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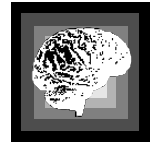
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Abstract

Although recognized as a medical scientist, the work of Frederick Mott as a physician, educator and clinical policymaker has been overshadowed. As a late entrant to the asylum system, Mott questioned established practices of treating mentally-ill patients and campaigned for reform. During World War I, entrusted with the management of the Maudsley neurological section, he sought to raise clinical standards and experimented with a range of therapies designed to treat the most severe or intractable forms of shell shock. While Mott believed that psychiatric disorder was underwritten by inherited characteristics, he did not dismiss the impact of the environment. The diversity of his interests has led to an understatement of his contribution as a physician, not only to the design and founding of the Maudsley Hospital but also to the therapeutic regime practised there during the interwar period.

Keywords

Frederick Mott, Maudsley Hospital, mental illness, shell shock, treatment, war neurosis, 20th century

Introduction

'An atmosphere of cure' was the phrase used by Frederick Mott in March 1916 to characterize the culture that he had sought to create at the Maudsley neurological section to encourage the recovery of servicemen suffering from severe or intractable war neuroses (Mott, 1916a: 553). When the shell-shock crisis hit the British Army in the winter of 1914–15, Mott approached Sir Alfred Keogh, director-general of army medical services, with an offer of help. As director of the London County Council's (LCC) Central Pathological Laboratory, Mott had established an international reputation for research in neuropathology (Lord, 1929). Granted a temporary commission in the Royal Army Medical Corps (RAMC), he diverted his research to understanding the neurology of shell shock. In terms of treatment, the 4th London General Hospital, established in the newly opened King's College Hospital at Camberwell, became a focus for clinical investigations into

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functional neurological cases. As it became clear that the conflict was not going to be resolved quickly, Mott suggested to Keogh that the Maudsley Hospital, then under construction on the opposite side of the road to King's, be taken over as an annex for 'the treatment of the more serious cases of war psychoneuroses and psychoses' (Mott, 1921: 321). To give him direct access to a large pool of patients, Mott transferred his laboratory from Claybury Asylum at Woodford Bridge in Essex to the Maudsley neurological section (Jones, 2010). Once there, Mott defined the clinical culture and took responsibility for the care of soldier patients until the hospital was transferred to the Ministry of Pensions in August 1919.

Historians are divided in their judgements about Frederick Mott. While they recognize his scientific achievement in establishing the causal connection between tertiary-stage syphilis and general paralysis of the insane (GPI), he is sometimes portrayed as adopting a one-dimensional approach to shell shock. Shephard (2000) argued that Mott was encouraged by Walter Cannon's 1915 study, *Bodily Changes in Pain, Hunger, Fear and Rage*, into thinking that the endocrine system or other biochemical processes held the key to mental illness, while retaining his pre-war conviction that heredity determined vulnerability to shell shock. Bourke argued that Mott's initial 'organicist' position was increasingly modified by clinical evidence which revealed the impact of psychological factors (Bourke, 1996: 115). Identified as the 'champion' of 'physical theories of causation', Loughran argued that despite psychological theorizing from 1916 onwards, Mott continued to emphasize underlying organic pathology (Loughran, 2009: 86).

Leese researched Mott's treatment methods and, in particular, his emphasis on 'positive expectation' in the use of continuous warm baths and occupational therapy (Leese, 2002: 71). Interestingly, Michael Roper's analysis of the emotional demands of World War I drew on the clinical publications of Rivers, Myers, Pear, Elliot Smith and even Bion but made no reference to Mott or the Maudsley (Roper, 2009). Mathews (2006) argued that Mott's research into shell shock revealed the breadth of his interests and an acknowledgement of psychological processes. A sympathetic account of his work was given by Barham who recorded his concern for soldier patients in asylums. In February 1919, when complaints had been made of the poor quality of food served at Hanwell Asylum, Mott inspected the institution. He discovered a daily allowance of only 2200 calories, significantly less than the Army Council allowance of 3145 for patients in military hospitals and the 3380 calories that Mott had secured for servicemen treated at the Maudsley (Barham, 2004: 186).

This paper explores how Frederick Mott's pre-war understanding of severe mental illness and his work to improve patient care in the asylum system framed his research into shell shock. His role as senior clinician at the Maudsley neurological section is evaluated and tied to the post-war agenda to find effective treatments for severe mental illness.

Shell shock: concussion or toxic exposure

The remit given to Mott to discover the pathology of shell shock was a natural extension of his research at Claybury Asylum. He adapted the hypotheses and research methodology that he had employed for severe mental illness to the problem of war neuroses. Having confirmed that GPI was a delayed manifestation of syphilis, Mott's inclination was to look for physical triggers and physiological processes. Before the war, he had estimated that 15% of male admissions to London County asylums were cases of GPI, which suggested that other communicable diseases and pathologies were implicated in different forms of mental illness (Mott, 1914). In 1915, a grant from the Medical Research Committee (MRC) allowed him to recruit Dr Cicely May Peake to investigate the symptoms and family histories of shell-shocked soldiers admitted to 4th London General (Anon., 1916: 65). Her survey of admissions appeared to show that 'a large majority of the cases of so-called shell shock ... occurred in individuals who either had a nervous temperament or were

the subjects of an acquired or inherited neuropathy' (Mott, 1916a: 448). In 1916, MRC funding enabled Dr Edith M. Green to research the blood pressure and surface temperature of shell-shock cases at the Maudsley (Anon., 1917: 81). Her research suggested that hypotension was correlated with many of the symptoms of shell shock, in particular nightmares, fatigue, irritability and depression. Equally, a return to normal blood pressure was found 'in nearly every case ... [to be] accompanied by a change in the character of the dreams, the terror element being less marked' (Green, 1917: 456). Interesting though these observations may have been, they did not provide Mott with evidence that could directly inform treatment.

Shell shock: constitutional vulnerability and traumatic experience

Mott was far from being a hard-line organicist even in the pre-1914 period. He had identified alcohol abuse and 'the removal of worry and mental anxiety' as important factors in the cause and cure of mental illness (Mott, 1903: x). Social policy in the form of old-age pensions and the provision of better quality housing, he had argued, would reduce 'mental stress' and the spread of infectious disease among the urban poor. This, in turn, would significantly reduce the asylum population. He also believed that the milder psychological disorders, such as neurasthenia, hysteria and hypochondria, often represented a prodromal stage of progressive and more severe mental illness. Such milder disorders, often ignored by general physicians, were a missed opportunity and, Mott (1907: vi) argued, could be cured if addressed by 'trained medico-psychologists'. Indeed, as an early member of the British Psychological Society, he had become increasingly interested in psychoanalytical concepts (Kuhn, 2014).

By the end of 1915, first-hand contact with large numbers of service patients had led Mott to differentiate between different forms of shell shock. The simplest to explain were those whose symptoms could be attributed to concussion or exposure to a toxin. Mott concluded that the forces of compression released by an exploding shell could cause concussion or 'commotio cerebri'. Alternatively he suggested that soldiers who had been buried during an artillery bombardment could be poisoned by carbon monoxide released by high explosive. In extreme cases, these effects might be fatal if intense commotion affected 'the delicate colloidal structures of the living tissues of the brain and spinal cord', arresting 'the functions of the vital centres in the medulla' (Mott, 1917a). This hypothesis led Mott to conduct microscopic examination of the brains of soldiers killed by blast, to identify cerebral lesions and pathology that could inform the treatment of servicemen who had been exposed to lower levels of trauma (Mott, 1917b). Mott's histological research led him to hypothesize that these signs were an extreme representation of what was happening in the brains of shell-shocked soldiers who had not been concussed or poisoned. Symptoms of 'headache, weariness, loss of power of concentration, irresolution, and mental fatigue', characteristic of the disorder, he argued were 'explained by the acquirement of the habit of drawing on the reserve of neuro-potential, and being unable through insomnia or sleep disturbed by terrifying dreams, worry and anxiety to restore the balance and return to the normal conditions of automatic renewal of nervous energy' (Mott, 1916a: 336).

By the beginning of 1916 Mott had concluded that most shell-shock cases were not a direct consequence of concussion or toxins, and he assigned a greater importance to heredity and environmental factors (Mott, 1916b). In his Lettsomian lecture delivered in February, he declared, 'the moral effect of the continuous anxious tension of what may happen [under artillery bombardment], which, combined with the terror caused by the horrible sights of death and destruction around, tends to exhaust and eventually even shatter the strongest nervous system' (Mott, 1916a: 331). To explain why only a minority of soldiers succumbed to shell shock, Mott proposed two additional categories.

The largest sub-group of shell-shocked patients, Mott argued, were those servicemen who had 'an inborn timorous or neurotic disposition' or an 'acquired neuropathic or psychopathic taint'. The war had witnessed the recruitment of a mass army, drawing on individuals who would not normally have considered military service. Mott believed that they possessed an inherent vulnerability to mental strain. As a result, he encouraged Captain Julian M. Wolfsohn, a US Army psychiatrist based at the Maudsley, to research the heredity of 100 shell-shock patients. Wolfsohn found that 74% had 'a family history of neurotic or psychotic stigmata' compared with 10% in the wounded controls taken from the surgical wards of the 4th London General Hospital (Wolfsohn, 1918). 'My experience now based upon statistics', Mott (1918b: 170) wrote, 'proves conclusively that by far the most important factor in the genesis of war psycho-neurosis is an inborn or acquired tendency to emotivity'.

The third category of shell shock, and in Mott's view a relatively small number, were normal individuals subjected to 'terrifying or horrifying conditions', soldiers whose record demonstrated that they are 'neither of a timid disposition' nor possessed of 'any neuropathic tendency' (Mott, 1919a: 440). Recognizing 'the shocks and strains of war' (Mott, 1918b: 170), he acknowledged that 'even the strongest man will succumb, and a shell bursting near may produce a sudden loss of consciousness, not by concussion or commotion but by acting as the "last straw" on an utterly exhausted nervous system' (Mott, 1917a: 39). The essential element of any assessment, according to Mott, was history taking to establish 'how much of his [the patient's] disability is due to pre-war acquired conditions and how much to his inborn constitutional make-up' to gauge the extent to which military service had impacted on his mental state (Mott, 1919c: 267).

For Mott a mediating factor in this categorization was class. He believed that 'among officers a large proportion are pure shell-shock cases [functional neurological symptoms], but among the men there are cases of hysterical paralysis and other signs of hysteria' (Mott, 1918d: 233). Other ranks, he suggested, converted their distress into physical symptoms whereas officers presented with dissociative and psychological states. Reid noted that Mott's comments refer to the latter part of the war when an increasing number of officers had risen from the ranks, undermining the influence of upbringing and education on the expression of distress (Reid, 2010: 18). Mott subsequently explained the difference by the heavier 'sense of responsibility' carried by an officer heightened by the 'want of sleep' and 'anxiety lest he should fail in his duties' (Mott 1919c: 131). Doubtless, these ideas justified the superior accommodation offered to officer patients.

'An atmosphere of cure'

When the Maudsley neurological section opened early in 1916, Mott took responsibility for the treatment of severe or intractable cases. The experience that he had gained at Claybury led him to introduce significant change to the management and care of servicemen. Mott sought to create an 'atmosphere of cure' to accelerate recovery times. He was fortunate in that the Maudsley had been built on a human scale with gardens in a residential district (the hospital itself had 175 beds but additional accommodation had been created by occupying Grove Lane School and 'Platanes', a mansion on Champion Hill). Mott encouraged the soldier patients to lay out flower-beds and an ornamental fountain in the grounds of the Maudsley, features that drew praise from King George V and Queen Mary when they made an official visit (Mott, 1917c). By 1917, the neurological section of 4th London General had expanded to 450 beds for other ranks and 80 for officers housed in at least four locations at Denmark Hill (Salmon, 1917: 520). Nevertheless, the neurological section was a far cry from the 2000-bed, self-contained barrack complexes that typified the county asylum system. However, the sustained growth in shell-shock cases overwhelmed the small team of specialist staff. Mott was assisted in 1917 by a group of American medical officers sent to learn about

war neuroses. On their departure, two specialist assistants were requested: Captain William Moodie, who was transferred from a mobile pathology laboratory in France, and Captain Sydney Mann from a pathology laboratory in Alexandria (Mott, 1918c).

Patients arrived at 4th London General by ambulance train, and temporary platforms had been erected to the west of Denmark Hill station to allow direct access to the hospital and the hutted accommodation constructed in Ruskin Park. By autumn 1917 the RAMC had begun to quarantine infectious cases in ambulance trains and they also applied this principle to psychological casualties. Severe cases of shell shock and psychosis were segregated in separate carriages and detrained last of all to prevent them from demoralizing the wounded and sick (Mayhew, 2013: 181, 207). It was also in 1917 that the term 'mental hygiene', established in the USA, was applied to both the treatment of shell shock but also the maintenance of health in soldiers exposed to the strain of the battlefield (Mott, 1917a, 1917c; Salmon, 1917).

After admission to the Maudsley neurological section, Mott recommended 'quiet repose in single rooms' for the most severe cases, combined with continuous warm baths because of their calming properties. He also believed in restoring a soldier's 'general bodily condition' through 'nourishing, digestible and easily assimilated food' (Mott, 1917a: 41). Hypnosis and psychoanalysis, he argued, were not 'necessary or even desirable' (Mott, 1916a: 553), in part because Mott believed that few doctors possessed the 'delicacy and sympathy' required to address 'psychic wounds' (Mott, 1918b: 172). He saw no value in catharsis and recommended the 'diversion of the mind ... to avoid introspection and dwelling upon the terrible experiences' that soldiers had gone through (Mott, 1917a: 41–2). Reflecting on his wartime work, Mott stated, 'I don't regard psychotherapy as an important agent in treating the functional neuroses' but thought it 'especially valuable in hysteria, or ... pithiatism – meaning curable by persuasion' (Mott 1919a: 442). Occupational therapy and social activities were encouraged at the Maudsley. Soldiers grew vegetables in the hospital grounds and constructed a poultry house to provide a ready supply of fresh produce. He persuaded Lady Henry Bentinck to fund the construction of a large, fully-equipped workshop, so that service patients could be taught carpentry and metal work. Mott himself donated a piano and, as a founder member of the Society of English Singers, argued that choral singing would 'prove for convalescent soldiers an uplifting mental diversion, which by promoting cheerfulness and healthy recreation could not fail to beget that sense of well-being so essential for mental and bodily recuperation' (Mott, 1919c: 297).

However, Mott was not averse to theatrical tricks and occasionally treated servicemen with mild electric shocks. Any clinical success achieved by the use of faradism, he argued, was driven by the power of suggestion created by 'the imposing array of electric machines, coloured lights and other strong suggestive influences' (Mott, 1917c: 478). On the grounds that the ends justified the means, Mott invented false medical explanations: 'I have cured functionally paralysed hands ... by telling patients that their hands are cold and benumbed and that the blood supply to the part is insufficient to excite the nerves ... but after it has been warmed by radiant heat they will be conscious of it and be able to move the fingers' (Mott, 1919a: 442). The best tonic, he conceded, could be offered from late 1917 and was the assurance on admission that 'under the new system of categories they cannot be found fit for service for six months, and probably that they will not be sent on general service again' (Mott, 1918a: 128). Persistent symptoms, unconsciously created or consciously reinforced, existed to keep a soldier out of danger, and the new regulation removed their need for soldiers who had been invalided to the UK. Mott conceded, however, that suggestion was often not sufficient to cure cases of chronic functional paralysis and argued that they should be discharged from both the army and hospital so that time and a civilian environment could play their part in the recovery process (Mott, 1919b: 710).

Despite the range of interventions practised at the Maudsley, contemporaries were critical of its role as a clearing hospital. Under the system adopted in 1916, shell-shock patients arriving in the

UK were assessed either at the Royal Victoria Hospital in Netley or at 4th London General before being referred for specialist treatment (Stanford Read, 1920). The volume of cases (3950 in 1916 and 2383 in 1917) overwhelmed the capacity of the Maudsley and its limited staff, leading to criticisms of inappropriate referrals to general and auxiliary hospitals (Myers, 1940: 112, 127). More than this, however, some doctors at the Red Cross Military Hospital in Maghull formed an antipathy to Mott and his methods. Major R.G. Rows, the medical superintendent, considered his physiological approach was 'getting in the way of something very important' and that Mott was 'somebody who ought to be opposed' (Jones, 2010: 382). In their 1917 study of shell shock, G. Elliot Smith and T.H. Pear acknowledged that psychiatric disorders had an 'underlying physical basis', but argued that 'molecular and bio-chemical' knowledge was so basic that they knew 'practically nothing which would help us understand even ordinary mental processes' (Smith and Pear, 1917: 97). Accordingly, thinking at Maghull focused on what were considered realizable aims: the elucidation of psychological explanations and treatments. Various forms of psychotherapy were practised, and catharsis was considered an important curative intervention.

Masculinity and maturity

Historians have conceptualized contemporary fears about shell shock in terms of sexuality: not just that servicemen had adopted hysterical symptoms traditionally associated with women but, more broadly, they expressed effeminate characteristics (Bourke, 1996). Immaturity, acting as a boy rather than a man, has also been proposed to explain fears about war neuroses (Meyer, 2009). In particular, the emotional demands of the battlefield caused those of an immature nature to regress into child-like state, characterized by loss of self-control. Presented in these terms, shell shock required an authority figure to re-educate or provide an opportunity for soldier patients to acquire maturity (McDougall, 1920). Mott believed that 'discipline is very essential' and that its absence could interrupt a natural healing process: 'over-sympathy and attention by any kind-well meaning ladies giving social tea-parties, drives, joy-rides, with the frequent exclamation of "poor dears", has done much to perpetuate functional neuroses in our soldiers' (Mott, 1917c: 484).

Despite his firm approach, Mott exhibited a consistent concern for the plight of patients in mental institutions. In part, this derived from being an outsider. He came to the asylum system with fresh eyes, unschooled in their culture. His appointment as pathologist to the LCC in 1895 followed a successful career as physician in prestigious medical schools, giving him the status and self-confidence to criticize established practices. He was appalled by the high levels of dysentery and other infectious diseases found in the various mental institutions surrounding the capital. Many doctors considered these illnesses an inevitable by-product of 'degeneration of the nerve supply' to the intestine and colon (Anon., 1926a: 1064). Mott set out to prove that 'asylum dysentery' was simply a consequence of poor hygiene and therefore entirely preventable (Anon., 1926b). He demonstrated that the conditions for the spread of the disease were identical to those for typhoid. The introduction of infection controls and higher standards of cleanliness resulted in a marked fall in the incidence of dysentery throughout the LCC asylums (Starling, 1926). During World War I, Mott supported the policy of keeping shell-shocked servicemen out of the asylum system, adding 'I can conceive of nothing more dreadful than for a man to be taken to an asylum feeling he will never get out of it' (Barham, 2004: 271–2; Mott, 1924).

Training and the Diploma in Psychological Medicine

Contemporaries described Mott as a courteous man with an enduring concern for students and junior doctors (Anon., 1926b). Despite his honours and appointments, Mott remained unassuming without affectation, described as 'kind, hospitable and very human' (Anon., 1926a: 1065). Both of

Mott's parents had died when he was a child (Sharpley-Shafer, 2004), though no record survives of who then looked after him (Mathews, 2006). Whether this experience gave him an insight into trauma remains speculation. However, a consistent emphasis on the importance of education was clear from his chairmanship of the medical school committee at Charing Cross Hospital in the early 1890s (Anon., 1926b). In 1903 he persuaded London University's board of studies to accept either pathology or mental diseases as a suitable subject for their MD, in an attempt to generate a research culture within the asylum system (Mott, 1903). To raise the standard of training for psychiatrists, he lobbied for the creation of a university-accredited diploma in 'medico-psychology and neuropathology' (Mott, 1909: iii). Just before the outbreak of war in 1914, Cambridge University agreed to validate a Diploma in Psychological Medicine (Anon., 1926a).

Early in 1918, Mott set up a three-month training course at the Maudsley in war neuroses for medical officers (Anon., 1918) and, though it was initially well attended by medical officers from the Dominions and USA, official restrictions on members of the RAMC saw it flounder (Mott, 1921). Not deterred and convinced of the need for post-graduate training in psychiatry, in April 1920 he set up classes and practical demonstrations for doctors wishing to take the Cambridge DPM. This, in turn, led to recognition of the diploma by the University of London. Mott's academic standing enabled him to recruit leading specialists as guest lecturers, including William McDougall, Hubert Bond, Bernard Hart and Edward Mapother (Mott, 1921). Even after retirement as head of the LCC's Central Pathological Laboratory, he remained director of medical studies at the Maudsley until his death. His wife, Georgiana Alexandra (the daughter of George Thomas Soley, a ship-owner of Liverpool, whom he had met when working as assistant professor of physiology at Liverpool University) shared Mott's belief in the value of higher education, working to improve opportunities for women.

Post-war theories

The wartime evidence that left a lasting impression on Mott was the report on the mental health of 10,000 Serbian prisoners-of-war. Having been subjected to 'every form of stress and strain and disease', they were examined by Karl Bonhoeffer, chair of the department of psychiatry at the Charité in Berlin, who could find only five who exhibited the symptoms of psychosis (Mott, 1923: 557). Their 'sturdy' constitution appeared to have protected them against severe mental illness. This finding led Mott to the conclusion that 'exciting factors', such as 'emotional shock, worry, anxiety, insomnia and exhaustion' were less important in the causation of dementia praecox and mania than had been proposed (Mott, 1922: 463). He increasingly looked for underlying physiological processes. That inborn predisposition was 'the most important fact in the development of neuroses and psychoses is ... shown by the frequency with which these various psychoneuroses and psychoses occur at periods when normal physiological changes occur in the body' (Mott, 1922: 463). Breakdown during adolescence or around the time of pregnancy, he believed, was 'due to the failure of the vital impulse (*élan vital*) ... an inborn character, like longevity and durability ... due to bodily conditions' (Mott, 1922: 465). As a result, Mott's laboratory research into the pathology of severe mental illness became increasingly directed towards the reproductive and endocrine systems (Evans and Jones, 2012).

The recommendations of the War Office's committee of enquiry into shell shock, published in 1922, revealed the force of Mott's expertise. The clinical guidelines were a statement of his philosophy: 'the establishment of an atmosphere of cure is the basis of all successful treatment, the personality of the physician is, therefore, of the greatest importance' (Southborough, 1922: 192). Equally, the proposal to offer regular instruction in the psychoneuroses for RAMC doctors derived from Mott's determination to improve standards of training.

In July 1923 Henry Cotton, medical director of the New Jersey State Hospital at Trenton, arrived in the UK with what promised to be a breakthrough in the treatment of mental illness. He proposed a 'bacterial model of madness', a radical theory of focal sepsis, which if substantiated, offered to cure a significant proportion of patients held in the asylum system. Cotton argued that the surgical removal of infected organs resulted in positive outcomes for 87% of patients who survived the procedures, thereby outweighing the 30% mortality rate (Scull, 2005). When Cotton addressed a meeting of the Medical Society of London on 6 July, Mott was courteous but offered a number of cautions. First, he stressed that the vast majority of people exposed to infectious disease did not develop mental illness. Referring to his pre-war campaign to reduce the rate of dysentery in the asylum system, Mott reminded the audience of 'the difficulty he had had in convincing people that it was not a part of lunacy, and that it was not at all a necessary accompaniment of the mind disorder' (Anon., 1923: 558). Because of his depth of scientific knowledge, Mott was not swept along by the euphoria attached to Cotton's wild claims and suggested that investigation of the endocrine glands were more likely to yield evidence of the pathology of mental illness.

Conclusion

Mott possessed a breadth of vision and energy that remained with him until his death (Baker and Golla, 1953; Meyer, 1973). W.D. Halliburton, who knew Mott from his student days, believed that despite his commitment to laboratory research and his wealth of publications, 'he remained throughout a general physician, and here some of his best qualities came out' (Halliburton, 1929: 2). In the face of apparently intractable and progressive psychiatric disorders, Mott preserved an optimistic stance, in part to encourage research and the search for new therapies (Mathews, 2006). His goal to raise the status of academic psychiatry was driven by a concern for the parlous state in which many asylum patients had fallen. Mott was driven to find an intervention that would arrest and possibly reverse the pathology underlying severe mental illness. While his investigation of GPI had taught him that physical processes could cause the symptoms of psychosis, his research into shell shock led him to a more nuanced position in which he believed that those who broke down on the battlefield had either an inherited or acquired vulnerability to psychological disorder. Although Mott described this vulnerability in organic terms, he also recognized that the environment, the soldier's personal experience in combat, played a key role in the development or severity of the disorder. This understanding also informed his ideas of treatment. At the Maudsley, he attempted to create an atmosphere where patients would wish to recover. Mott sought to remove impediments to recovery, including the understandable fear of returning to front-line duties.

Because of his diverse interests, Mott has been overshadowed by others. Henry Maudsley is largely credited for the founding of the Maudsley Hospital, but the original idea came from Mott after a visit to Kraepelin's clinic in Munich, while the protracted negotiations with the London County Council and Asylums Board were largely his efforts (Jones, Rahmen and Woolven, 2007; Turner, 1988). As regards shell shock, he pioneered a treatment regime that was adopted by Mapother for civilians in the post-war period. Curiously Mott's entry was removed from the second and expanded edition of *The Founders of Neurology*, perhaps because the editors considered him a 'refiner' (Haymaker, 1953; Haymaker and Schiller, 1970: v). Loughran argued that there was 'no straightforward transition to a psychological understanding of war neuroses' during World War I, largely because 'psychology, physiology and biology were all inseparably blended in many theories' (Loughran, 2012: 112). The research hypotheses and clinical practice of Frederick Mott support this observation.

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