



Dickson, S. (2017) Rotation therapy for maniacs, melancholics and idiots: theory, practice and perception in European medical and literary case histories. *History of Psychiatry*, (doi:10.1177/0957154X17733176).

There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

<http://eprints.gla.ac.uk/148867/>

Deposited on: 10 October 2017

Enlighten – Research publications by members of the University of Glasgow
<http://eprints.gla.ac.uk>

Rotation therapy for maniacs, melancholics and idiots: Theory, practice and perception in
European medical and literary case histories

Dr Sheila Dickson

Senior Lecturer in German

School of Modern Languages and Cultures

University of Glasgow

G12 8RS

sheila.dickson@glasgow.ac.uk

Rotation therapy for maniacs, melancholics and idiots:

Theory, practice and perception

in European medical and literary case histories¹

Abstract:

This article examines the development and use of rotation therapy in the emerging field of psychiatry at the beginning of the 19th century, and the cross-fertilization between British, Irish, German, French and other European proponents of 'Cox's Swing'. Its short-lived popularity is linked to prevalent Enlightenment thought, to the development of an industrial and technological society, to the modern medical theories of irritability, and to the new practice of 'moral management' of the mentally ill. Case studies documenting the use of the Swing are considered from these perspectives, and are compared to contemporary public reactions in the form of publications in newspapers and of a literary text by German Romantic author Ludwig Achim von Arnim.

Keywords: European Enlightenment, rotation therapy, psychiatric case histories, Cox's Swing

The Swing is often cited in histories of psychiatry alongside the Shower and the Tranquilizer Chair as an instrument of torture inflicted on the mentally ill after chains and whips went out of favour in the enlightened eighteenth century.² Because it was so fashionable, so controversial and so short lived, the invention often referred to as Cox's Swing is a particularly good example of the evolution of psychiatric treatment in the period of its use, and it has already been identified and analysed as a 'medical and moral means' in the treatment of maniacs (Wade et. al., 2005). The intention of the following is to broaden the scope of the discussion by foregrounding the international context of this treatment. There are a good number of patient case histories documenting rotation therapy cross-referenced by its proponents, thus fulfilling the function Vasset identifies as intrinsic to medical cases, namely to trigger debate (Vasset, 2013: 33), and they did so in English-, French- and German-speaking professional circles.³ Additionally, the Swing gained a high profile in the public

sphere in these countries, where it became a focus for public criticism, being generally regarded with quite as much horror and incomprehension as it has been by subsequent generations.

The principles behind the Swing bear testament to the prevailing European Enlightenment *Weltanschauung*, with its reinterpretation of reason and unreason; the emergence of an industrial and technological society, particularly in the UK; the trendsetting medical theories of irritability, sensibility and excitability developed by Haller, Cullen and Brown that were influential throughout Europe; and the increased focus on empirical medicine, with practical experimentation and intensive patient-doctor interactions.

In 1787, Scottish physician James Carmichael Smyth published an extended documentation of the use of swinging in a case of pulmonary consumption. He differentiated between (active) exercise and (passive) motion, and reported his findings that the latter, most effectively through swinging or sailing, could provide the benefits of the former without the 'agitation, or succession of the body' (Smyth, 1787: 19). Smyth concludes with the opinion that the sedative power of motion might not just be useful for consumption, but could also 'when conducted with skill and integrity' be employed in a wide number of cases once his suggestions have been 'improved by the ingenuity and experience of future ages' (*ibid.*: 52f.). In the same year his compatriot, the distinguished Edinburgh physician William Cullen, referred to Smyth's pamphlet in his recommendation for the treatment of Mrs Moodie, suffering from phthisis, which involved 'putting her into a Sling and moving her backwards and forwards in a swing for half an hour at a time' (Cullen, 1787). The kind of swinging indicated here was that commonly practised for fun by children: 'I need not describe the Apparatus which every Girl and Boy is acquainted with', wrote Cullen. The movement itself sounded fairly harmless: 'At first she [Mrs Moodie] ought to be moved softly and to no great

extent, but by degrees these circumstances may be increased and particularly the extent of the Swing.'

The subsequent development of rotation therapy can be traced back to a figure with impeccable credentials as a representative of the Enlightenment, of empirical medicine, and of the Industrial Revolution, namely Erasmus Darwin. In the first volume of *Zoonomia* he recalls canal builder James Brindley describing how a rotating motion could send someone to sleep, which was often a problem when a person was in pain (Darwin, 1794: 218). In the second volume he cites Smyth, immediately suggesting a more effective construction and an increase in velocity:

A third method of inducing sickness, and consequent pulmonary absorption, is by the vertigo occasioned by swinging; which has lately been introduced into practice by Dr. Smith, [sic] (Essay on Pulmonary Consumption), who observed that by swinging the hectic pulse became slower [...]. The usual way of reciprocating swinging, like the oscillations of a pendulum, produces a degree of vertigo in those, who are unused to it; but to give it greater effect, the patient should be placed in a chair suspended from the ceiling by two parallel cords in contact with each other, the chair should then be forcibly revolved 20 or 40 times one way, and suffered to return spontaneously; which induces a degree of sickness in most adult people, and is well worthy an exact and pertinacious trial, for an hour or two, three or four times a day for a month (Darwin, 1796: 292).

Darwin expanded upon this idea in the third edition of his work, and added a drawing by another friend, James Watt, of how this rotatory couch might look (Darwin, 1801: appended to 436). Darwin also thought that swinging could reduce symptoms of somatic disease, but this was presented as a secondary consideration:

Another experiment I have frequently wished to try, which cannot be done in private practice, and which I therefore recommend to some hospital physician; and that is, to endeavour to still the violent actions of the heart and arteries, after due evacuations by venesection and cathartics, by gently compressing the brain. This might be done by suspending a bed, so as to whirl the patient round with his head most distant from the centre of rotation, as if he lay on a mill-stone. [...] By thus whirling the patient with increasing velocity sleep might be produced, and probably the violence of the actions of the heart and arteries might be diminished in inflammatory fevers (Darwin, 1801: 436f.).

Within the proto-psychiatric profession, these ideas were picked up by Joseph Mason Cox, who ran the Fishponds Asylum near Bristol between 1788 and 1818. Cox was a prominent figure in the treatment of mental illness. He is cited in histories of psychiatry as one of the new generation asylum directors who developed moral treatment on the basis of the authority of his person, his gaze, and often of theatrical scenarios to subdue or humour patients (Porter, 1995: 267f., Scull, 1983: 239f.; Foucault, 2009: 33-35, 129f.). It was Cox who first had a rotatory swing constructed, based on Darwin's proposals (he does not refer to Smyth's work), used it on a significant number of patients over a period of years at Fishponds Asylum, and published detailed diagrams and instructions for colleagues, as well as a series of individual case histories documenting its effects. His main work, *Practical Observations on Insanity*, first appeared in 1804, with an expanded edition in 1806, and a further edition in 1813 that no longer contained the case histories, for reasons of space. For Cox too, soothing and lulling to sleep was important, as this was difficult to achieve in all cases of madness,⁴ and he found that rotation treatment resulted in 'refreshing slumbers' more effectively than opiates (Cox, 1806: 140). William Saunders Hallaran, superintendent of the County and City of Cork Lunatic Asylum, who constructed a Swing in this institution 'modelled from the suggestion of

Dr. Cox' (Hallaran, 1810: 67), also published his conviction that, if used moderately, this treatment could induce restful sleep, and could be employed to soothe maniacs (ibid.: 62f., 66).

In this context, the Swing was just one more means by which to keep violent or raving patients safe and under control, and the ideas behind it were not exclusive to Cox. At around the same time in Italy, independently from colleagues in the UK and Ireland, Vincenzo Chiarugi was also advocating rocking to calm maniacal patients, whereby another patient would do the rocking:

To prevent a furious insane subject from coming to harm and getting into danger at night following his strange movements, I put him in a cradle in the air like a child [...] A quiet insane subject remains the whole night in the same room with him to keep him company [...] The quiet subject will have the duty to rock the cradle, whenever the furious one begins to scream and the rocking must continue until the former falls asleep. The work of the quiet one is generously rewarded the next day. (Young, 2015: 297)

Neither were these ideas totally new. Greek physician Asclepiades (c. 124 or 129-40 BC) recommended both rocking in beds, with accompanying music to soothe, and swinging, as means to relieve symptoms of disease and induce sleep (Magill, 2003: 139). Roman encyclopaedist and author of *De Medicina*, Aulus Cornelius Celsus (ca. 25 B.C.-ca. 50 A.D.), recommended rocking the mentally ill as one would rock a child (Müller, 1998: 21).⁵ In the latter context, George Man Burrows, another British exponent of Cox's Swing, recorded a practice attributed to the aboriginal inhabitants of the Himalaya mountains: 'When the mother wishes her infant to got to sleep, she takes it by an arm, and, aided by her knees, gives it a

violent [!] whirling motion, till, in a few moments, sound sleep is the unerring result.'

(Burrows, 1828: 600)

However, in the newly burgeoning commercial medical trade, Cox marketed his invention as much more than a way to keep maniacs calm: it was promoted as a cure for many different kinds of madness by means of its physical and psychological (in contemporary terminology medical and moral) effects on the patient, mainly as a result of the process by which, in the prevailing spirit of industrial efficiency and professionalism, the original concept of rocking and swinging became spinning and rotating. The professional aspect was particularly important for physicians who, defending their territory, insisted that the mentally ill required medical intervention as well as compassionate ministrations (Scull, 2015: 208-12). In his empirical trials, Cox established physical effects of rotation, such as dizziness and nausea, which were commonly believed to be beneficial as part of medical treatment, and represented therefore an alternative, cheaper and less complex, to the already long-established practice of sending a patient on a sea voyage to induce sea sickness as a cure for various ailments (Cox, 1806: 171f.).⁶ By means of further experimentation, he found that if the rotating movement was increased it became progressively unpleasant and often spontaneously induced vomiting, and that the paroxysm was so thorough that it excavated even the most tenacious phlegm or other 'ingested matters' (ibid.: 144; see also Hallaran, 1810: 65). Paul Slade Knight, medical superintendent of Lancaster County Lunatic asylum published a patient testimony confirming this:

Mary Sandiford, a very fine young woman, said to me on the 20th September, 1823,—'Putting me in the circular swing did me more good than any thing else: it threw all the sour stuff off my stomach.' Shortly after this, she recovered and was discharged well (Knight, 1827: 62).

The Swing was also an effective way to evacuate the bowels and bladder, another fundamental tenet of contemporary medical treatment, likewise derived from persisting beliefs in the benefits of purging associated with humoral pathology, and, as this was involuntary, it could be used as a mechanical replacement for drugs where a patient refused these remedies, or where they did not work.

That the Swing was indeed extremely successful in inducing physical reactions of fatigue, dizziness, vomiting, and the voiding of bladder and bowels, can probably stand unchallenged. But the Swing did not just have a purging effect, it also made an impression on the 'organs of sensibility', the brain and the nervous system; in other words, Cox argued, the remedy acted on the seat of the disease (Cox, 1806: 143). Underpinning these assumptions was the concept of a stimulus cure, derived from the Brunonian theories which defined all illness as either sthenic (too much excitement) or asthenic (too little excitement) and demanded external stimulation in both cases to trigger the power of internal excitability.⁷ The Swing's stimulating action was purported on this basis to reduce the violence of epileptic fits (Cox, 1806: 141, 174) and relieve 'consumptive or pulmonic symptoms', as Smyth had previously argued.⁸ But through the 'sympathy or reciprocity of action that subsists between the mind and body' (ibid.: 168f.), Cox saw its main application in the treatment of insanity. By producing alterations in the mind, such as fear, terror or anger, which led to the alterations in the body cited above, new associations and trains of thought were produced (ibid.: 169). This dual assault on body and mind seemed exactly what was necessary to cure certain types of mental illness. Irritability theory was combined with another contemporary medical premise, deriving from the philosophy of John Locke, that deviant behaviour was often due to the fact that an individual had lost contact with reality because s/he had become over-fixated on internal experiences (Porter, 1987: 188-92). Stimulation from the Swing, by regulating the action of the heart and arteries and 'unloading the vessels of the brain', that is, by either

increasing or decreasing sensibility, was claimed to render him or her sensible to external impressions, diminish 'a morbid determination towards the head, inducing new trains of thought and effecting the temporary and occasionally the permanent restoration of the reasoning faculties' (Cox, 1806: 170). This line of argument derives from the contemporary understanding of the mad person as an irrational creature who needs to be and can be brought out of a fantasy world that causes him or her to make erroneous conclusions about reality and proper behaviour, as interpreted by the doctor in particular and society in general (Schott/Tölle, 2006: 48f.).

While the kindness and encouragement of Enlightenment philanthropy was exemplified in the purely 'moral therapy' in asylums run by laypeople, the most famous being Quaker tea-merchant Tuke's York Retreat, it was combined with the salutary fear of Enlightenment pedagogy and legal authority employed by physicians and asylum directors.⁹ The main reason for inducing fear in a patient was to enforce compliance, however, it was also considered an effective means in restoring reason. If a person's mind is divorced from impressions from external objects and fixed on 'errors, absurdities and phantoms', Francis Willis, physician to King George III is reported to have reasoned, 'to inspire fear in him or her is to render them a service; when he fears, he begins to reason more correctly, to relate effects to causes, the past to the future' (Anon, 1796: 386; my translation). To cure a mad person, the doctor must therefore 'fix his or her attention by external means, even if this causes suffering' (ibid.: 386). In this enlightened, industrial and technological society, mechanical therapies were presented by doctors as humane and efficient methods to provoke the fear necessary to stimulate and shock the insane out of their imaginary world and recreate their connection with the real world. The baseline for the intensity and severity of the shock was the conviction, already expressed by Thomas Willis in the seventeenth century, that madmen are less susceptible to pain. They 'bear cold, heat, watching, fasting, strokes and

wounds, without any sensible hurt; to wit because the spirits being strong and fixed, are neither daunted nor fly away' (Willis, 1683: 250). On this point Cox wrote that 'no fact can be more rationally explained, for when the mind is intensely occupied, the body is proportionately insensible to the action of external agents' (Cox, 1813: 4).¹⁰ John Locke's ideas could also be interpreted as advocating methods to correct errors that were their equal in severity (Scull, 1993: 72f.). This assumption of insensibility justified interventions more extreme than a healthy person could endure, such as the Swing, in order to shock the 'morbid state of the intellect' out of its fantasy world (Cox, 1806: 142). One of the perceived advantages of the Swing was that its velocity could be regulated according to the physical effects desired (on a scale between nausea and 'unmerciful evacuation'[*ibid.*: 169]), but also according to the state of a patient's nervous system, that is, the treatment could be personalised for each individual, depending on their constitution and sensibility as diagnosed by the doctor, to have an optimum effect every time, with no extra cost or effort on the latter's part (*ibid.*: 140, 164-67, 170-72).

Cox's claims for the Swing as a treatment with a high success rate were founded not only on theoretical assumptions. He emphasised his practical experience with a wide range of patients in his pertinently-named *Practical Observations*. Case XIV describes a male patient, 'naturally of a gloomy, morose, reserved disposition', who, although he had been 'indulged in every wish of his heart from his infancy', became 'suspicious, revengeful, and impatient of control' (*ibid.*: 146-48). As the illness progressed, the patient became an automaton, 'seldom exhibiting any marks of existence but from the deepest sighs. His whole system was steeled against impressions.' When put in the Swing 'his attention was roused, and he made some violent but unavailing struggle', and begged to be released, promising compliance. After a deep sleep induced by the treatment he reneged on this promise, whereupon he was put again in the Swing, the velocity of which was increased so that vomiting replaced nausea, and the

Swing was stopped unexpectedly, after which the patient 'appeared roused and alarmed'. Subsequently, the patient reluctantly took a purgative, which worked, whereas three times taken 'in disguise' had had no effect. After that, the mere threat of the Swing, which the patient called the 'whirligig', was enough to ensure his compliance in a course of treatment consisting in a 'light nutritious regimen, with gentle exercise in the open air'. Cox 'had the pleasure to see him gradually improve till he advanced to perfect reason'.

This is a fairly standard medical case history of the time. Rather than as an example of a diagnosis or treatment plan, it is of far more interest now as an illustration of the kind of moral judgements passed by a mad-doctor in this period from the perspective of Enlightenment pedagogy on a character and behaviour type and on how these should be corrected and transformed. The power relationships are clear: the patient is given no voice and the doctor passes judgement with absolute authority, with which he justifies his professional status and scientific claims.

Although one might comment on the innate contradiction between indulgence and control on the part of unnamed others in this case, and wonder how 'seldom' the automaton did more than sigh and what this involved, more striking is the congruence between this individual's disposition and the stages of his illness. The latter seem to involve a progressive exaggeration of the former; a process of the patient closing himself off more and more from the outside world mentally (he only sighed) and physically (he did not evacuate his bowels, even when given purgatives), retreating, one can only assume, into an internal world. The Swing kick-starts his responsiveness to the outside world, both mentally and physically (he only needs a small dose of purgative), and he can make a complete recovery, claims Cox. His personal judgements on the borders between idiocyncracy and madness are presented as medical facts in the form of a monologue, which can be confirmed or disputed only by means of further case histories.

Quite opposite symptoms are described in Case XV, also male, of a 'florid complexion, mixt temperament, eccentric, ingenious and good tempered' (ibid.: 148f.). This individual became depressed, then unusually gay and flighty - which one might also consider an exaggeration of his normal temperament—before becoming violent, refusing medicine, and developing a voracious appetite—which might be interpreted as a kind of logical conclusion to the above. When put in the Swing it also had a quite opposite effect: 'his head fell on his shoulder, and his whole system seemed deprived of vigour and strength': an opposite reaction to the violent struggles of the previous individual. On being removed he slept for nine hours, 'woke refreshed', and thereafter, with 'much exercise in the open air, an occasional purgative, and a light nutritious diet he soon became convalescent, and advanced to the perfect enjoyment of health and reason'.

These two case studies argue that the Swing restores balance where madness has created an excess—either too much or too little stimulation or excitation—and where the relationship with reality is broken (the first individual does not respond to external stimuli, the second responds violently), or where, at least from the perspective of contemporary views of socialisation, it is deemed to be unsatisfactory (the second individual refuses unspecified medicine and eats with too much gusto). In both cases, symptoms of madness are extreme displays of what is described as the pre-mad state. The doctor reports that the second patient regains both 'health and reason', but actually this seems to be the same thing, as he is cured because he is now walking in fresh air, eating well, and has regular bowel movements. There is no mention of personality or demeanour after the illness in either case: is the first individual still gloomy, morose and reserved, the second still eccentric and of mixed temperament? It is the doctor who decides when behaviour and even personality is deviant, and when it is normal, and he bases this on his particular understanding of the descriptive

adjectives he employs. The subjective, non-scientifically grounded nature of diagnosis is a charge, of course, that has been made against psychiatry throughout its history.¹¹

Case XXL describes a very young female, only 15 years old (Cox 1806: 161-67). We are told that one single idea took entire possession of her mind or the most grotesque and incongruous imagery crowded on her intellect. Her ideas were unconnected with surrounding objects, being excited entirely by her imagination, with no connection, occurring in rapid succession. By suddenly stopping the Swing, some surrounding objects attracted her attention, 'though she reasoned absurdly about them'. Next time, her loquacity was interrupted, and surrounding objects, 'though they must have appeared indistinct and confused from the gyration', attracted her attention and became the subject of her conversation. By stopping and starting the Swing 'nausea and vomiting were excited as were the ideas by surrounding objects'. It became increasingly easy to divert her from 'absurd' trains of thought, until 'at length both health and reason were fully reinstated and I [Cox] have no hesitation in asserting that she was indebted to the above mechanical remedy for both'.

In this case history, the treatment aim is to regain a focus of attention on the outside world; focus on the internal world of the imagination being pathological. External objects are used to distract the patient's ideas. It is noteworthy that the Swing is reported to achieve this although or even because it renders these objects out of focus ('indistinct and confused'). Also striking is the combination of nausea, vomiting and ideas being excited, as described in one and the same sentence; a juxtaposition which illustrates vividly what Cox understood as the 'sympathy or reciprocity of action that subsists between the mind and body' (ibid.: 168f.).

A similar counter-intuitive regaining of focus on objects made 'indistinct and confused' is described by Burrows as a positive aspect of the Swing, which, he argues, interrupts the morbid association of ideas and even breaks 'the spell of the monomaniac's

cherished delusion' (Burrows, 1828: 602). He quotes one case in Rochester where this procedure 'completely broke the catenation of morbid ideas; and the dread of being exposed to it again, made the patient alive to every thing around him' (ibid.: 603). The patient would, it seems, rather focus on his surroundings than have these surroundings turned into a blur by external, mechanical means.

In a study of mental illness, Alexander Haindorf, who lectured in Heidelberg, Göttingen and Münster on mental illness, defined vertigo in very similar terms to madness as 'the lost relationship of the inner senses to the objective world', and this might indicate that physical vertigo was created by swinging to dispel mental vertigo (Haindorf, 1811: 66). Be that as it may, the 'Swing-doctors' saw themselves as pioneers whose initial goal was to develop new treatments through empirical trials, even if it was not clear why they worked. Cox's justification for using the Swing was pragmatic; based on the positive results in the cases he recorded:

Though we cannot accurately explain in what way the best remedies promote relief in madness yet we have the most unequivocal proofs that those which occasion a degree of vertigo, often contribute to correct the morbid state of the intellect and no one of them is so well calculated to produce this effect as the swing (Cox 1806: 142).

Cox's Swing was discussed, exported and developed over a period of some 20 years. Colleagues referred to his case histories and used his published instructions to have their own Swing constructed. There was correspondence between them on technical issues and sharing results.¹² In Ireland, Hallaran adapted the construction of the Swing to accommodate four people at once, thus making it an even more efficient mechanical treatment (Hallaran, 1810: 67). Benjamin Rush, inventor of the Tranquilizer Chair, also developed a Swing, which he dubbed the 'Gyrater', for use in the Pennsylvania Hospital after reading Cox's work. He

believed this machine induced 'a centrifugal direction of the blood towards the brain' and could either increase or decrease the pulse, in other words increase or decrease excitation, concluding that it was a 'cheap contrivance' (Rush, 1812: 225).

Even before Cox's work was translated into German in 1811, Ernst Horn, the first practising psychiatrist at the Charité in Berlin, introduced rotation therapy there; first a bed in 1807, then, at an unspecified later date, a chair (Horn, 1818a: 219, 226). In two publications from 1818, an article published in a new journal for psychiatrists co-edited by Horn and in a monograph giving an account of his 12 years at the Charité, Horn described his slightly adapted version of Cox's invention, with detailed drawings and information on sizes, materials and costs (Horn, 1818a:¹³ 227-30; Horn, 1818b: 224f., 328-31). Horn details his many successes with the Swing in his article, but rather than give details of individual case histories as Cox did, he describes the subjective perception of both healthy and mentally ill persons who had experienced rotation therapy. Horn shares the same medical premises as Cox, derived from Brunonian and Lockean theories, and he also presupposes that the mentally ill perceive things less intensely or differently.¹⁴ However, after quoting a selection of descriptions given by a healthy individual of the experience in the bed or chair, such as doctors who try it out for themselves, he adds that the mentally ill depict their experience in similar terms (Horn, 1818a: 220). His claims regarding the length of time a healthy and mentally ill person can put up with the movement are similarly contradictory, as he says that healthy people can stand no longer than a few minutes, the mentally ill for longer, but hardly anyone more than 1½ minutes. He asserts that the length of time depends on the sensibility of the individual and does not recommend this treatment for nervous people (Horn, 1818a: 219-24). Horn thus provides evidence of the very individual nature of the experience of the swing, depending on personality and state of mind. It may also be surmised on this basis that his

diagnosis of madness was based on a sliding scale of behaviour similar to that identified in Cox's case histories.

Horn recorded body temperature, heart rate and pulse, change of pallor, bloodshot eyes in relation to speed of rotation as evidence of his empirical approach (ibid.: 222). More interesting are the descriptions of how, when subjected to rotation, 'you think you cannot breathe any more, you become apprehensive, frightened; it becomes difficult to speak; you get the feeling that your throat is being constricted and your head forcibly pulled off' (ibid.: 220; all quotations from this work are in my translation). He notes the existence of fear of being thrown out, even by a healthy person who has been shown in advance that he is safely secured, and 'the unpleasant feeling of a strange emptiness inside your head, which some describe as being as if all the blood had drained out of your head' (ibid.). Cox had recommended suddenly stopping the rotating movement of the machine to increase its effect and Horn records this as creating 'an extremely importunate feeling of violent agitation in the body, with vertigo and nausea, but in such a way that renders a more detailed description impossible, as there is no sensation in normal life with which it could be compared' (Horn, 1818a: 220f.). The effects documented are both mental and physical, and all sensations are described imprecisely as 'unpleasant' and 'strange'; the participants feel things happening to them that they know have no basis in reality; the experience is like nothing else and cannot be put into words. Although this is not directly the patient's voice it is a recognition of the extremely personal nature of this ordeal—so personal it cannot be articulated precisely—and, as such, it is clearly a complement to the doctor's view recorded by Cox. Moreover, with respect to certain reported physical changes, Horn reported clear differences between the two perspectives of personal experience and medical observation, thus drawing attention to the predominantly mental and subjective effects of rotation:

Although most complain of constricted breathing, of a very strange and extremely troublesome feeling of discomfort in the chest and body, for the doctor there is scarcely any noticeable change in breathing. The number of breaths in a set time is not as a rule noticeably increased (Horn, 1818a: 221f.).

A survey of the current state of rotation therapy along with a collection of case histories was published by Joseph Guislain, a leading psychiatrist in Ghent, in 1826. He takes Cox and Horn as his starting point and also reviews other colleagues' development of what he calls a 'promising treatment method' (Guislain, 1826: 402; all quotations in my translation). His work is a good example of how case histories are used to trigger debate as he translates Cox's case histories before adding his own, which relativize or even contradict Cox's findings (ibid.: 374-404). In one case Guislain records how a patient subjected to rotation therapy for 25 minutes experiences no physical effects at all (ibid.: 381-83). In documenting some of his own successes he emphasises that it is not clear if the improvement was due to the Swing or other factors (ibid.: 387). He agrees with previous reports that the treatment is often effective in cases where a patient refuses to eat (in other words, as a 'means of coercion' [ibid.: 389]) and is the best way as a curative method to prevent or render less severe what Pinel defined as periodic or intermittent insanity (ibid.: 383-91). Like Cox, Guislain admits ignorance of how the Swing actually works as a cure, and he uses one case to illustrate specifically

how far we still are from knowing the intimate nature of mental illness; it only goes to show the extent to which, while recognising the positive effects of rotation, we are still very far from being able to demonstrate clearly the real way in which this agent works on the living body of man (ibid.: 387; see also 401).

The Swing was not used after around 1830 as the trend towards non-restraint gained in force, particularly in the UK through John Conolly and Robert Gardiner Hill, more

sporadically in Germany and France through individual psychiatrists such as Wilhelm Griesinger, Caspar Max Brosius, Ludwig Meyer, Jean-Etienne-Dominique Esquirol and Bénédict-Augustin Morel (Schott/Tölle, 2006: 247-50). Esquirol claimed that he was the first physician in France to make a model of this machine, but that he did not use it because it exhausts the patient, which in his view is not a good way to cure, however, he did still acknowledge its usefulness if a patient refuses all medicine or has a gastric disorder (Esquirol, 1838: 1; 479, 56; 2; 215). Over a century later, the cultural historian Michel Foucault used the Swing as an example of the torture inflicted on the bodies and minds of the incarcerated in this period. He quotes Cox's case history XIV as an illustration of the fact that movement was no longer a means of restoring the patient to the truth of the world that surrounded him (e.g. by encouraging him to walk or ride, or sending him on a journey), but 'simply an attempt to bring about a number of internal changes of a purely mechanical and psychological variety' (Foucault, 2009: 318-22; quotation 321). The cure

no longer revolved around a core idea of truth, but was dominated by the idea of a behavioural norm instead. In this interpretation of old methods, the organism was merely brought into line with itself and its own nature, whereas in the initial version, the drive was towards repairing its relation with the world, its essential link to being and truth (ibid.: 321f.).

I would argue on the contrary that this case history and the others quoted above demonstrate that the motivation of Swing therapy was indeed to reconnect self and world as understood by a group of mad-doctors who promoted it as a sophisticated advance in shock treatment; it could be tailored to each patient's affliction and constitution to dispel the fantasies of a morbid imagination and restore Enlightenment perceptions of reality, truth and reason. At the same time it is undeniable that the Swing was used as a power mechanism, exploited simply to render patients obedient rather than relax them or restore healthy levels of stimulation. Cox

highlighted its efficacy in rendering the body quiescent, and 'the system sensible to the action of agents, whose powers it before resisted' (Cox, 1806: 139). He called it an 'excellent mode of secure confinement, and of harmless punishment' (ibid.: 140). Hallaran advertised its usefulness to establish a supreme authority over the most turbulent and unruly (Hallaran, 1810: 60), while Horn cited his experience that

melancholy, stubborn and disobedient patients are made orderly and obedient. [...] Quiet, passive, workshy mentally ill patients are roused and rendered excited by its use, and this machine provided a means to make them receptive to the demands of the house rules and the discipline of the asylum (Horn, 1818a: 223f.).

This was important for patients who remained in the asylum: Once discharged a patient could be as morose or excitable as s/he pleased, but the inmate of a psychiatric institution had to be docile. For them, of course, the threat of the Swing was omnipresent. Burrows saw a use for the Swing 'where no expectation of a cure has been entertained' as 'a few trials have produced a wonderful improvement in manners and behaviour' (Burrows, 1828: 602). This seemed to go as far as bringing about a change in personality: 'Where the degree of violence has been so great as to compel a rigid confinement, the patient has become tractable, and even kind and gentle, from its operation' (ibid.: 602).

Some disappointingly brief case notes from the Glasgow asylum published in a collection of primary texts, show that the Swing was used as a punishment:

Georgina Ferguson, private case

1st admission 20/7/1822

Sept. 21 1822. Refuses to sew or amuse herself in any way. To use the rumbling chair.

Sept. 23. Still refuses to do any thing. Let her be put in the whirling chair.

Sept. 24. Was in the chair for an hour would not promise to sew, or do any thing. Was very sick and vomited several times. (Qtd. in Brunton, 2004: 245)

This is even more explicit in a Swedish doctor's notes on visiting the Sonnenstein Asylum near Dresden (where Daniel Schreber would later write his memoirs):

If a remedy of more than temporary nature is desired for curbing the patient's unrestrained activities, but also to discourage him from continued actions of the same type, then the so called rotating chair is called for [...] After having committed some irrational and spiteful act, the patient is forthwith placed on the rotating chair and revolved at adjusted speed until he becomes quiet, apologises and promises improvement, or until he starts to vomit (trans. and qtd. in Wade et. al., 2005: 78).

The fact that the Swing was used by physicians to assert dominance over unruly patients or to punish them was quickly noticed by contemporaries, long before Foucault expressed indignation. Even if lay persons did not read the tracts and case histories referred to above, these works were reviewed and discussed in the national and regional press. Moreover, the treatment of the mad was a subject of general interest at this time, and if information about new developments and theories made popular reading, this was even more the case with horror stories from the asylum. Some of them originated from lay reformers, and some from influential figures within the medical profession, such as William Battie in London, Johann Christian Reil in Halle and Philippe Pinel and subsequently Jean-Etienne Esquirol in Paris. In addition, madness and enforced incarceration became literary topoi within the gothic novel ('Schauerroman' in German, 'roman noir' in French), giving the reading public access to numerous often lurid accounts.

Negative public opinion in Germany became focussed on Horn, who was put on trial for causing the death of a patient—though not through use of the Swing—and who carried

out a very public campaign to clear his reputation, which was countered at every stage by his professional adversaries, who went into great detail on the methods he used (Yamanaka, 2003). In Britain, a letter in *The Times* dated 17 August 1827 challenges a report that the Swing has been used to good effect in Berlin by arguing that in England and Ireland 'to my certain knowledge the most disastrous consequences have oftentimes resulted from it'.¹⁵ Members of the public could also inform themselves on the Swing by visiting public asylums, which was a fashionable passtime for both the concerned and the curious. After visiting St. Luke's in London, Charles Dickens wrote an oft-quoted damning description of 'practitioners of old' who employed, among other instruments of torture, 'swings dangling in the air, to spin him [the patient] round like an impaled cockchafer' (Dickens, 1852: 385). In spite of the best efforts of Cox and his colleagues, the new, modern, scientific methods did not seem any different to the old, discredited treatment of the insane through restraint, punishment and torture, and throughout Europe they were perceived by the public as such.

In literature, the Swing as a method of treatment played a role in a fictional tale, of which two versions are known: one in German and one in English. In October 1817, around the same time as Horn published the defence of his methods at the Charité, a short story by the Romantic writer Achim von Arnim entitled 'Frau von Saverne' appeared. An anonymous story called 'Madame de Saverne' was published in the *Dublin University Magazine* in 1845.¹⁶ Either the latter is an expanded translation of Arnim's work or both narratives are based on a third, as yet undiscovered source. In the following I will refer to Arnim's work, due to the proximity of its publication date to the period of the Chair's use.

Arnim tells the story of a woman from the provinces who so venerates the King of France that she goes to Paris to see him. This adulation is no longer fashionable in the capital and she is considered eccentric. When she gives money to beggars and it becomes clear she is rich as well, she attracts the attention of an unscrupulous police official who has her

pronounced mad and locked up. Although a doctor confirms her madness, it is a lay person—a representative of the state—who achieves her incarceration for his own reasons, making a dupe of the mad-doctor. Saverne has no family, and she has also distanced herself from friends who might have helped her. Members of the public feel pity for Saverne and try to intervene, but when the policeman whispers something in their ear they distance themselves and shrug their shoulders at her pleas for help. This situation does seem to mirror that described by Foucault in his lectures on psychiatric power, in which he characterised the putative mad person at the beginning of the nineteenth century as removed from the jurisdiction of the family to appear within 'a State-medical field, constituted by the coupling of psychiatric knowledge and power with administrative investigation and power' (Foucault, 2006: 96).¹⁷ Arnim certainly presents the woman as very vulnerable, and state and medical power as corrupt and unassailable. His narrator characterises the policemen of the time as crude, impertinent and cruel and calls the profession an 'abhorrent occupation' (Arnim, 1990: 967; all quotations in my translation). Arnim's highly critical stance towards the Prussian state machinery is well documented, and it is expressed indirectly here of necessity in the climate of censorship. Also typical for his work is the focus on how individuals can exploit power and how the system promotes and rewards incompetence (Wingertzahn, 2010: 65). His sceptical view towards the medical profession is articulated here as in other prose works in the presentation of the doctor as pompous, ignorant and totally without empathy (Dickson, 2016: 250).

Once in hospital, Saverne is subjected to rotation therapy:

In the morning she composed herself with prayer, quelled her vehemence, tried to bring her judiciousness to the fore, and was very calm when the same strange gentleman who had previously visited her [...] came into the room. He was called Doctor by those accompanying him, who looked like students wanting to make

themselves look experienced in front of patients. One of them stepped towards her and asked whether the King was not the most handsome man in the whole of France. She answered, 'Not only the most handsome but also the best, but he has many bad servants.' When she had said this, the doctor made a gesture; she was placed in a chair by strong men and spun round so thoroughly that she thought she would die. She had scarcely been taken out when she was asked again about the King, and, exhausted, she replied, 'He cannot protect his many children, God have mercy on us!' 'It has already helped,' said the Doctor, 'Continue with the same procedure every day, madness has been induced by a sedentary lifestyle, political mania and unfulfilled ardour.' (Arnim, 1990: 970)

The doctor is using up-to-date Brunonian diagnostic techniques. Saverne does have a fixed idea, and this treatment is aimed at shocking her out of her fantasy world into the real world and rational behaviour. But the fact that, until recently, all French women had worshipped the King in the same way as Saverne did, demonstrates how subjective this is: Saverne's behaviour is not irrational; it is just unfashionably out of date. The state, medicine and society at large pronounce judgement on Saverne on the basis of their own narrow-minded and self-interested beliefs. Parisians in general cannot comprehend that someone would give away money, and one Parisian exploits this to place her in his power. Arnim's plot plays to contemporary fears of how a person can be locked up, unable to prove their sanity:

She soon realised from what the Doctor's foolish students were saying that her worship of the King had given rise to this view, her generosity had increased it, and her reclusiveness had confirmed it for everybody. But was it not possible to make all this clear to the Doctor? She often tried to, but she had barely spoken a few words when the Doctor smiled complacently and sent her to the terrible rotating chair. Her courage grew with her despair; no rotation could stifle her loud denunciation any

longer; she was plunged into water, nothing conquered her complaints about cruelty; the Doctor explained to the students that the woman was incurable, and in doing so spoke really sincere words of pity about her state. She could not be angry at him; perhaps he would have been a competent veterinary, an unlucky fate had put him in charge of people. (ibid.: 971)

Trying to reason with the doctor, to explain how her behaviour has been misunderstood, is counterproductive. If she claims she is sane and complains that her treatment is cruel, this confirms her madness. Nothing she says or does can disprove the doctor's diagnosis and the only way she could be considered cured is for her to change her verbal response to the question about the King. Foucault cites similar confrontational scenarios to illustrate his understanding of early nineteenth-century asylum treatment as a struggle of wills between doctor and patient, which must end in the victory of the former over the latter (Foucault, 2006: 9-11, 144-59). What is required, argues Foucault, is not that the patient change perception: 'What is asked of him [...] is that he avow it.' (ibid.: 159) Saverne does not do this and is deemed incurable, but Arnim's story portrays the medical man as a naive fool and the police official as arch manipulator: it is he who offers Saverne a way out for his own gain—he will help her if she will marry him, which will give him control over her fortune. He then achieves her release by claiming that as she is incurable she should be placed under his jurisdiction, taking her away from the asylum with no questions asked, not even by the doctor, who joins them in Versailles and takes retrospective credit for her return to health. At this point Saverne does say what he wants to hear—agreeing that her recovery was due to his marvellous invention of the rotating chair, presumably followed by a period of convalesce with the aid of gentle exercise and a nutritious diet—apparently accepting the treatment and thus his version of truth and reality.

Saverne does not only escape incarceration and treatment by torture, she gets her revenge on both adversaries by trapping them in a mill room with a rotating floor and forcing them to run in circles to the point of exhaustion.¹⁸ The fact that these men have to do the work usually done by donkeys is a clear articulation of Arnim's view of physicians and policemen. The doctor emerges with a first-hand understanding of why his patients do not like rotation therapy and resolves to discontinue it. Arnim's narrator concludes with the old topos that doctors should always try out their own inventions, which, if we believe Horn, is exactly what they did: in the firm belief that madmen perceived physical sensations differently.

Arnim shows how Saverne's personality does change as a result of her ordeal. She develops a healthier attitude to others which prevents her from being exploited again through developing a more secure self-belief and a more mature relationship with others, in particular a love relationship. By the end of the story she cannot look at an image of the King without feeling shame and anxiety. Playing devil's advocate, one could suggest that she was indeed cured by rotation therapy, even if not in the way the doctor intended, but the Swing is undeniably presented as a cruel and pointless torture treatment and any modern scientific pretensions discredited. Arnim presents the perspective of the patient who, in the view of the doctor and of many lay observers, is mad, but the character Arnim draws is eccentric rather than ill, and is confined for highly dubious non-medical reasons. By virtue of *not* being a medical case history 'Saverne' highlights the subjective nature of psychiatric diagnosis and the consequences of its abuse.

The highly negative public reaction to the Swing was certainly one factor in persuading physicians to stop using it. Burrows claims that he did not construct one because of 'morbidly sensitive' public opinion, which meant that 'no medical man dares follow the dictates of his better judgement' (Burrows, 1828: 605). He complains bitterly: 'In every other

disease, in surgery, in midwifery, when the occasion demands it, the most hazardous practice or operation is attempted. If it do succeed, the physician or the operator is a deity.' (ibid.: 606)

If the psychiatrist tries an experiment, on the other hand, and it does not succeed, his reputation and even his life will be ruined. He refers to the reader's letter in the *Times* quoted above with sarcastic incredulity:

This anonymous writer, in ignorance of facts, and adopting the morbid sensitiveness of modern pseudo-philanthropy, talks of 'a mind diseased,' and instructs us that patient endurance and kindness of heart are the only effectual remedies for insanity! (ibid.: 606)

But in the light of public criticism and an increasing number of physicians remaining unconvinced by the results obtained, the Swing was discontinued or used voluntarily as a pastime by patients. Hallaran even recommends it as recreation for 'idiots' (that is, the most severely mentally deficient):

Powerful as this contrivance has hitherto proved, still, in some cases, where its influence was much sought for, it has had but trivial effect, though put in motion to its full extent. The idiots belonging to the establishment have used it sometimes when permitted, as a mode of amusement, without any inconvenience or effect whatever and others during the intervals, with equal satisfaction; who, on the return of the paroxysm, have not been found able to resist its most gentle rotation for five minutes in continuance. (Hallaran, 1810: 67f.)

Horn too recognised that those patients who had descended into the most extreme state of torpor were not affected and saw it as an amusement (Horn, 1818a: 224), and this would have tallied with their premise that a mentally ill person's response to stimulation and shock was diminished in direct proportion to his or her madness.

It was the fun element of rotation that lived on outside the medical context (Wade et. al., 2005: 84). Within medicine, the Swing was later reinvented to test vertigo, and is still used to measure inner ear function and for astronaut training (ibid.: 82). As for Cox's Swing, by considering the historical, cultural and medical background to its development, and professional and public responses to it in English, French and German texts, I suggest that it can be seen both as an illustration of the pioneering belief in curability and an optimistic conviction in progress held by the first generation of professional psychiatrists, based on the most up-to-date therapeutic assumptions, and as an absurd treatment or means of torture in the eyes of the general population in this period. Without advocating or justifying the Swing, nor playing down the suffering of numerous patients, it is possible to understand the medical theories behind it, just as it is profitable, in the light of subsequent incredulity, to appreciate how similar the contemporary layman's response was to our own.

Notes

1. I am very grateful to Roswitha Burwick, Malcolm Nicolson, Ricarda Schmidt and Neil Vickers for reading drafts of this paper and making many pertinent suggestions.
2. See Scull, 1983: 242f., Porter, 1987: 221f. Also relevant is Foucault, 2006: 144.
3. On the development and function of the medical case history in the Enlightenment period see Düwell/Pethes, 2014, Passeron/Revel, 2005 and Vasset, 2013.
4. In this paper I have used contemporary terminology, such as 'mad' and 'mad-doctor'.
5. Various other classical sources are cited by Cox and his contemporaries (Cox, 1806: 152, Burrows, 1828: 600, Guislain, 1826: 375, Smyth, 1787: 1).
6. Sailing is also discussed by Smyth. Darwin has a chapter on vertigo as an effect of rotation in *Zoonomia*.
7. See Schott/Tölle, 2006: 421-25, Tsouyopoulos, 1988: 67. Cox uses Brunonian terminology without further explanation (Cox, 1806: 80, 86, 112, 168f., 171), in line with his declared aim of avoiding all abstract reasoning (ibid.: ix).
8. Smyth also bases his investigations on the principles of irritability (Smyth, 1787: 18, 20, 36, 49).
9. Cox espouses acting towards the mentally ill with 'the principles of genuine philanthropy' and defines his main aim in moral management as 'to make ourselves feared and loved', achieved through 'the judicious allowance of indulgences, and the employment of irresistible controul [sic] and coercion', Cox, 1813: 84. Scull compares the eighteenth-century methods of taming madmen through fear with nineteenth-century 'domestication' (Scull, 1983: 234), using Cox as an example of the latter group (ibid.: 239f.).

10. Added as a footnote to the 3rd edition of Cox's work.
11. Duffin, 1999: 276, Burns, 2006: 6-11, Hunter/McAlpine, 1963: vii, Scull, 2015: 14f.
12. Reference is made to correspondence in Cox, 1806: 175, Cox, 1813: 173f., Horn, 1818b: 226.
13. In the same volume of the periodical *Zeitschrift für psychische Aerzte*, Horn's co-editor, CAF Hayner, later in Colditz institution one of the first 'no-restraint' proponents, lists Cox's Swing in an overview of mechanical devices used in asylums and provides detailed diagrams of his own version, along with five pages of instructions on materials and sizes (Hayner, 1818: 355-66).
14. Horn is best known for his would-be therapeutic use of the Sack, into which a patient was tied to reduce stimulation, whereas the Swing would increase it.
15. Published Saturday 18 August 1827, on the letters' page (3). The report was published on Thursday 16 August, under 'News' (2) (*The Times Digital Archive*).
16. See Wingertzahn, 2010. The English version is reproduced in this essay (67-82).
17. Foucault takes the 1838 asylum law as instrumental in this change, but cites the 1790 law as already shifting power to the state (Foucault, 2006: 95).
18. This is similar to another mechanical therapy, the Wheel, constructed like a modern hamster wheel, in which patients were made to walk or run (Hayner, 1818: 339-50).

References

- Anon. (1796) Détails sur l'établissement du Dr. Willis, pour la guérison des aliénés. *Bibliothèque britannique. Littérature* 1: 759-73. Reprinted in *Annales medico-psychologique* (1848) 1: 380-90; accessed (9 Sept. 2016) at: <http://psychiatrie.histoire.free.fr/sources/revues.htm>.
- Arnim LA von (1990) 'Frau von Saverne' in: *Sämtliche Erzählungen 1802-1817*. Ed. Renate Moering, 963-75. Vol. 3 of Burwick R, Knaack J, Lützel PM, Moering R, Ricklefs U, and Weiss HF (eds) *Ludwig Achim von Arnim. Werke in sechs Bänden* (1989-1994). Frankfurt/Main: Deutscher Klassiker Verlag.
- Brunton D (2004) *Health, Disease and Society in Europe 1800-1930. A Source Book*. Manchester: Manchester UP.
- Burns T (2006) *Psychiatry. A Very Short Introduction*. Oxford: Oxford University Press.
- Burrows GM (1828) *Commentaries on the Causes, Forms, Symptoms, and Treatment, Moral and Medical, of Insanity*. London: Underwood.
- Cox JM (1806) *Practical Observations on Insanity*. 2nd ed. London: Baldwin and Murray.
- Cox JM (1813) *Practical Observations on Insanity*. 3rd ed. London: Baldwin and Underwood.
- Cullen W (1787) From Dr William Cullen / To: Mr William Farquharson / Regarding: Mrs Janet Moodie / 9 March 1787. *The Cullen Project. The Consultation Letters of Dr William Cullen (1710-1790) at the Royal College of Physicians of Edinburgh* [ID: 5421]; accessed (9 Sept. 2016) at: <http://www.cullenproject.ac.uk/docs/5421/>.
- Darwin E (1794) *Zoonomia; or, the Laws of Organic Life*. Vol. 1. 1st ed. London: Johnson.

Darwin E (1796) *Zoonomia; or, the Laws of Organic Life*. Vol. 2. 2nd ed. London: Johnson.

Darwin E (1801) *Zoonomia; or, the Laws of Organic Life*. Vol. 4. 3rd ed. London: Johnson.

Dickens C (1852) A Curious Dance round a Curious Tree. 17 Jan. 1852. In: *Household Words* IV: 385-89; accessed (9 Sept. 2016) at: <http://www.djo.org.uk/household-words/>.

Dickson S (2016) Krankheit als romantischer Alltag in Achim von Arnims 'Der tolle Invalide' und 'Frau von Saverne'. In: Walter Pape and Roswitha Burwick (eds) *Die alltägliche Romantik. Gewöhnliches und Phantastisches, Lebenswelt und Kunst*. Berlin: De Gruyter, 241-55.

Düwell S and Pethes N (2014) *Fall – Fallgeschichte – Fallstudie: Theorie und Geschichte einer Wissensform*. Frankfurt/Main: Campus.

Duffin J (1999) *History of Medicine. A Scandalously Short Introduction*. Toronto: Toronto University Press.

Esquirol, JED (1838) *Des maladies mentales considérées sous les rapports médical, hygiénique, et médico-légal*. 3 vols. Paris: Baillière.

Foucault M (2006) *Psychiatric Power. Lectures at the Collège de France, 1973-74*. Ed. Lagrange J. Trans. Burchell G. New York: Macmillan. Originally published as *le pouvoir psychiatrique*. Paris: Seuil 2003.

Foucault M (2009) *History of Madness*. Ed. Khalfa J. Trans. Murphy J and Khalfa J. London: Routledge. Originally published as *Folie et Déraison: Histoire de la folie à l'âge classique*. Paris: Plon 1961.

Guislain J (1826) *Traité sur l'aliénation mentale et sur les hospices des aliénés*. 2 vols. Vol. 1. Amsterdam: Van der Hey.

Haindorf A (1811) *Versuch einer Pathologie der Geistes- und Gemüthskrankheiten.*

Heidelberg: Braun.

Hallaran WS (1810) *An Enquiry into the Causes Producing the Extraordinary Addition to the Number of Insane, Together with Extended Observations on the Cure of Insanity.* Cork:

Edwards & Savage.

Hayner CAF (1818) Ueber einige mechanische Vorrichtungen, welche in Irrenanstalten mit Nutzen gebraucht werden können. *Zeitschrift für psychische Aerzte* 1(3): 339-66.

Horn E (1818a) 'Beschreibung der in der Irrenanstalt des Königlichen Charitékrankenhauses zu Berlin gebräuchlichen Drehmaschinen, ihrer Wirkung und Anwendung bei Geisteskranken. *Zeitschrift für psychische Aerzte* 1(1): 219-30.

Horn E (1818b) *Oeffentliche Rechenschaft über meine zwölfjährige Dienstführung als zweiter Arzt des Königl. Charité-Krankenhauses zu Berlin nebst Erfahrungen über Krankenhäuser und Irrenanstalten.* Berlin: Realschulbuchhandlung.

Hunter R and Macalpine I (1963) *Three Hundred Years of Psychiatry 1535-1860.* London: Oxford University Press.

Knight PS (1827) *Observations on the Causes, Symptoms, and Treatment of Derangement of the Mind.* London: Longman.

Magill FN (2003) *Dictionary of World Biography.* Vol. 1. *The Ancient World.* Chicago: Fitzroy Dearborn.

Müller C (1998) Die Drehmaschinen in der Geschichte der Psychiatrie. *Gesnerus* 55 : 17-32.

Passeron J-C and Revel J (2005) *Penser par cas.* Paris: l'Ecole des Hautes Etudes en Sciences Sociales.

- Porter R (1987) *Mind-Forg'd Manacles. A History of Madness in England from the Restoration to the Regency*. London: Athlone.
- Porter R (1995) Shaping Psychiatric Knowledge: The Role of the Asylum. In Porter R (ed) *Medicine in the Enlightenment*. Amsterdam: Rodopi, 255-73.
- Rush B (1812) *Medical Inquiries and Observations Upon the Diseases of the Mind*. Philadelphia: Kimber & Richardson.
- Schott H and Tölle R (2006) *Geschichte der Psychiatrie. Krankheitslehren, Irrwege, Behandlungsformen*. Munich:Beck.
- Scull A (1983) The Domestication of Madness. *Medical History* 27: 233-248.
- Scull A (1993) *The Most Solitary of Afflictions. Madness and Society in Britain 1700-1900*. New Haven: Yale University Press.
- Scull A (2015) *Madness in Civilization. A Cultural History of Insanity from the Bible to Freud, from the Madhouse to Modern Medicine*. London: Thames & Hudson.
- Smyth JC (1787) *An Account of the Effects of Swinging, Employed as a Remedy in Pulmonary Consumption*. London: Johnson.
- The Times Digital Archive 1785-2010*; accessed (9 Sept. 2016) at:
<http://gale.cengage.co.uk/times.aspx/>.
- Tsouyopoulos N (1988) The Influence of John Brown's Ideas in Germany. *Medical History*. Supplement 8: 63–74.
- Vasset S (2013) *Medicine and narration in the eighteenth century*. Oxford: Voltaire Foundation.

Wade NJ, Norrsell U and Presly A (2005) Cox's Chair: 'a Moral and a Medical Mean in the Treatment of Maniacs'. *History of Psychiatry* 16(1)73-88.

Willis T (1683) *Two Discourses Concerning the Soul of Brutes which is that of the Vital and Sensitive of Man*. Trans. Samuel Pordage. London: Dring, Harper and Leigh.

Wingertzahn C (2010) Der verlorene Faden. Die Quelle von Achim von Arnims Erzählung 'Frau von Saverne'. In: Dietzsch S and Ludwig A (eds) *Achim von Arnim und sein Kreis*. Berlin: De Gruyter, 57-82.

Yamanaka H (2003) Scandal and Psychiatry in Early Nineteenth-Century Prussia. *History of Psychiatry* 14(2): 139-60.

Young M de (2015) *Encyclopedia of Asylum Therapeutics, 1750-1950*. Jefferson N.C.: McFarland & Co.