


Historical Paper

Greek physician Asclepiades of Bithynia (124–40 BC) and his contribution to thinking about mental illness and its treatment

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Abstract

Objectives: To outline the life and work of Greek physician Asclepiades of Bithynia (124–40 BC), especially his contributions to thinking about mental illness.

Methods: Review and discussion of relevant fragments of Asclepiades' work that survive and review of secondary literature, supplemented by relevant systematic literature searches (e.g. PubMed).

Results: Asclepiades challenged the long-standing Hippocratic doctrine of the four humours and developed an approach to physical and mental illness that was humane, reasoned, and a forerunner of later developments in psychiatry. Asclepiades argued that the human body, like everything in the universe, comprised tiny, imperceptible particles, which he called *önkoi*, seamless masses in perpetual motion. In consequence, Yapijakis describes Asclepiades as 'the father of molecular medicine'. Asclepiades held that good health was maintained by free, balanced motion of *önkoi* through theoretical pores, while disease resulted from blockage or impaction of *önkoi* passing through pores in various body parts (e.g. brain). Based on this idea, Asclepiades recommended releasing people with apparent mental illness from confinement and using judicious combinations of diet, exercise, massage, bathing, and music to treat 'phrenitis' (delirium) and melancholia. He suggested that the physician act 'safely, swiftly and pleasantly' ('cito, tutu, jucunde') for both physical and mental illness.

Conclusions: Asclepiades belongs to the historical tradition of progressive medical approaches to mental illness, not least because he applied his principles for the treatment of physical illness to mental illness. His ideas about psychiatry set the scene for further evolution of attitudes to mental illness and its treatment over subsequent centuries.

Keywords: Asclepiades of Bithynia; Greek medicine; History of psychiatry; Mental illness; Molecular medicine; Treatment

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Introduction

Asclepiades of Bithynia (124–40 BC) was a Greek physician who practised and taught Greek medicine in Rome and made particular contributions to the understanding of mental illness at that time. Influenced by Epicurean philosophy, Asclepiades sought to construct a new theory of human disease, derived in part from atomic theories of chance and evolution earlier described by Democritus and Epicurus (Brady and Kelly 2023). Asclepiades challenged the long-standing Hippocratic doctrine of the four humours and developed an approach to physical and mental illnesses that was humane, reasoned, and, in certain ways, a forerunner of many subsequent developments in medicine and psychiatry. Yapijakis accurately describes Asclepiades as 'the father of molecular medicine' (Yapijakis 2009; Yapijakis 2017).

We have previously published a paper primarily examining Asclepiades' contribution to the understanding and treatment of

physical illnesses, among other matters (Brady and Kelly 2023). By contrast, the current paper focuses on Asclepiades' contribution to thinking about mental illness and its treatment. The paper starts by presenting an introduction to Asclepiades' life and work; outlines the paper's methodology; summarises Asclepiades' contribution to psychiatric thought; presents his particular views on 'phrenitis' (or delirium), melancholia, and their treatment; and draws relevant conclusions about Asclepiades' work and overall contribution to thinking about mental illness and its treatment.

Background to Asclepiades of Bithynia

Asclepiades was a Greek physician who practised and taught Greek medicine in Rome (Raynaud 1862; Wellman, 1908; Wellman, 1929; Rawson 1982; Polito 1999; Flemming 2012). Born in 124 BC in Prusias-on-Sea in Bithynia (the north-western region of present-day Turkey), Asclepiades is generally accepted by most scholars as being the first leading representative of Greek theoretical medicine to work as a practising physician in Rome.

When Asclepiades first arrived in Rome, his knowledge of medicine and philosophy, coupled with his considerable rhetorical skills and personality, allowed him not only to flourish as a

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physician but to be accepted into the intellectual and sophisticated aristocratic circles that existed in Rome during the late Republican period. Asclepiades boldly challenged the long-standing Hippocratic doctrine of the four bodily humours, as well as its 'benevolent nature' axiom.

Asclepiades held that a fully-fledged theory of matter was necessary for the understanding and practice of medicine and posited an innovative systematic medical theory that drew extensively on Epicurean atomism. Asclepiades argued that the human body, like everything else in the universe, was composed of tiny, imperceptible particles, which he called *önkoi*. According to his theory, these seamless masses were in perpetual motion, bouncing around forever within a void space, without having any providential intelligence at work in the universe to guide them. For more on this theme, see Leith (2009) and Leith (2012).

Asclepiades postulated that the *önkoi* were of different shapes and sizes, lacked colour and sensitivity, and possessed the capacity to aggregate together by chance to form larger masses that ultimately formed all of the components of the universe, including the human body. Unlike the indivisible atoms of Epicurus, Asclepiades held that these *önkoi* were capable of splitting into innumerable smaller fragments which could then move around in the void space.

In terms of medicine, Asclepiades created a theory that held that good health was maintained by the free and balanced motion of the *önkoi* through theoretical pores within the void space, while disease was the consequence of blockage or impaction of the *önkoi* passing through the pores at a particular part of the human body. Specific diseases resulted from blockages at different sites. Against this theoretical background, Asclepiades' practical approach to the management of physical and mental illnesses was reasoned and humane. In consequence, he is now considered a pioneer of modern physical therapy and the progenitor of a more humane approach to mental illness (see below).

Methodology

The methods of medical history differ from research methodologies in other areas of medicine (Burnham 2005). Systematic literature searches, common in other areas of medical research, are often insufficient for the medical historical literature. While systematic searches are helpful in identifying a certain portion of the recent academic literature, they need to be supplemented by interrogation of other historical sources, standard translations of particular works, and – where available – ancient texts. This multimodal approach is especially necessary in the case of Asclepiades.

Despite his historical significance, Asclepiades remains a relatively obscure figure in ancient medical history. None of his writings have survived apart from some fragments of his works in the works of other authorities. As a result, ancient testimony relating to Asclepiades comes from some 40 different authors (Cocchi 1758). In consequence, it is necessary to rely on the testimony of these later writers, whose views on Asclepiades are frequently inconsistent and often opinionated. This is especially true in the case of Pliny the Elder (23–79 AD) and, later, Galen (1299–200 AD) (Galen; transl. Brock, 1916). Against this background, the current paper is based on literature searches relevant to the paper's theme, consideration of the secondary literature, and review of relevant fragments of Asclepiades' work that survive (e.g. King 2001; Thumiger and Singer 2018).

For the literature searches, pertinent keywords ('Asclepiades', 'Ancient Roman medicine') were used to search for papers in

PubMed, Google Scholar, Brill, JSTOR, and the Loeb Classical Library, as well as general Internet searches. Relevant materials were identified and assembled, and further references listed as citations in these works were identified and pursued. Key ancient texts from this overview of the historical literature include *Discorso Primo Sopra Asclepiade* (Cocchi 1758), *On Acute Diseases and On Chronic Diseases* (Caelius Aurelianus; transl., Drabkin, 1950), and *On the Natural Faculties* (Galen; transl. Brock, 1916). These source materials are discussed in this paper.

Other ancient sources are not available in a primary format and are discussed in our paper based on secondary sources, as is customary in this literature. For example, it is believed that Hippocrates did not write any treatises, so we discuss the work of Hippocrates' followers based on a standard version and translation of the Hippocratic canon, that is, *Hippocrates: An English Translation* (Jones 1923).

Results

Asclepiades and psychiatric thought

In the second century AD, Celsus (a Greek philosopher; 25 BC–50 AD) proposed that there were three main types of mental illnesses: acute affections associated with fever (e.g. 'phrenitis'), chronic mental illness without fever (e.g. melancholia), and a particular chronic disorder that was generally characterised by mental confusion and hallucinations (although the term 'schizophrenia' was not used at that time) (Jackson 1986). Most of the other cases of aberrant behaviour were believed to be caused by the wrath of the gods or demonic forces (Gazmuri 2006).

Against this background, Asclepiades, as a practising physician in Rome, gained a considerable reputation as a physician for both his medical skills and his humane approach to treating physical and mental illness. Asclepiades was an especially strong advocate for the mentally ill (Yapijakis 2009). On his arrival in Rome to take up his medical practice, it was common for people who were considered to be insane to be locked in poorly lit, dark, and damp confining spaces, which were essentially dungeons. They were frequently placed in chain restraints or beaten, and often deprived of adequate food and water (Gerdtz 1994; Harris, 2013; Tzeferakos and Douzenis 2014). When these so-called treatment methods failed to appease the gods, it was not unusual for them to be put to death (Longrigg 2013).

Asclepiades believed that this approach was not only inhumane but medically wrong. His theory of disease causation made it obvious to him that mental illness occurred as the result of impaired *önkoi* in the brain, and barbaric approaches would only further misalign the *önkoi* in the brain (Thumiger and Singer 2018). As a result, Asclepiades' therapeutic approach to mental illness was essentially similar to his approach to physical illness.

First, Asclepiades advocated that patients should be released from their places of confinement so that they could be properly treated in the manner he suggested. During the initial stages of mental illness, Asclepiades' somatic treatments included measures to build up the strength and constitution of the patient, with an emphasis on rest, gentle massage, relaxing fomentations, a restricted diet (initially), and limited venesection or bloodletting (on occasion). He generally opposed the use of emetics and purgatives at this stage. When the patient showed signs of physical improvement, their treatment would gradually shift towards a normal diet, use of hot and cold baths (depending on the condition), and gentle, supervised physical exercise.

From a psychological perspective, Asclepiades recommended that the sickroom should be free of aggravating influences, including wall paintings that might excite the patient. Clinical management by trained servants (nurses) and physicians should deal sympathetically with the patient's hallucinations and delusions. This meant pretending to agree with them at times, in order to avoid over-exciting the patient, but also, when feasible, making corrections by pointing out the truth. Visiting was restricted, but occasionally a person whom the patient respected was brought in to help overcome agitation and resistance and to facilitate a calming atmosphere. Mental exercises such as reading, games, problem-solving, and discussing written texts were encouraged at appropriate times and during lucid intervals, as was travel, for its relaxing effect.

Witnessing drama performances was also recommended: mimes to counteract depression and tragedies to counteract hilarity (which was a term used for the condition which is now described as elation or mania in the context of bipolar disorder). Asclepiades particularly valued the use of music in the treatment of mental illness. He recommended different types of music depending on the nature of the case. For example, he suggested music in the pleasant Phrygian mode for depression, and music in the grave Dorian mode for cases characterised by childishness (Drabkin 1955; León-Sanz 2012).

Asclepiades, phrenitis, and delirium

The term 'phrenitis' or phrenosis was first employed in ancient Greek medical thought by Hippocrates and his followers. It was referred to as an affliction of the mind which was accompanied by an acute fever. The presumed location of the condition within the human body was never anatomically or conceptually determined. The word 'phrenitis' itself is derived from the Greek for 'diaphragm', which suggests that the condition might have been regarded as originating in the heart area. In keeping with Hippocratic thinking, phrenitis had also been attributed to an excess of yellow bile within the humoral system of the body (Jackson 1986).

The term phrenitis was mentioned by Asclepiades and later by Soranus (98–138AD), a Greek physician whose work was recorded in the fifth century AD by Caelius Aurelianus (1950). The concept of 'phrenitis' persisted up to the 19th century, when it was largely replaced by 'delirium', a term denoting a transient and fluctuating disturbance in mental abilities that results in confused thinking and reduced awareness of the environment, often owing to an identifiable physical cause (such as infection).

In his first book of his 'De Morbis Acutis', Caelius provided the Asclepiadean definition of phrenitis as 'static obstruction or blockage of the corpuscles (*ōnkoi*) in the cerebral membranes (meninges) which occurs frequently and without any sympathetic affection, but with mental alienation and fever' (Caelius Aurelianus, 1950). Caelius argued that Asclepiades' theory on the aetiology of phrenitis was that the cerebral membranes became heated due to the rapid movement of the *ōnkoi* as they moved towards the brain and the subsequent crowding of the *ōnkoi* on the brain membranes caused phrenitis.

For more of Asclepiades' views on phrenitis, it is necessary to look to Drabkin's translation into English of Caelius' Latin translation of Soranus' 'De Morbis Acutis et Chronicis' ('On Acute Diseases and on Chronic Diseases'), which was originally written in Greek (Caelius Aurelianus, 1950). Caelius' first book,

'De Morbis Acutis', is the best-documented account of phrenitis in the ancient literature. As a Methodist physician, Caelius was critical of what he felt were omissions by Asclepiades of what Caelius believed were important physical symptoms of the condition. According to Caelius, Asclepiades erred in trying to explain the cause of phrenitis, rather than focusing more on the signs and symptoms of the disorder.

This criticism of Asclepiades by Caelius is not surprising because Methodist physicians focused primarily on the visible signs of a disease, rather than its causes (Vallance 1990). Galen, in his treatise 'On Medical Experience', gave a different account of Asclepiades' management of phrenitis and, compared to Caelius, was more interested in attacking Asclepiades' corpuscular theory, rather than clinical details. In addition, Galen did not mention any of the signs of phrenitis which Asclepiades had mentioned and which were described and attributed to Asclepiades in Caelius' text.

Asclepiades' guiding principle in treating any acute medical condition such as phrenitis was that the physician had to act 'safely, swiftly and pleasantly' ('cito, tutu, jucunde'). Patients should be placed in bright, aerated, well-lit rooms, and never in dark surroundings. Adequate hydration with tepid water was recommended twice daily. As diet was a very important component of treatment, Asclepiades recommended easily digestible foods, in small amounts, three times daily.

Pliny said that Asclepiades condemned the use of enemas in the treatment of phrenitis, but this was not the case. In fact, Asclepiades advised that enemas could be considered in certain cases, depending on the individual's clinical situation. Asclepiades opposed purging, in keeping with his corpuscular theory. He also generally opposed bloodletting (venesection) in phrenitis, on the basis that the *ōnkoi* involved in phrenitis was very small, but plentiful, and would get obstructed in the interstices of the brain membranes and in the brain itself. Venesection, he argued, would lead to a deterioration in this condition.

In terms of the timing of treatment, Asclepiades believed that there were no 'critical days' of diseases, meaning that illnesses did not end at a definitive time. With this in mind, he suggested that physicians should manage phrenitis in a carefully staged manner. On the first day, he recommended giving little food but asking the patient to take plenty of cold drinks. He suggested offering a choice of drinks to the patient, but no wine at this point. On the second day, if the fever persisted, he suggested that there should be no solid food intake and fluid should be restricted. It was appropriate to provide moderate amounts of cold water twice daily. The patient should be watched closely during the second night.

By the third day, most patients would have started to improve, he believed. As their temperature started to fall, he encouraged soft solid foods. As they continued to recover, they could take more solid food, and by the seventh day, the patient should be eating bread and fish and taking small quantities of wine (Cocchi 1758; Green 1955). Overall, Asclepiades comes across as a thoughtful, careful physician, who would not take unnecessary risks with the management of patients with a serious medical condition such as phrenitis.

Asclepiades and melancholia

The word melancholia, or melancholy, is derived from the Greek 'melaena chole', meaning black bile (Bell 2014, p. 38). According to Hippocrates and his followers, melancholia was due to an excess of black bile, which would thicken and cause the

condition (Jackson 1983; Jackson 1986; Berrios 1996). In his 'Aphorisms', Hippocrates characterised melancholia as a mental disorder in which the clinical features of fear, sadness, and despondency persisted for an extended period of time (Jones 1923). Hippocrates held that melancholia could be associated with epilepsy on occasion.

When Asclepiades first arrived in Rome, it was common for the local physicians to administer a wide variety of herbal remedies in the treatment of mental afflictions, including melancholia. Such treatments included shaving the patient's head and then rubbing it with water infused with verbenae (a herb). Rose oil could also be poured over the head and into the nostrils. Some patients were advised to inhale rue (a herb) with bitter-sweet solanum (a plant traditionally used to treat tuberculosis).

Muralis (another plant), mixed with vinegar, could be rubbed into the head to alleviate delusions and sadness. Another form of treatment was a scalp rub remedy using saffron mixed with orris (root). Concoctions of poppy or hyoscyamus (papaver aut hyoscyamos) mixed with water were recommended for 'composing the mind', while other doctors suggested smearing the forehead with cardamomum balsam or sycamine tears (Scarborough 1969; Scarborough 1975).

Not all physicians agreed with this approach to melancholia. Celsus specifically records Asclepiades as saying that herbal remedies had no long-term benefit in melancholia. Asclepiades recommended an alternative approach based in large part on his five main principles of therapy: diet, exercise, massage, bathing, and music.

In his monumental eight-book treatise 'De Medicina', Celsus wrote generally favourably about Asclepiades and his treatments for melancholia. While Celsus was a distinguished Roman encyclopaedist, it is unclear if he was a physician. Nonetheless, he says of Asclepiades that 'by his concentration on dietetics, the healthy regime, as opposed to pharmacology or surgery, Asclepiades had introduced an entirely new epoch to Roman medicine' (Mudry 1993).

Celsus goes on to record Asclepiades saying that 'sufferers of melancholia respond differently to light or dark rooms with some preferring to be kept in dark rooms while others prefer well-lit spaces'. In that regard, Asclepiades argued that treatment depended on the individual patient and the physician should be sensitive to their needs, adding that 'neutrum autem perpetuum est: alium enim lux, alium tenebrae magis turbent' (i.e. 'neither way is always right: light upsets some and darkness upsets others').

Discussion

Summary of main findings

Asclepiades challenged the long-standing Hippocratic doctrine of the four humours and developed an approach to physical and mental illness that was humane, reasoned, and a forerunner of later developments in psychiatry. He held that the human body, like everything in the universe, comprised tiny, imperceptible particles, which he called *ōnkoi*, seamless masses in perpetual motion. Asclepiades believed that good health was maintained by free, balanced motion of *ōnkoi* through theoretical pores, while disease resulted from blockage or impaction of *ōnkoi* passing through pores in various parts of the body (e.g. the brain).

Based on this idea, Asclepiades recommended releasing people with apparent mental illness from confinement and using judicious

combinations of diet, exercise, massage, bathing, and music to treat 'phrenitis' (delirium) and melancholia. One of Asclepiades' greatest contributions was the fundamental idea that physicians should approach mental illness in a fashion that was similar to how they approached physical illness.

Limitations of this paper

This paper is subject to a number of limitations. First, none of Asclepiades' writings survive today, apart from some fragments of his works within the works of other authorities. As a result, ancient testimony relating to Asclepiades comes from some 40 different authors (Cocchi 1758). This means that access to his works is often indirect. This problem is not unique to Asclepiades: it is believed that Hippocrates did not write any treatises, so most discussions of his work, and that of his followers, are based on standard versions and translations of the Hippocratic canon, for example, *Hippocrates: An English Translation* (Jones 1923).

It is a further limitation of our paper that the testimony of these later writers and their views on Asclepiades are frequently inconsistent and often opinionated. We sought to compensate for these limitations by using multiple sources where possible and placing the views of other authors in their broader contexts. Even so, it would be preferable to have more direct access to Asclepiades' work.

Finally, the secondary literature in this field is dispersed across both the medical and historical literatures, making systematic literature searches challenging. We sought to overcome this issue by searching for relevant papers in PubMed, Google Scholar, Brill, JSTOR, and the Loeb Classical Library, as well as general Internet searches. Relevant materials were identified and assembled, and further references listed as citations in these works were identified and pursued. Nevertheless, it remains the case that systematic literature searches in the field of medical history are challenging and often imperfect.

Asclepiades and mental illness

Overall, Asclepiades' approach to mental illness was notably compassionate and thoughtful. He showed remarkable awareness of the nuances of behaviour, differences between delusions and hallucinations, and the idea of emotional disturbances as 'passions of the sensations'. With considerable justification, Asclepiades is considered by many today as a pioneer of a more humane approach to psychotherapy and psychiatry (Yapikakis 2009).

Asclepiades was not alone in urging a change in attitudes towards apparent mental illness around this time. Elsewhere, Chinese medicine and Ayurvedic traditions, for example, offered different explanatory models for illness and various treatment approaches (Scull 2015; p. 46). Ayurveda held that disease resulted from an imbalance of the *doshas*, or fluids in the body. Treatment depended on re-balancing these with a combination of medicines, diet, exercise, and rituals.

Asclepiades was especially interesting for the comprehensive application of his principles for the treatment of physical illness to mental illness, including diet, exercise, massage, bathing, and music. That, in itself, was a remarkable step forward at that time. Through the medical sect he founded and through his students and followers, Asclepiades' influence lasted almost half a millennium. His ideas about mental illness set the scene for further evolution of attitudes towards the mentally ill and their treatment over subsequent centuries including, arguably, today.

The impact of Asclepiades' ideas

Perhaps the clearest echoes of Asclepiades' ideas about mental illness and its treatment are discernible in the concept of 'moral management', which emerged in the asylums of the 19th century. In 1805, Jean-Étienne Dominique Esquirol (1772–1840), a French asylum doctor, defined moral management as 'the application of the faculty of intelligence and of emotions in the treatment of mental alienation' (Esquirol 1805; Brigham 1847). The moral management approach represented a significant break from the immediate past that had emphasised custodial care rather than engagement with each patient as an individual. Although its precise meaning was, at times, rather vague, moral management had the key benefit of representing a significant (although by no means complete) move away from interventions such as bloodletting, routine confinement, and restraint and a return to a more Asclepiadean approach to each patient as an individual.

Despite this promising idea, the apparently inexorable expansion of psychiatric institutions during the nineteenth and twentieth centuries saw the pendulum swing firmly away from the ideals of 'moral management' and back towards institutional care (Kelly 2016). A more Asclepiadean approach emerged again, however, in the latter part of the 20th century, as the asylums were gradually dismantled and approaches such as 'milieu therapy' appeared, involving a group-based approach to recovery and establishment of therapeutic communities (Carlson and Dain 1960). The more recent commitment to community-oriented care re-emphasises core Asclepiadean values, as does the availability of occupational therapy, art, and music therapies in inpatient centres, although these areas clearly still need further development in most places.

Today, many of the values that inform mental health care, at least in theory, continue to echo Asclepiades' approach, ranging from multi-disciplinary individual care planning to programmes aimed at reducing restraints and coercion in psychiatric settings. Contemporary iterations of these values tend to use the language of human rights, but the core moral ideas are highly consistent with Asclepiades' views: treating each person as a unique human who needs treatment, care, and support in the least restrictive fashion possible. As Asclepiades counselled, it remains the case that the physician should act 'safely, swiftly and pleasantly' ('cito, tutu, jucunde') to alleviate both physical and mental illness, whenever possible.

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