hallucinations were typically fleeting. Delusions were rarely fixed, mood-congruent and (with the exception of Kraepelin's description) neither fantastic nor bizarre. However, the differential diagnosis with schizophrenia would likely be more difficult had I included in this review the category of 'confusional' or 'delirious' mania.

Sixth, of the 22 key clinical features of mania, only 6 (27%) were symptoms and the remainder signs. This is similar to what we found for schizophrenia (5/19 = 26%) (Kendler, 2016*b*) but quite different from that found for major depression (14/18 = 78%) (Kendler, 2016*a*). Clinician psychiatric experts of the 20th century relied much more on self-report for the diagnosis of depression than for mania or schizophrenia where clinical observations were more important.

Described symptoms and signs and diagnostic criteria

Our second goal was to compare the historical experts' views on the important clinical features of mania with those included in our modern operationalized diagnostic criteria. Four points are noteworthy. First, a striking consilience was observed between the historical experts and modern nosologic systems. Aside from the criterion describing sleep changes, every other diagnostic criterion for mania used in these systems were reported by at least 16 of our authors and nearly two-thirds of all these criteria were reported by all the authors. A greater degree of agreement is seen between historical experts and modern diagnostic criteria for mania than for depression (Kendler, 2016*a*) or schizophrenia (Kendler, 2016*b*).

Second, operationalized criteria for mania have changed very modestly since the Feighner criteria, in notable contrast to schizophrenia (Kendler, 2016*b*). Although a quite variable syndrome in its early history, being used at various time to describe states of frenzy, agitated psychosis or just generic insanity (Berrios, 1981, 2004; Healy, 2008; Kendler, 2015), since around 1900 under the influence of Kraepelin's diagnostic formulation, the syndrome of mania in Western psychiatry has been relatively stable. This means that the rise of effective pharmacologic treatment of mania, first lithium and then a range of other mood-stabilizers in the second half of the 20th century (Healy, 2008), did not produce major shifts in the definition of the manic syndrome.

Third, despite the consilience, some important clinical features of mania noted by historical experts are not present in any of our operationalized criteria. Some are likely familiar to modern diagnosticians (impulsivity, hallucinations, hypersexuality, and mood lability) but others are less commonly discussed including changed moral standards, increased humor, hypergraphia (perhaps manifest differently in our electronic age), and a vigorous physical appearance.

Fourth, the list of manic symptoms and signs developed for this project, which reflects something of a post-Kraepelin diagnostic consensus, can be used as a tool for historical research. How far back into the psychiatric writings of the 19th century are manic syndromes described using a closely similar set of signs and symptoms (Berrios, 1996)? This can help us clarify the degree to which Kraepelin's concept of mania was largely novel or was a syndrome well recognized by his key predecessors in the last half of the 19th century.

It is useful to ask how often symptoms and signs given by our textbook authors that were not in the DSM criteria was mentioned in the accompanying text. To investigate this, I examined the DSM-5 text for bipolar I disorder. Of the 14 symptoms/signs noted in our reviewed textbooks that were not in the DSM-5 criteria, six (delusions of grandeur, disorganization of speech, increased humor, hypergraphia, hypersexuality and mood lability) were described in the DSM text.

The appropriate role for diagnostic criteria in research, clinical work and teaching

Our final goal, considered in greater depth in the first article in this series (Kendler, 2016*a*), was to use this study to help clarify the optimal role for diagnostic criteria in our research, clinical work and teaching. For mania, more than for depression or schizophrenia, our operationalized diagnostic criteria do a good job of assessing symptoms and signs regarded as crucial by historical experts. But the overlap is far from complete. Fourteen of the 22 symptoms and signs of our experts are not found in DSM-5. This is not a problem for DSM-5 if diagnostic criteria serve an indexical function – to be easy to use and to identify cases with low error rates. But – and this is the central point – DSM criteria do not and should not list every important symptom and sign. It follows then that diagnostic criteria should **not** be the sole focus of teaching, clinical work or research. That is, our operational criteria for mania should not be viewed as completely describing the clinical syndrome. Such an approach will alleviate the problems that have led to the reification of our diagnostic categories, taking a fallible index of something for the thing itself (Hyman, 2010).

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Limitations

This work should be interpreted in the context of three potential methodological limitations. First, I have surely not exhaustively reviewed the major diagnostic writings on mania in the post-Kraepelin Western Psychiatric tradition. I have under-sampled non-Anglophonic authors. Hopefully the result remains broadly representative. Second, in such a project, it is always a concern that one textbook writer just copies material for an earlier textbook. I was alert to this concern and found no such examples.

Third, psychiatric practice during the 20th century moved from largely asylum-based work to the outpatient clinic. Most of the patients with mania seen by our authors were in-patients and often quite ill. This could contribute to differences between mania as seen by the earlier authors and our more modern diagnostic systems. However, their descriptions included a wide variety of severities of mania, reducing my concerns about the 'biased' nature of their patient samples. In addition, it is possible that changing concepts of the boundaries between mania and other psychiatric disorders, especially dementia praecox/schizophrenia and schizoaffective disorder, could contribute to differences between older and more recent diagnostic concepts of mania.

Declaration of Interest

None.

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