

Editorial

In search of Aristotle: Temperament, human nature, melancholia, creativity and eminence

Abstract

Is suffering associated with melancholia and “madness” necessary for artistic creativity and eminence? Or do creativity and leadership have something to do with the *temperaments* associated with affective disease? We integrate concepts dating back to Greek psychological medicine and philosophy – especially work attributed to Aristotle – with modern data-based examination of the role of cyclothymic and related temperaments in the interface between mixity, the bipolar spectrum and normality. We place our query within the general framework of evolutionary biology and human nature. In doing so, we propose that affective disease – including mania and associated psychotic states – exist because they serve as the genetic reservoir for adaptive temperaments and the genes for genius. Affective disorder can therefore be regarded as the price of exceptional greatness. Thus, creative and eminent individuals, by virtue of their being exceptional, occupy a somewhat unstable terrain between temperament and affective disease. © 2007 Published by Elsevier B.V.

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Affective disorders in their broadest sense constitute the *raison d'être* of this *Journal*. Depression with its associated temperaments represents the most common expression of these maladies. Why this should be so is complex and may be due to evolutionary pressures and adaptation (Nesse and Williams, 1996; Akiskal and Akiskal, 2005b). On the august 100th anniversary volume of the *Journal*, we thought exploring the “positive” facets of melancholy would be appropriate. In particular, we wished to explore the question, attributed to Aristotle whether creativity and eminence are related to melancholia, and if so, how?

1. The question

Hippocrates (Adams, 1939) described the first recorded case of melancholia in the western world; he ascribed it to such natural causes as adverse life events and “black bile.” We reproduce excerpts from his description:

“A woman of Thasos... as a result of justified grief became morose, and although she did not take to her bed, she suffered from insomnia, loss of appetite ...

she complained of fears and *talked much*; she showed despondency and ...talked at random and *used foul language*... many intense and continuous pains... *she leapt up and could not be restrained*...” (emphases ours).

The concept of temperament divided into four types and referring to an optimum mixture of human attributes was also described in ancient Greece. It is of great clinical, public health and theoretical significance that in this framework, one could be melancholic in temperament without necessarily developing melancholia (what today we call clinical depression). In a passage attributed to Aristotle (Problemata xxx), he wonders:

“why is it that all those who have become eminent in philosophy or politics or poetry or the arts are clearly melancholics and some of them to such an extent as to be affected by diseases caused by black bile? ...” (Quoted in Klibansky et al., 1979, p. 18).

Pies (2007-this issue) presents the thesis that by linking melancholia and frenzy at the temperamental level, Aristotle may have been the first to describe the bipolar spectrum.



Fig. 1. Plato and Aristotle from Raphael's *School of Athens* (1509–1510).

The Hippocratic case, arguably the most ancient extant description of melancholia, upon closer scrutiny reveals elements of hypomanic intrusion, and is compatible with a depressive mixed state, classified by Kraepelin (1899) and contemporary research (Benazzi and Akiskal, 2003; Akiskal and Benazzi, 2004; Akiskal and Akiskal, 2007) to belong to the bipolar spectrum. If so, Hippocrates may have actually preceded Aristotle in describing co-existing depressive and subthreshold hypomanic phenomenology, an essential characteristic of the bipolar spectrum. That such mixity typically arises from an affective temperament when it is opposite to the predominant affective polarity (Akiskal, 1992; Perugi et al., 1997; Akiskal et al., 1998a,b) is, we submit, relevant to the more general question whether it is manic-depressive illness (Jamison, 1993) or temperament (Akiskal and Akiskal, 1988), which mediates creativity and eminence.

This question is a special instance of the broader philosophical debate on whether reality is categorical or dimensional. Plato, as depicted in the *School of Athens* (Fig. 1) believed that reality conformed to abstractions that exist in a categorical heaven, whereas Aristotle is gently pointing out to his eminent teacher that reality in this world is quite different, and presents to our observation as gradations of a dimensional nature. While Plato believed creativity represented inspiration from

madness of divine origin, Aristotle wondered whether it was situated in the indistinct boundary between melancholia and its temperaments. As we have argued, it is unclear whether Aristotle discovered the concept of the bipolar spectrum, nonetheless he appears to have placed the query on exceptional greatness within the dimensional space between affective disease and temperament as we conceptualize (see Fig. 2) based on the work of Kretschmer (1936).

For the past 23 centuries, a great deal has been written on this subject, much of it without data. The Stagirian philosopher was an empirical scientist, and therefore we will expound on his query with research that we and others have conducted, placing it within the broader context of the relationship between temperaments, affective disorder, eminence and creativity. We also hope to illustrate how this subject is relevant to human nature. This is a broad and ambitious theme, appropriate to the subject and the occasion.

Is genius an exception in a statistical sense, or does it partake of a more “supernatural” substrate that the more common of mortals in awe ascribes to insanity. That is the question before us.

2. Temperaments

Collaborative research conducted in our center and elsewhere (Akiskal and Mallya, 1987; Akiskal et al., 2006) indicates that two-thirds of all depressions belong to a bipolar spectrum. In this spectrum, depression dominates the course of the disease, yet it is punctuated by brief periods of hypomania; most importantly, such individuals display lifelong traits of depressive (melancholic), anxious, cyclothymic, irritable (choleric), and hyperthymic (sanguine) temperaments (Akiskal and Akiskal, 2005a).

What is most fascinating is that during the recovery process of clinical depression, we observe attributes which rendered the person vulnerable to clinical

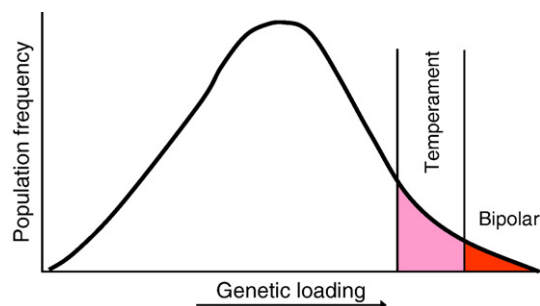


Fig. 2. Temperament and bipolar disease in a spectrum concept.

depression, as well as positive attributes of an adaptive nature which would facilitate the recovery process (Akiskal et al., 2005a). For instance, the melancholic emerges from depression as someone bound to routine, self-blaming, shy-nonassertive, sensitive to criticism, yet self-denying, sensitive to human suffering, dependable and preferring to work for someone else rather than be the boss. The hyperthymic is endowed with the highest number of “positive” traits: upbeat, fun-loving, outgoing, jocular, optimistic, confident, full of ideas, eloquent, on the go, short-sleeper, tireless, who likes to be the boss, but single-minded, risk-taker, and unlikely to admit to his/her meddlesome nature. The cyclothymic is labile with rapid shifts in mood; unstable in energy, self-esteem and socialization, unevenly gifted and dilettante, yet keen in perception, intense in emotions, and romantic. The choleric tends to be skeptical and critical (which might be considered intellectual virtues), but otherwise having the “darkest” nature of all temperaments, i.e. grouchy, complaining, dissatisfied, anger- and violence-prone, and sexually jealous.

The foregoing observations are compatible with an oligogenic inheritance for affective disorder, subsuming recurrent depressions, bipolar II, manic-depressive illness, and schizobipolar psychoses (Akiskal, 2003, 2004; Kelsoe, 2003; Goodwin and Jamison, 2007), whereby the constituent traits in their soft expressions are adaptive in an evolutionary context (Akiskal and Akiskal, 2005b), and are associated with disease only in the extreme. The traits that are so characteristic of the affectively ill, broadly distributed in the community at large in their dilute forms, subserve such ethologically fundamental behaviors as territoriality, submissive behavior, play, romantic charm, and erotic jealousy. We have found that the anxious temperament, characterized by worrying about the welfare of family members, fosters dependency, attachment and marriage (Akiskal, 1998). It is noteworthy that the melancholic temperament is positively correlated with “harm avoidance”; the cyclothymic is positively correlated with both novelty seeking *and* harm avoidance (as if the latter was acting as a brake on risky behavior); whereas the hyperthymic is high on novelty seeking but low on harm avoidance, which would make such individuals relatively unfettered in risk taking (Akiskal et al. (2005c), comparing the TEMPS-A with Cloninger et al.’s (1994) TCI). Our data suggest that the putative social and limbic mechanisms underlying mood disorders appear to have archaic origins on an evolutionary scale (Akiskal and Akiskal, 2005b). These traits, underlying melancholia and mania, appear to be very much part of human nature!

3. Research on creativity and eminence

We would like to start with the observation that, even with a liberal definition of creativity, no more than 8% of a sample of bipolar I, II and unipolar patients can be considered creative (Akiskal et al., 1998a,b). This would suggest that creativity and bipolarity are related in a complex fashion. Thus, studies on eminence in the United States (Coryell et al., 1989) and France (Verdoux and Bourgeois, 1995) have shown that professional success is significantly higher in the clinically well *re-latives* compared to bipolar probands: the same finding holds up with creativity which appears mediated by cyclothymia (Akiskal and Akiskal, 1988; Richards et al., 1988). Although creative samples have a significant excess of bipolarity, full-blown manic-depressive illness is relatively uncommon (Jamison, 1993). Such data are compatible with the hypothesis that it is the dilute temperamental form of bipolarity which subserves eminence and creativity (Akiskal and Akiskal, 1988).

We have shown that among affectively ill patients at the Memphis Mood Clinic, psychotic bipolar patients had modest degrees of criminal behavior; unipolar depressive patients had low creativity and eminence, whereas artistic creativity and eminence were associated with the bipolar II subtype characterized by such temperaments as cyclothymic and hyperthymic (Akiskal and Akiskal, 1988). Furthermore, in blues musicians and Parisian painters and writers, our preliminary data suggest that creativity and eminence occur in individuals with the foregoing temperaments rather than manic-depressive illness (Akiskal and Akiskal, 1994). These findings and considerations are borne out by new data from Stanford (Nowakowska et al., 2005). They are also compatible with earlier findings from the Iowa writers’ workshop (Andreasen and Canter, 1974), and Kretschmer’s (1931) classical treatise on the psychology of men of genius.

The creative process may involve both the suffering of melancholia, the cognitive and/or perceptual vision associated with cyclothymia, and the energy of the hyperthymic. It is well known that the depressive and cyclothymic temperaments belong to the same factorial structure (Akiskal et al., 1998a,b). It is relevant in this context to also cite Stanghellini (2007-this issue), who reported some overlap between the melancholic and hyperthymic temperaments.

4. Toward an integration

Coming back to Aristotle, the Stagirian may have laid the foundations for much of subsequent queries on

creativity research. As a footnote to his great insight, we submit that the reason why creativity and eminence are associated with melancholia may be due to the fact that this disease often arises from cyclothymic and hyperthymic temperaments (Akiskal and Akiskal, 2005a), and the melancholia Aristotle is referring to is possibly bipolar II, or some territory in between. It is individuals with such temperaments who are possessed by intense passion and cognitive abilities for novelty and are willing to risk journeys into new realms, whether that be in philosophy, aesthetics, letters, science, politics, or leadership in various professional domains (Akiskal et al., 2005a,b,c,d). Pies (2007-this issue) provides a compelling description of Aristotle's vacillation between melancholia and frenzy and, interestingly, suggests that in the passage attributed to him, the Stagirian implied that "those who excel in the arts may be blessed by ...a humoral...effect...not too hot ...not too cold, but just right (eukraton)". Such a "balanced" mental state implicates a bipolar temperament, rather than the disease, in the creative process. On this basis, and in line with Aristotle, Andreasen and Canter (1974) have actually argued that artists may well be considered "healthier" than "normal" individuals. This is obviously a hyperbole, because "healthier" in this context refers to a value system, whereby being creative is the desired mental state which trumps or overrides the conventional notion of health as average and stable. To wit: creativity and eminence by their very nature are exceptional and beyond the statistical definition of the normal. Temperaments by their very nature occupy the somewhat unstable terrain between normality and disease.

Creativity and eminence are related, but distinct aspects of human endeavor. We did not mean to confound them here, and their relationship requires further research. Nonetheless, it is likely that creativity and eminence and leadership in different professional domains are related to distinct optimal mixes of temperamental and cognitive profiles (Wills, 2003; Akiskal et al., 2005a,b,c,d; Santosa et al., 2007-this issue; Strong et al., 2007-this issue). In other words, dimensions other than cyclothymia and hyperthymia appear contributory to creativity. Certainly talent is a necessary ingredient. How such factors and others (unmentioned here due to limitation of space) interact with the biography of the artist is beyond the scope of this commentary.

We have been collaborating with clinical scientists and epidemiologists from many countries to validate the concept of affective temperaments. (Akiskal and Akiskal, 2005a). The instrument is the TEMPS (the Temperament Evaluation of Memphis, Pisa, Paris and San Diego) and has been translated into at least 25

languages, and validated in 10. One of the most fascinating findings pertains to the hyperthymic, which is relevant to the question of leadership (Akiskal et al., 2005a,b,c,d). For instance, in Italy (Placidi et al., 1998), Lebanon (Karam et al., 2005), and Argentina (Vázquez et al., 2007-this issue), the hyperthymic is largely situated within the first and the second standard deviation. This would imply that at least in those specific cultures (i.e. Mediterranean or having their origins there), the hyperthymic is considered a super-normal, highly desirable trait. It may represent the most balanced of all temperaments; hence, given its energy, confidence, generosity and eloquence, the most suitable for leadership roles.

We wish to conclude with the reflection how much modern science, art and politics continue to derive their inspiration from the genius of ancient Greece. To paraphrase Bertrand Russell (1960), much of western thought is Aristotle plus footnotes to him. To return to where we began, the question of melancholia and intellectual and/or artistic eminence which has so preoccupied Western thought and art history (Klibansky et al., 1979; Schildkraut and Otero, 1996; Clair, 2005) may hinge on mixity, the co-existence of hypomanic elements in melancholia (Akiskal and Akiskal, 2007), which itself derives from the intrusion *into* or intersection of cyclothymia and hyperthymia *with* melancholia (Akiskal, 1992; Akiskal et al., 1998a,b). This is, properly speaking, the realm of the bipolar spectrum. In other words, manic-depressive illness, rather than subserving what is exceptional in human beings, appears to serve as the genetic *reservoir* of greatness. The price of greatness (Ludwig, 1995) is costly, but seems to reside in the subpsychotic interface of bipolar temperaments and affective disease, as hypothesized in the passage attributed to Aristotle.

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