Manchester Papers in Economic and Social History

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Evolution, regression, and shell-shock: emotion and instinct in theories of the war neuroses, c.1914-1918

Number 58
September 2007
ISSN 1753-7762 (Print)
ISSN 1753-7770 (Online)

EVOLUTION, REGRESSION, AND SHELL-SHOCK: EMOTION AND INSTINCT IN THEORIES OF THE WAR NEUROSES, C.1914-1918

INTRODUCTION

In February 1918, a short item news appeared in the *Lancet* under the intriguing heading 'Shell shock in cows'. This was a short comment on the recent trial of a milk dealer accused of selling milk which was 'not of orthodox purity'. The defendant claimed that his crime had been committed unwittingly: 'the milk reached the consumer exactly as it came from the cows, but it was drawn at a time when there was an air raid and the animals were suffering from shell shock'. The bench did not accept this defence, and the dealer was fined. However, the *Lancet*'s commentator thought that 'such a defence might well be valid'. It was well known that 'restlessness or nervousness' could affect both the quantity and quality of milk a cow produced; indeed, the same phenomenon was sometimes found in women 'affected by mental strain, anxiety, or fright'. If 'normal metabolism and nutrition' was disturbed by such influences, 'the normality of the action of the secretion of the mammary glands is interfered with'. His only objection to the plea of the milk dealer was that 'a valid defence would also require evidence that the shock had occurred, and that there had been no tampering with the fluid'.[1]

This item revolts against modern conceptions of shell-shock. However, this author believed that cows could suffer from shell-shock because he defined the disorder not as psychological trauma, but as a physiological malfunction. In this respect, there was nothing unusual about the *Lancet* piece. In the latter years of the war, physiological theories of emotion were incorporated into the mainstream of medical thought on the war neuroses. This article explores and contextualises this aspect of the contemporary framing of shell-shock, which has been disregarded or downplayed by the conventional historiography. Historians usually divide theories into those which argued that symptoms were caused by the physical effects of bursting shells, and

[1] [Anon.], 'Shell shock in cows', *Lancet* 1918 (2), pp. 187-8.

those which argued that the disorder was an emotional or psychological response to war experience. The physiology of emotion breaks down this neat distinction, not only through the conception of emotion as a bodily instead of or as well as a psychological event, but through the range of ways and contexts in which such theories were employed.

The wartime interest in physiological theories of emotion was spurred by the publication of Walter Cannon's *Bodily changes in pain, hunger, fear and rage* in 1915. It is argued here that this book, which examined the deep bodily responses to fear, proved attractive to shell-shock doctors because it painted a familiar portrait of fear as associated with the body, the animal, and instinct, and operating against the rule of the will. This enabled physiological theories to be incorporated into discussions of shell-shock with remarkable ease. Alongside this interest in physiology, many doctors also began to award a central place to instinct in their theories. From the most physiologically-minded of doctors, seduced by Cannon's account of the instinct of self-preservation as the origin of bodily responses to fear, to those who drew on psychoanalytic theories and constructed the unconscious as a storehouse of instinctual tendencies and their emotional accompaniments, the same hierarchy of high and low, human and animal, was imposed on theories of the war psycho-neuroses. All these authors were led to the conclusion that shell-shock constituted a regression, either to an earlier stage of the development of the individual, or more frequently, to that of the race.

This article therefore challenges the view that shell-shock was the catalyst for a psychiatric revolution. There was no straightforward transition to a psychological understanding of the war neuroses: psychology, physiology, and biology were all, and inseparably, blended in these theories. Moreover, physiological and instinctual theories of shell-shock demonstrate that the evolutionary model of mind dominant in pre-war psychological medicine continued to shape responses to mental illness during and beyond the war. It was through this infusion with evolutionary meaning that the war neuroses provoked such fear and horror. Shell-shock was not only a personal tragedy, or a threat to military manpower, but a horrifying revelation of the survival of animal origins within civilisation. It therefore became a site where deep-seated anxieties about the constitution of human identity were expressed, if never resolved.

EMOTION AND THE EVOLUTIONARY MODEL OF MIND

In 1914, psychiatry and psychology were not self-contained or secure disciplines. Neurologists, physiologists and philosophers also claimed to speak with some authority about the constitution of mind.[2] Although there were disagreements across and between these varied disciplines, all shared a belief in the evolutionary basis of science. There was broad consensus that the evolution of mind was coterminous with the evolution of the nervous system. Consequently, the three basic mental faculties – emotion, thought, and volition – were each imbued with evolutionary significance.[3] They were also hierarchically incorporated in the model of nervous evolution, in which the transition from reflex to voluntary action measured the development from animal to human behaviour.[4] The faculties of emotion, thought, and volition were perceived as integrated and interdependent, and so malfunctioning in any sphere affected the proper action of the others. Healthy mental functioning was therefore conceived as a matter of balance, and mental illness as a matter of imbalance. The absolute dominance of an evolutionary framework of understanding meant, however, that this imbalance was equated with regression.

This constitution of mental disorder as regression depended above all on the evolutionary meaning of the opposed attributes of emotion and will. The development of a strong will was perceived as both a uniquely human attribute and the aim of education. Will was therefore conceptually aligned with the influence of nurture

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[2] G. Bunn, 'Introduction', in G. Bunn, A. Lovie and G. Richards (eds*), Psychology in Britain: historical essays and personal reflections* (London, 2001), pp.1-29, pp.1-3; F. Neary, 'A question of "peculiar importance": George Croom Robertson, Mind and the changing relationship between British psychology and philosophy' in Bunn, Lovie and Richards (eds*), Psychology in Britain*, pp.54-71; R. Smith, 'Physiology and psychology, or brain and mind, in the age of C.S. Sherrington' in Bunn, Lovie and Richards (eds*), Psychology in Britain*, pp.223-42; M. Clark, 'The rejection of psychological approaches to mental disorder in late nineteenth-century British psychiatry', in A. Scull (ed.), *Madhouses, mad-doctors and madmen: the social history of psychiatry in the Victorian era* (Philadelphia, 1981), pp.271-312, pp.283-4.

[3] A. Bain, *The emotions and the will* (London, 1859), p. 3; G. Rhodes, 'Introduction', in G. Rhodes (ed.), *The mind at work: a handbook of applied psychology* (London, 1914), pp. 1-13, p. 1; W.C. Coupland, 'Philosophy of mind', in D.H. Tuke (ed.), *A dictionary of psychological medicine, Volume 1* (London, 1892), pp. 27-49, p. 43; R.H. Cole, *Mental diseases: a text-book of psychiatry for medical students and practitioners* (London, 1913), p. 14; W. McDougall, *Psychology: the study of behaviour* (London, 1914), p. 63.

[4] H.H. Donaldson, 'On the relation of neurology to psychology', *American Journal of Psychology* 1:2 (February 1888), pp. 209-221, p. 213.

rather than nature. Emotion, on the other hand, was perceived primarily as a racially inherited attribute - a dominant characteristic of 'lower' groups such as women, the working classes, children, the insane, 'savage' races, and animals.[5] It was aligned with the body and instinct, and opposed to will: it was often defined as an inborn and involuntary nervous reaction, and at most only a step away from the most basic reflex response.[6] Actions based on emotion were deemed to be uncritical, impulsive, and based on primitive suggestion and belief rather than the outcome of reasoned volition.[7] In short, emotion was perceived as a hereditary, biologically ascribed attribute, little amenable to modification by education, and therefore aligned with the animal body against human mind and will.[8]

This evolutionary model of mind and mental disorder infused theories of the war neuroses. It was standard to invoke emotion as an extremely important, and often the primary, aetiological factor in shell-shock. The emotion most frequently singled out was fear – fear of threat to life and limb, fear of failing in duty, or even fear of being afraid.[9] The only way in which emotion could expand its empire, however, was by encroaching on the territory of the will. The war neuroses were therefore overwhelmingly constructed as a condition in which 'emotions have taken the place of a forceful will-power'.[10] Moreover, in this wartime literature, emotion and will continued to be aligned with different stages of individual, social, and racial development. The psychiatrist Robert Armstrong-Jones (1857-1943), for example,

[5] C. Darwin, *The expression of the emotions in man and animals* [based on 2nd edn of 1889] (London, 1999), pp. 20-24; Bain, *The emotions and the will*, pp. 4-6; Cole, *Mental diseases*, p. 50, p. 53 and p. 71; W.H.B. Stoddart, *Mind and its disorders: a text-book for students and practitioners*, 2nd edn (London, 1912), p. 103.

[6] E.J. Foley, 'Cognition and ideation' in Rhodes (ed.), *The mind at work*, pp. 154-87, p. 156; [Anon.], 'The science and philosophy of instinct', *Nature* 92 (Sept. 1913-Feb. 1914), p. 627; T. Ribot, *The psychology of the emotions*, 2nd edn (New York and Melbourne, 1911), p. vii-viii; A.F. Shand, *The foundations of character: being a study of the tendencies of the emotions and sentiments* (London, 1914), pp. 188-192; Cole, *Mental diseases*, p. 55 and p. 59; Darwin, *The expression of the emotions*, p. 69 and p. 86.

[7] McDougall, *Psychology*, p. 239; R.C. Temple, 'Administrative value of anthropology', *Nature* 92 (Sept. 1913-Feb. 1914), pp. 207-13, p. 208; Cole, *Mental diseases*, p. 122.

[8] Darwin, *The expression of the emotions*, pp. 348-9; Coupland, 'Philosophy of mind', pp. 39-40.

[9] H. Campbell, 'War neuroses', *Practitioner* 96 (May 1916), pp. 501-9, p. 503; W.A. Turner, 'Remarks on cases of nervous and mental shock observed at the base hospitals in France', *British Medical Journal* 1915 (1), pp. 833-5, p. 835; [Anon.], 'The mind of the soldier', *British Medical Journal* 1918 (2), pp. 188-9, p. 188; R. Eager, 'War psychoses occurring in cases with a definite history of shell shock', *British Medical Journal* 1918 (1), pp. 422-5, p. 425.

[10] R.A. Veale, 'Some cases of so-called functional paresis arising out of the war and their treatment', *Journal of the Royal Army Medical Corps* 29:5 (November 1917), pp. 607-14, p. 608; see also T.R. Elliott and J.F.C Fuller in *Report of the War Office Committee of Enquiry into "Shell-Shock"* (London, 2004) [1922], p. 29 and p. 71.

described the war neuroses as a condition in which fear, 'the oldest as well as the most intense of the emotions', overrode the action of the will, 'the highest and essentially the most human characteristic of the mind'.[11] In his view, the struggle of the individual soldier to control fear was nothing less than a re-telling of the story of human evolution itself.[12] Another army psychiatrist, William Chambers, claimed that in his psychiatric wards in France mental defectives, hysterics, and 'negroes' were most likely to abandon 'all attempt at control' and succumb to terror. [13] The exercise of will lifted civilised man out of the primitive world of emotion, but it remained all that separated him from the child, woman, savage, or animal. This is the intellectual context in which the prevalence of physiological theories of emotion in accounts of shell-shock must be placed.

WALTER BRADFORD CANNON AND THE PHYSIOLOGY OF THE EMOTIONS

Among British doctors, interest in possible physiological explanations for shell-shock was kick-started by the publication of *Bodily changes in pain, hunger, fear and rage* (1915). This was an account of deep bodily responses to the major emotions by the Harvard-based physiologist Walter Bradford Cannon (1871-1945). The starting point of Cannon's research, explicitly founded on the precepts of Darwinian evolutionary theory, was that human behaviour was motivated not by reason or conscience, but instinct and emotion. The major emotions of fear, rage, pain, and hunger were all 'primitive experiences which human beings share with the lower animals'. The emotions and their expressions were to a large degree innate, and 'best explained as the retention in human beings of responses which are similar in character in lower animals'. The bodily responses to emotion were therefore of 'fundamental importance' in the interpretation of human behaviour.[14]

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[11] R. Armstrong- Jones, 'The psychology of fear and the effects of panic fear in war time', *Journal of Mental Science* 63 (July 1917), pp. 346-89, p. 349 and p. 351; R. Armstrong-Jones, 'Dreams and their interpretation', *Practitioner* 98 (March 1917), pp. 201-19, p. 201; R. Armstrong-Jones, 'Correspondence', *Journal of Mental Science* 64 (October 1918), pp. 407-8.
[12] Armstrong- Jones, 'The psychology of fear', p. 350 and p. 357.
[13] W.D. Chambers, 'Mental wards with the British Expeditionary Force: a review of ten months' experience', *Journal of Mental Science* 65 (July 1919), pp. 152-80, p. 154 and p. 173. On race and fear see also T.S. Rippon, 'The wear and tear of flying', *The Medical World* 12 (1919), pp. 326-7.
[14] W.B. Cannon, *Bodily changes in pain, hunger, fear and rage: an account of recent researches into the function of emotional excitement* (New York and London, 1920), p. vii and pp. 1-3.

The main thrust of Cannon's researches was to demonstrate that the effects of intense emotion equipped the organism to respond to danger with a series of bodily responses evolved to enable fight or flight with maximum efficiency.[15] All other potentialities of the organism bowed before these bodily changes because they were grounded in the instinct of self-preservation. As responses of a reflex character, they could not be reproduced even by the most 'supreme act of volition', and indeed were often 'distressingly beyond the control of the will'.[16] Not only was conscious control in vain, but these responses to emotion also ran riot over the usual 'peacetime' functions of the body. These changes had to achieve absolute dominance because self-preservation was 'primary and essential'; without it, racial continuity would not be possible, and so all the resources of the organism were called forth.[17] The necessity for such responses at the actual moment of danger, under the influence of intense fear or anger, was obvious enough. Cannon argued, however, that the capacity for fight or flight was so important that these bodily changes could be called into action not only by fear or anger, but any sufficiently intense emotion. All strong emotions – whether felt as 'anger, terror, pain, anxiety, joy, grief, or deep disgust' – had the same effect on the central nervous system. This rapid transmutation of emotion was vital in order that the evolutionary adaptation to danger achieve maximum efficiency.[18] Not only were fear and rage primitive emotions which conquered both will and body, but they were present in embryo in even the most benign and pleasurable affective states to which humans were subject.

Cannon did not linger on the possible pathological effects of intense emotion. When America entered the war, he turned his attention to the problem of surgical shock, and it was left to doctors treating the war neuroses to explore this prospect.[19] The significance of his work for the current discussion is that Cannon did not simply set out the physiology of the emotions. He constructed an argument in which animal fear and rage were not only primitive and all-powerful, giving no quarter to will or to the normal bodily functions, but were incipient in all emotional states. The apparently happy and unaware organism was perpetually prepared for an intense struggle for

[15] Ibid., pp. 184-218.
[16] Ibid., p. 185 and p. 218; see also pp. 281-2.
[17] Ibid., pp. 267-75.
[18] Ibid., pp. 275-9.
[19] S. Benison, A.C. Barger, and E.L. Wolfe, 'Walter B. Cannon and the mystery of shock: a study of Anglo-American co-operation in World War I', *Medical History* 35 (1991), pp. 217-49.

survival; the unstated corollary of this proposition was that even the most superficially benign environment could unleash threatening forces at any second. No matter how civilised man and his world appeared to become, nature red in tooth and claw lurked beneath both. In the face of danger, the animal inheritance would resurface and trample over the most recent and most human acquisitions of evolution. This destruction, perversely enabled only for the purposes of animal survival, was wreaked through emotion. There was novelty in Cannon's account of the physiological mechanisms by which this was achieved, but his researches could be slotted so easily into theories of shell-shock because his overall framework of interpretation fitted so exactly with that current in psychological medicine.

SHELL-SHOCK AND THE PHYSIOLOGY OF EMOTION

From 1917 onwards, the medical literature on the war neuroses was littered with references to the physiological effects of emotion. There has been little historiographical comment on this trend. Ben Shephard argues that British doctors 'paid lip service to Cannon's work but were not sure what its implications were', and that these researches were therefore of limited importance for shell-shock.[20] This conclusion belies both the extent to which physiological considerations were taken on board by the medical community, and the ultimate significance of this open attitude to such explanations. There is no want of direct citations of Cannon's work in the medical literature on the war neuroses.[21] Even more telling, however, are the manifold observations on physiological changes: enlarged thyroids, symptoms of Graves' disease, or general metabolic and endocrine disturbances in invalided soldiers.[22] It is easy to miss the import of these remarks because they were sometimes

[20] B. Shephard, *A war of nerves: soldiers and psychiatrists, 1914-1994* (London, 2002), pp. 112-3 and p. 125.
[21] Armstrong- Jones, 'The psychology of fear', p. 347 and pp. 365-6; R. Armstrong-Jones, 'Mental states and the war – the psychological effects of fear. I', *Journal of State Medicine* 25:8 (August 1917), pp. 238-49, pp. 243-4; C.S. Read, 'A survey of war neuro-psychiatry', *Mental Hygiene* 2:3 (July 1918), pp. 359-87, p. 366; R.H. Steen in 'Discussion: functional gastric disturbance in the soldier', *Journal of Mental Science* 63 (January 1917), pp. 144-8, p. 144.
[22] W. Garton, 'Shell shock and its treatment by cerebro-spinal galvanism', *British Medical Journal* 1916 (2), pp. 584-5; [Anon.], 'Reviews: shell shock and its lessons', *British Medical Journal* 1917 (2), p. 47; J.T. MacCurdy, *War neuroses* (Cambridge, 1918), p. 21 and p. 23; M.D. Eder, 'An address on the psycho-pathology of the war neuroses', *Lancet* 1916 (2), pp. 264-8, p. 266; J.B. Tombleson, 'An account of twenty cases treated by hypnotic suggestion', *Journal of the Royal Army Medical Corps* 29:3 (September 1917), pp. 340-6; F.W. Burton-Fanning, 'Neurasthenia in soldiers of the home forces', *Lancet* 1917 (1), pp. 907-11, p. 910; Chambers, 'Mental wards', p. 173; Campbell, 'War neuroses', p.

offered almost as throwaway comments, but they demonstrate that the physiological effects of emotion formed a noteworthy component of the clinical picture of shell-shock. The engagement with physiological theories was not a brief flirtation, discarded as psychological explanations came into vogue. As will be shown, these ideas could be incorporated within a predominantly psychological framework, but they were also invoked well into the post-war period.[23] Any account of shell-shock which does not include some reference to the physiology of emotion neglects an important aspect of its contemporary conceptualisation.

The physiology of emotion was incorporated into theories of shell-shock in various ways. It could be used to argue that the war neuroses, at least in some of their manifestations, were essentially physiological rather than psychological disorders. This view was put forward by Arthur Hurst (1879-1944), consultant to the British forces in Salonkia, neurologist to the Royal Victoria Hospital, Netley, and then commanding officer of the Seale Hayne Military Hospital at Newton Abbot, in 1917. He drew extensively on the idea of suprarenal activity to explain the origin and symptoms of certain types of shell-shock. He concluded that the effect of prolonged emotion was to produce increased 'excitability of the central nervous system', which caused the appearance of terror to persist even after symptoms had been removed by suggestion.[24] The second edition of his *Medical diseases of the war* (1918) also contained a lengthy discussion of hyperadrenalism and hyperthyroidism. Here Hurst recommended isolation (accompanied by small doses of opium and belladonna) as a treatment for these disorders, stressing that the patient 'should be protected from any chance of being reminded of what he has passed through by thoughtless conversations or illustrated papers'.[25] This was exactly opposite to the advice being dished out by those physicians formulating psychological theories of the war neuroses.

503; R.T. Williamson, 'Remarks on the treatment of neurasthenia and psychasthenia following shell shock', *British Medical Journal* 1917 (2), pp. 713-5, p. 714; H.H. Tooth, 'Neurasthenia and psychasthenia', *Journal of the Royal Army Medical Corps* 28: 3 (March 1917), pp. 328-45, p. 328; Eager, 'War psychoses', p. 424.

[23] See particularly the summary of evidence in *Report of the War Office Committee of Enquiry into "Shell-Shock"* , p. 100.

[24] A.F. Hurst, 'Observations on the etiology and treatment of the war neuroses', *British Medical Journal* 1917 (2), pp. 409-14, p. 413.

[25] A.F. Hurst, *Medical diseases of the war*, 2nd edn (London, 1918), pp. 35-40.

This use of physiological theories, to bulwark a physical explanation of the war neuroses, appears to have been particularly prominent among doctors who had served in a medical capacity in France. This is not surprising: doctors at the front doubtless saw a far greater number of men whose symptoms sprang from sheer exhaustion than those serving in hospitals in England. Taking Cannon's researches as his starting point, the neurologist William Johnson (1885-1949) analysed cases of hyperthyroidism at a shell-shock treatment centre in France. He argued that exhausted soldiers frequently presented a definite condition of exophthalmos, which then passed off and became indistinguishable from neurasthenia (a generalised nervous disorder). He concluded that 'a large number of so-called psychoneuroses are cases in which the symptoms are due to a state of disordered internal secretion the result largely of emotional exhaustion, and, to a less degree, of physical exhaustion'. He proposed therefore to class this group as 'exhaustion syndrome', and recommended rest, diet, tonics, and the occasional dose of Dove's powder as a suitable treatment.[26] The same line was taken in the 1923 medical history of the war, which argued that 'the cases with exophthalmos were merely the more striking example of what was essentially one symptom-complex', and used the former as the model for its description of neurasthenia.[27]

An even more common effect of physiological theories of emotion, however, was to lead to a heightened awareness of the reciprocal influence of mind and body. James Purves Stewart (1869-1949), consulting physician to the British armies in the Mediterranean and the Near East, argued that 'an atmosphere of confidence and cheerfulness' acted as a curative agent through 'the development of a happy, "emotional" feeling-tone, entirely reflex and subconscious, exercised through the vegetative nervous system and the endocrine glands'.[28] The neurologist Judson Bury (1852-1944) drew the conclusion from Cannon's work that the bodily changes produced by the effects of fear and shock were so extensive that they 'must also

[26] W. Johnson, 'Symptoms of hyperthyroidism observed in exhausted soldiers', *British Medical Journal* 1919 (1), pp. 335-7, pp. 336-7.
[27] W.G. Macpherson, W.P. Herringham, T.R. Elliot and A. Balfour (eds), *History of the Great War based on official documents. Medical services: diseases of the war, volume 2* (London, 1923), p. 21; see also p. 19.
[28] J.P. Stewart, 'The treatment of war neuroses', *Archives of Neurology and Psychiatry* 1:1 (January 1919), pp. 14-24, p. 24; see also I.B. Muirhead, 'The mental factor', *The Medical World* 11 (July-December 1918), pp. 170-2, p. 170.

produce some change in the neurons of the central nervous system'. He believed this made nonsense of any attempt to 'divide cases clinically into functional and organic'.[29] The trend of several strands of research presented in medical journals, from an attempt to show that mechanical cardiac motor disturbances could produce emotional symptoms through a knock-on effect on the integrated physiological organism, to the theory that disturbance of the sympathetic system could produce organic lesions of the spinal cord, was to support the view that psychological causes could produce physical effects and vice versa.[30] Walter Langdon Brown (1870-1946), a distinguished physiologist who served as an RAMC captain in the 1st General Hospital, developed this theme in his 1918 lectures on the role of the sympathetic nervous system in disease. Here he attempted to demonstrate that through the sympathetic system, the 'evil effects of depressing emotions' could lead 'even to structural change'. He focused on the physiological side of the question, pleading that he was 'not competent' to deal with psychological factors, but his aim had nevertheless been to explicate 'some lines of thought which make clearer the influence of the mind on the body'.[31]

It is therefore not surprising that theories based on physiology could also display several points of contact with psychological explanations. Percy Hunter, a former asylum psychiatrist who worked at the Gateshead War Hospital and Maghull Military Hospital, explained that in the war neuroses an 'exhaustion of energy' was caused by the repression of emotion. He argued that although the soldier was encouraged by his military training to repress emotion, once an emotional stimulus had been received and set in motion a series of bodily responses, all such attempts were doomed to failure, 'for the machinery has been set in motion which is to devour their energy like a parasite, slowly consuming them and producing the intense exhaustion which only one process can arrest'. The only possibility of cure lay in 'persuading the patient to recount his experiences', because when the original stimulus of the emotion was

[29] J.S. Bury, 'Remarks on the pathology of the war neuroses', *Lancet* 1918 (2), pp. 97-9, p. 98; see also R. Armstrong-Jones, 'Mental states and the war – the psychological effects of fear. II', *Journal of State Medicine* 25 (October 1917), pp. 289-99, pp. 290-1.
[30] J.I. France, 'Nervous and mental symptoms of heart disease', *The Medical World* 4 (Jan-June 1915), pp. 355-7; [Anon.], 'The interdependence of the sympathetic and central nervous systems', *British Medical Journal* 1918 (2), p. 471.
[31] W. L. Brown, 'The Croonian lectures on the role of the sympathetic nervous system in disease. IV', *Lancet* 1919 (1), pp. 965-70, p. 970.

recalled it 'put into action that muscular system by which we normally express it'. The reflex was therefore satisfied, the organism regained its stable equilibrium, and the patient could begin to rebuild his depleted stocks of energy.[32] Hunter took as literal truth the analogies of physical repression employed by psychologists, and reached the same conclusions regarding the ideal therapy.

As has been seen, the physiology of emotion could be invoked to support a view of the war neuroses as a physical disorder, or to argue that an originally psychological disturbance could spill into the somatic realm and produce structural damage. Most significantly, at every point in the spectrum of medical opinion, doctors drew on physiological theories. The fact that these theories appealed to a doctor such as the neuro-pathologist Frederick Mott (1856-1926), who was keen to anchor shell-shock within a general theory of physical causation of mental disorders, requires no further explanation.[33] Yet those physicians most associated with psychological approaches to the war neuroses also, to varying degrees, incorporated physiological elements into their writings. In his first article on shell-shock, Grafton Elliot Smith (1871-1937), a professor of anatomy at Manchester University who researched the war neuroses at Maghull Military Hospital, argued that an important factor in the maintenance of the psychical effects of shock was that 'the physiological expressions of the emotion excited at the time of the trauma […] served to link on to the present trouble other incidents in the individual's past history which were associated with similar emotional effects'.[34] This strand was not developed much further in the book he co-authored with Thomas Pear (1886-1972), a colleague from the psychology department at Manchester, although there was a reference to Cannon's work.[35] Moreover, in their reply to an unfavourable review they referred the reader to Cannon's book for a full treatment of this subject, and repeated this injunction in the preface to the second edition of the book.[36] A rigid distinction between 'physical' and 'psychological'

[32] P.D. Hunter, 'Neurasthenia and emotion', *Practitioner* 103:5 (November 1919), pp. 343-57, pp. 343-7 and p. 357.
[33] F.W. Mott, 'Two addresses on war psycho-neurosis. (I) Neurasthenia: the disorders and disabilities of fear', *Lancet* 1918 (1), pp. 127-9, p. 127 and p. 129; F.W. Mott, *War neuroses and shell shock* (London, 1919), pp. 19-22; F.W. Mott, 'The neurological aspects of shock', *Lancet* 1921 (1), pp. 519-22, p. 520.
[34] G.E. Smith, 'Shock and the soldier. I', *Lancet* 1916 (1), pp. 813-7, p. 816.
[35] G.E. Smith and T.H. Pear, *Shell shock and its lessons*, 2nd edn (Manchester:, 1918), p. 8.
[36] Ibid., p. x; G.E. Smith and T.H. Pear, 'Letters to the editor: shell shock and its lessons', *Nature* 100 (Sept. 1917-Feb. 1918), pp. 64-6, p. 65.

theories of shell-shock is not tenable, a conclusion which attains even further force from a consideration of the related topic of the perceived role of instinct in the war neuroses.

THE PSYCHO-BIOLOGY OF INSTINCT

A range of doctors incorporated physiological elements into their theories of shell-shock with remarkable ease. One explanation for this fact is that the physiology of emotion, explicitly formulated and interpreted within an evolutionary framework, fitted perfectly into the model of mind prevalent in pre-war psychological medicine and which formed the backdrop of theories of the war neuroses. Cannon portrayed intense emotion as a primitive, animal response to danger which worked through the body and overwhelmed every other function or capability of the organism. His researches therefore provided a physiological counterpart for the psychological struggle between emotion and self-control. Cannon's interpretation of the origin and effects of emotion also dovetailed with another trend particularly evident in the British literature on shell-shock from 1917 onwards: the prominent role assigned to instinct.[37] For Cannon, the all-powerful effects of emotion were explained by the supremacy of the instinct of self-preservation. The concept of instinct as a motivating factor in human behaviour had a variety of sources, and was correspondingly deployed in many different ways in theories of shell-shock. All these uses, however, shared two features. Firstly, it was 'the great primordial instinct of self-preservation', with its accompanying emotion of fear, which was invoked.[38] Secondly, instinct itself was perceived as a legacy of man's animal inheritance. This application of instinct coalesced with other conceptualisations, outlined above, in the ultimate framing of the war neuroses as regression.

Theories which drew on Cannon's researches implicitly acknowledged the role of self-preservation, but instinct could also be invoked alongside the physiology of emotion in a less precise way. Occasionally shell-shock doctors argued that the war

[37] See, for example, D.G. Thomson, 'Correspondence: psycho-analysis', *British Medical Journal* 1917 (1), pp. 32-3, p. 33.
[38] Chambers, 'Mental wards', p. 158; for examples of this use, see Mott, 'Two addresses on war psycho-neurosis. (I)', p. 127-8 and E.F. Ballard, 'The psychoneurotic temperament and its reactions to military service', *Journal of Mental Science* 64 (October1918), pp. 365-77, p. 374.

neuroses were caused by prolonged stimulation of emotion and instinct, coupled with 'the continuous effort of self-control under impulses to seek safety'.[39] Such theories drew together the physiology of emotion, the primacy of the instinct of self-preservation, and the soldier's efforts at self-control into unified theories. It was comparatively rare, however, for authors to directly and simultaneously invoke all three of these factors. It was more common for shell-shock to be described as a struggle between instinct and self-control. For example, David Forsyth (1887-1941), a psychoanalytically-inclined physician, argued that the war neuroses resulted from a situation of danger, against which 'the instinct of self-preservation rebels, employing as its weapon the powerful emotion of fear'. This protective and 'ineradicable' emotion could be 'coerced only by a still more powerful effort of will'. The difficulty of self-control increased with each new danger or strain, and eventually the man would break down.[40] In his evidence to the 1922 Committee of Enquiry into Shell-shock, Bernard Hart (1879-1966), a psychologist who had held the wartime post of consultant in mental diseases to military hospitals in London, explained that the war neuroses were caused by 'a conflict between the self-preservation instinct on the one hand and on other [sic] a group of forces compounded of self-respect, duty, discipline, patriotism'.[41] These examples demonstrate how the physiology of emotion, the biological concept of instinct, and psychological ideas were used, in varying combinations, to arrive at theories of shell-shock which shared the same basic outline of a struggle between the higher and lower within the human.

This can be seen through a brief examination of the way contemporaries related instinctual explanations of shell-shock to Freud's theory of the neuroses. Although instincts were increasingly awarded a prime place among the pantheon of agents directing human behaviour, in broad agreement with the Freudian view of mind, the war neuroses were seen to provide ample evidence that the sexual instinct was not the most important of these.[42] Even Ernest Jones (1879-1958), Freud's most dedicated

[39] D.W. Carmalt-Jones, 'War-neurasthenia, acute and chronic', *Brain* 42:3 (October 1919), pp. 171-213, p. 171, pp. 175-6, p. 179, and p. 211; E.F. Ballard, *An epitome of mental disorders: a practical guide to aetiology, diagnosis, and treatment for practitioner, asylum and R.A.M.C. medical officers* (London, 1917), p. 143.
[40] D. Forsyth, 'Functional nerve disease and the shock of battle: a study of the so-called traumatic neuroses arising in connexion with the war', *Lancet* 1915 (2), pp. 1399-1403, p. 1401-2.
[41] B. Hart in *Report of the War Office Committee of Enquiry into "Shell-Shock"* , p. 77.
[42] W.H.R. Rivers, 'A case of claustrophobia', *Lancet* 1917 (2), pp. 237-40, p. 239; F. Dillon, 'The analysis of a composite neurosis', *Lancet* 1919 (1), pp. 57-60; T.A. Ross, 'Certain inter-relations

British disciple, accepted that self-preservation was the main instinct at stake in shell-shock, and rushed to explain that this was actually entirely consonant with the Freudian theory of the neuroses.[43] So far as the argument here is concerned, the extent to which instinctual theories of shell-shock drew on Freud is very much a side issue. The aim is to demonstrate a different point: that in its most important features, the depiction of instinct and the unconscious in British interpretations of psychoanalytic theory concurred with the general description of shell-shock as a struggle between emotion and will, and therefore between the animal and the civilised. To this extent, although theorists influenced by psychoanalysis were perceived and perceived themselves as outside the mainstream, a particular type of continuity can be demonstrated at all points on the spectrum of medical opinion on the war neuroses.

In British interpretations of psychoanalytic theory, the unconscious was characterised as the repository of instinct and emotion, and neurosis as the outcome of a conflict between unconscious and conscious forces which resulted in the undue dominance of the former. Thus William Stoddart (1868-1950), the ex-superintendent of Bethlem Hospital and a consulting physician in mental diseases, explained in his lectures on 'the new psychiatry' that 'our unconscious mind is on a lower, less mental, more neural, and more animal plane than our conscious mind, and it is pervaded with sexual thoughts and desires'. In neurosis, 'the unconscious tends to grow at the expense of the conscious; and it may be taken as a rule that the greater the emotional tone of the original complex the greater does that complex grow when it becomes unconscious'.[44] Ernest Jones emphasised that the unconscious life was 'of a rude and savage character incompatible with the demands of civilised standards'.[45] Constance Long, the author of several articles on psychoanalysis, also depicted the unconscious as the storehouse of 'man's primitive tendencies', and madness as the dominance of the unconscious.[46] These themes are reiterated in the work of another psychoanalyst, David Eder (1865-1936). He argued that the war neuroses were the manifestation of

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between peace and war neuroses', section of neurology, *Proceedings of the Royal Society of Medicine* 12 (parts 1 and 2), pp. 13-20, p. 20; Burton-Fanning, 'Neurasthenia in soldiers', p. 911; Hurst, *Medical diseases of the war*, pp. 73-5.

[43] E. Jones, 'War shock and Freud's theory of the neuroses', section of psychiatry, *Proceedings of the Royal Society of Medicine* 11:3 (1917-1918), pp. 21-36, pp. 31-3.

[44] W.H.B. Stoddart, 'The Morison lectures on the new psychiatry. I', *Lancet* 1915 (1), pp. 583-90, p. 587 and p. 590.

[45] E. Jones, 'War and individual psychology', *Sociological Review* 8:3 (July 1915), pp. 167-80, p. 169.

[46] C.E. Long, 'Correspondence: Jung's papers on analytical psychology', *Lancet* 1916 (2), p. 439.

emotions which had been repressed from consciousness and therefore had passed into the unconscious. The unconscious was the link between 'us, the heirs of all ages, mentally with primitive man'. The aim of psychoanalysis was to enable the individual, by his own 'will power', to 'surrender that which is infantile and immature in himself' and to become his own master.[47]

These examples demonstrate that although there were undeniable and extremely important differences between psychoanalytically-oriented physicians and those who were not, the association of the unconscious with instinct and emotion meant that there were several points of coincidence between these and more mainstream theories of the war neuroses. These similarities stemmed in part from Freud's use of authors central to pre-war British psychological medicine, most notably Darwin and the neurologist John Hughlings Jackson (1835-1911).[48] The latter was an important inspiration for Rivers' theorisation of shell-shock, but his influence is evident elsewhere.[49] Sir George Savage (1842-1921), a lion of the pre-war psychiatric establishment, drew on Jackson to explain the loss of control evident in the war neuroses.[50] Stoddart even concluded his explication of Freud, perhaps as a sweetener to the audience, by claiming that the 'fundamental principles of our new psychiatry' had all been foreseen by 'the great man' back in the 1890s. The 'modern school' had only proved Jackson's theory that 'there is a positive and a negative element in every case of insanity, the negative being defect of consciousness or loss of *some* consciousness, the positive being activity of the consciousness remaining (on a lower level)'.[51]

The common fund of reference helped to bridge the gap between psychoanalytic theories and those propounded by less psychologically minded authors. Edward Farquhar Buzzard (1871-1945), consultant to the London Command and best known as a neurologist, happily expounded the view that the war neuroses occurred when 'primitive instincts and emotions cease to be corrected or controlled by higher mental

[47] Eder, 'An address on the psycho-pathology of the war neuroses', pp. 264-6, and p. 268.
[48] R.G. Goldstein, 'The higher and lower in mental life: an essay on J. Hughlings Jackson and Freud', *Journal of the American Psychoanalytic Association* 43 (1995), pp. 495-515.
[49] See, for example, H. Head, 'Some principles of neurology', *Brain* 41:3 and 4 (November 1918), pp. 344-54, p. 349.
[50] G.H. Savage, 'Mental war cripples', *Practitioner* 100:1 (January 1918), pp. 1-7, p. 1.
[51] Stoddart, 'The Morison lectures on the new psychiatry. I', p. 590.

activities which, from the individual and the racial point of view, are of later development'.[52] The author of the chapter on shell-shock in the *Times History of the War* is unknown, but from the comment that the healthy soldier should be 'dissociated from his brain' during battle, it seems fair to assume that his understanding of the latest psychological literature was sketchy at best. But he was still able to explain that the unconscious or subconscious mind was the repository of race instinct, and that it was spearheaded by fear, 'chief among the primitive or elemental emotions'. In shell-shock, the 'controlling power' of man was weakened, 'the conscious mind was in abeyance', and 'fear tended to assert itself and to gain dominion over the whole being'. The protective mechanism of fear had been 'carried out of the normal into the abnormal'.[53] Mott even argued that Freud's theories were not so revolutionary after all: the concept of the censor did not 'differ essentially from inhibition exercised by the highest centres of control', and it was only the innovatory language which obscured the familiarity of the explanation.[54]

As this discussion of the physiology of emotion and the psycho-biology of instinct has demonstrated, from various standpoints – physiology, biology, neurology, and psychology – the war neuroses were conceived as a triumph of the body, the animal, and the primitive over the highest accoutrements of human civilisation. Langdon Brown emphasised that the sympathetic system was 'for ever beyond the control of the will'. Although the 'highest organism is the most self-controlled […] the sympathetic cannot be thus controlled'. Humans might learn to 'deaden' the emotions, but nothing could 'prevent the response to an emotion once evoked'.[55] The American psychologist Sidney Schwab concluded that in shell-shock, 'the soldier for the time being acts as an instinctive and primitive organism, under the guidance of the most primitive of impulses, that is, of self-preservation'. [56] One psychoanalytical interpretation of the war neuroses ended with the author's regrets that he had no space to discuss the parallels between 'narcissistic regression' and physiological changes

[52] E.F. Buzzard in *Report of the War Office Committee of Enquiry into "Shell-Shock"* , pp. 74-5.
[53] [Anon.], 'The mental factor in modern war: shell shock and nervous injuries', in *The Times History of the War* (London, 1916), pp. 313-48, pp. 321-2 and pp. 324-5.
[54] F.W. Mott, 'Two addresses on war psycho-neurosis: (II). The psychology of soldier's dreams', *Lancet* 1918 (1), pp. 169-72, p. 169.
[55] W. L. Brown, 'The Croonian lectures on the role of the sympathetic nervous system in disease. I', *Lancet* 1919 (1), pp. 826-33, p. 833.
[56] S.I. Schwab, 'The mechanism of the war neuroses', *Journal of American Psychiatry* 14:1 and 2 (April-June 1919), pp. 1-8, p. 6.

characteristic of an earlier stage in the evolution of the race.[57] Although these theorists approached the problem from different angles, they all reached the same conclusion: shell-shock was a regression to a lower level of individual or racial development.

The concept of regression was at the heart of various conceptualisations of the war neuroses, and it united some physicians whose theories seem wildly divergent on initial analysis. In the opinion of some, this regression stretched back further than the infancy of the individual; it reached back into the depths of the history of human evolution and beyond.[58] Oscar Pearn, a former asylum psychiatrist, regarded certain symptoms of shell-shock as examples of 'regression' because they represented 'an attempt at adaptation on lower psychic levels when the superior functions are in abeyance'.[59] The academic psychologist William McDougall (1871-1938) stated that in cases of severe amnesia, 'the patient's memory function seemed to be reduced to its most rudimentary or primitive condition, such as we may suppose to obtain among the lower animals'.[60] The neurologist and RAMC captain Donald Core (1882-1934), meanwhile, explained the amnesias and anaesthesiae of the war neuroses as an 'inherited physiological reaction', the counterpart of auto-amputation of a wounded limb by crabs, newts, and lizards, or loss of appetite found in the brooding bird waiting for her eggs to hatch. All these actions served the same purpose as a hysterical symptom of dissociating the individual from painful impressions in order to ensure 'the welfare of the race'.[61] The physician Charles Stanford Read claimed that the effects of shock were always 'more or less reversionary', and brought out 'prehistoric and sometimes even embryonic activities'.[62] These examples demonstrate the wartime prevalence of the view that shell-shock constituted a regression to a lower

[57] G.H. Fitzgerald, 'Some aspects of the war neurosis', medical section, *British Journal of Psychology* 2:2 (January 1922), pp. 109-20, p. 120.
[58] See C. Bird, 'From home to the charge: a psychological study of the soldier', *American Journal of Psychology* 28:3 (July 1917), pp. 315-48 for a particularly developed analysis of this theme. Bird was an American psychologist, but he based his argument largely on the British literature of shell-shock.
[59] O.P.N. Pearn, 'Psychoses in the Expeditionary Forces', *Journal of Mental Science* 65:269 (April 1919), pp.101-8, p. 108. See also Maurice Nicoll in 'Discussion: the repression of war experience', section of psychiatry, *Proceedings of the Royal Society of Medicine* 11:3 (1917-1918), pp. 18-20, p. 18.
[60] William McDougall in 'Special discussion on shell shock without visible signs of injury', sections of psychiatry and neurology (combined meeting), *Proceedings of the Royal Society of Medicine* 9:3 (1915-1916), pp. i-xliv, p. xxvi.
[61] D.E. Core, 'Some mechanisms at work in the evolution of hysteria', *Lancet* 1918 (1), pp. 365-70, p. 366.
[62] Read, 'A survey of war neuro-psychiatry', pp. 365-6 and p. 369.

stage of evolutionary development. This conception was most fully developed in the post-war work of Rivers, the apparent sage and saviour of psychological understandings of the war neuroses.

W.H.R. RIVERS AND THE THEORY OF REGRESSION

William Halse Rivers Rivers (1864-1922) was fifty when the First World War broke out, and already well known for his contributions to neurological research and anthropology. During the war he embarked on a third career as an army psychologist, serving successively at Maghull Military Hospital, Craiglockhart War Hospital, and then attached in the capacity of psychologist to the Royal Flying Corps at the Central Hospital at Hampstead.[63] He is perhaps best remembered today for his 'treatment' of the poet Siegfried Sassoon at Craiglockhart War Hospital in 1917, an episode recorded by the latter in his trilogy of 'fictional autobiographies', and more recently retold for the general public by Pat Barker's *Regeneration* (1991).[64] The conventional historiography of shell-shock has caught something of the eulogistic tone of these depictions, highlighting Rivers' adoption of a modified Freudianism and his practice of analytic therapy.[65] Although undoubtedly of relevance to the history of the reception of Freud in Britain, the near-exclusive focus on this aspect of Rivers' work has tended to obscure how his theorisation of shell-shock relates to his other professional interests, and its place within the general context of theories of the war neuroses.

The main aim of this discussion is to demonstrate that Rivers' theories of shell-shock are consonant with its widespread wartime conceptualisation as a struggle between the animal and human constituents of man which resulted in regression. This argument is developed primarily through an analysis of the depiction of the war neuroses in his *Instinct and the unconscious* (1920). Rivers' best-known

[63] The standard biography of Rivers is R. Slobodin, *W.H.R. Rivers* (New York, 1978), which focuses on his career as an anthropologist.
[64] S. Sassoon, *Sherston's progress* (London, 1983) [1936]; P. Barker, *Regeneration* (London, 1991).
[65] E. Leed, *No man's land: combat and identity in World War One* (Cambridge, 1979), pp. 176-82; E. Showalter, *The female malady: women, madness and English culture, 1830-1980* (London, 1987), pp. 167-94; M. Stone, 'Shellshock and the psychologists' in W.F. Bynum, R. Porter and M. Shepherd (eds), *The anatomy of madness: essays in the history of psychiatry. Volume 1: people and ideas* (London and New York, 1985), pp. 242-71

psychological writings are his wartime articles which explored in some depth the application of the Freudian model of mental conflict to the war neuroses.[66] These publications, all lucid explications of psychological theory and its practical value, appear to have formed the basis for the view of Rivers as a psychiatric pioneer. By contrast, the first impression on reading *Instinct and the unconscious* is of its utter strangeness. In this work, Rivers drew on physiology, neurology and biology as well as Freud in the attempt to demonstrate 'the general biological function of the process by which experience passes into the region of the unconscious'.[67] Ben Shephard has argued that this work is a significant divergence from the psychoanalytical interpretation of the wartime articles and that 'Rivers was himself regressing back to his neurological past'.[68] It is equally possible, however, to read *Instinct and unconscious* as not only the logical endpoint of Rivers' approach to psychology, but also the culmination of a far more widespread conceptualisation of the war neuroses.

In *Instinct and the unconscious*, Rivers proposed that the psycho-neuroses resulted from an imbalance of 'instinctive tendencies and the forces by which they are controlled'. This imbalance was the result of either an increase in suppressed tendencies such as the instinct of self-preservation or the emotion of fear, or the 'weakening of the process by which they are controlled'. He believed that although both factors were always involved, the second was of more importance in the production of the war neuroses. The 'excessive nature of the strains to which modern warfare exposes the soldier' made the normal process of repression of instinctive tendencies difficult to maintain, while simultaneously the dangers to which he was exposed roused the instinct of self-preservation. Psycho-neurosis resulted from the attempt 'to restore the balance between instinct and controlling forces'.[69] This explanation of the neuroses was entirely consonant with the theories Rivers had put forward in his wartime articles, where he had also focussed on the unprecedented strains to which the soldier was subjected, and the role of repression in the formation

[66] Rivers, 'A case of claustrophobia'; W.H.R. Rivers, 'Freud's psychology of the unconscious', *Lancet* 1917 (1), pp. 912-4; W.H.R. Rivers, 'The repression of war experience', section of psychiatry, *Proceedings of the Royal Society of Medicine* 11:3 (1917-1918), pp. 1-17.
[67] W.H.R. Rivers, *Instinct and the unconscious: a contribution to a biological theory of the psycho-neuroses* (Cambridge, 1920), p. 5.
[68] B. Shephard, '"The early treatment of mental disorders": R.G. Rows and Maghull 1914-1918', in H. Freeman and G.E. Berrios (eds), *150 years of British psychiatry, volume 2: the aftermath* (London and New Jersey, 1996), pp. 434-64, p. 452.
[69] Rivers, *Instinct and the unconscious*, pp. 119-20 and p. 5.

of an anxiety neurosis.[70] The similarities between this account and the instinctual theories outlined in the earlier part of this chapter, which it was argued recast but did not fundamentally alter the notion of a struggle between emotion and will, is also evident.

In this post-war book, Rivers also reiterated an earlier argument that anxiety neurosis was the result of an unsuccessful attempt to suppress the instinct of self-preservation and its accompanying emotion of fear through the witting process of repression. But he now expanded this analysis to claim that repression failed as a means of solving the conflict between instinct and the forces by which they were controlled because suppression was an instinctive process that was 'especially potent and effective in childhood', and 'should become less potent and effective with advancing years'. The process of suppression could only be effective when it was unwitting, and anxiety neurosis resulted from 'the failure in the adult of a process which takes place naturally and without any special conflict in childhood'.[71] Significantly, Rivers now described anxiety neurosis as not only the result of a conscious and intelligent attempt to uphold the social standard of duty, but as the characteristic reaction of an adult which paradoxically failed because it attempted to reinstate a childish form of mental activity.

The explanation Rivers gave of hysteria (which he preferred to call 'substitution-neurosis') constituted more of a departure from his earlier theory. Although the instinct of self-preservation had been given a central role in the causation of hysteria in his 1918 article, there he had focussed far more on suggestibility as fostered by military training and manifested in symptoms. He now argued that in hysteria 'the organism seeks to escape from the conflict by substituting another form of instinctive reaction for that which has been brought into activity, by the conditions which have acted as the immediate precursors of his disorder'. In his view, the most common hysterical symptoms found in the war neuroses, paralyses, contractures, and anaesthesias, were manifestations of the instinct of immobility, which in an earlier chapter he had described as an extremely primitive reaction to danger. Therefore whereas anxiety neurosis was 'due to conflict between the primitive and instinctive

[70] Rivers, 'The repression of war experience'.
[71] Rivers, *Instinct and the unconscious*, pp. 120-6.

tendencies and factors based largely or altogether on intelligence', hysteria was 'the result of the abrogation of the modifying principle based on intelligence' and originated in 'the substitution, in an imperfect form, of an ancient instinctive reaction in place of other forms of reaction to danger'.[72]

The most interesting part of *Instinct and the unconscious* from the present point of view, however, is the penultimate chapter, in which Rivers considered the extent to which the psycho-neuroses of war were 'examples of regression', or, following Hughlings Jackson, 'processes which enable us to study the general course of mental development on the assumption that in disease the organism tends to retrace the steps through which it has passed in its development'. He dealt with hysteria rather summarily, claiming that if it did actually represent the substitution of the instinct of immobility for other forms of reaction, then it was 'not merely an example of regression, but of regression to a very primitive form of reaction', 'not merely […] to a character of the infancy of the individual, but to a character which must go very far back in the process of development by which Man has become what he is'. Although the regression was less complete in anxiety neurosis, its major features – 'the strength and urgency of emotional reactions', nightmares, compulsive acts – were all 'an outcrop of a mode of reaction which is characteristic of infantile mentality'. He even suggested (although admitting that it might appear 'fanciful' to some) that the desire for solitude and lack of sociability shown by such patients was 'an instinctive reaction of the same kind as that which leads animals when ill, to withdraw from their fellows in order to die in solitude', and was therefore a 'regression to an instinctive reaction dating far back in the history of the race'.[73]

In *Instinct and the unconscious*, his fullest statement on the war neuroses, Rivers skilfully wove the disparate strands explored by wartime authors – physiology, neurology, psychoanalysis – into a coherent and wide-ranging theory. Rivers was, however, exceptional only in the scope, intellectual consistency, and detail with which he worked out this theory. His broad conceptualisation of the war neuroses as regression coincided exactly with that put forward across the range of the wartime medical literature. Although Shephard has suggested that this book diverges from his

[72] Rivers, *Instinct and the unconscious*, p. 55 and pp. 127-35.
[73] Ibid., p. 148-52.

expositions and applications of Freud in the latter years of the war, it appears more likely that the different focus reflects the context in which it was written. His immersion in Freud while at Maghull partly explains this focus in his earlier articles,[74] but their proselytising function is also important. Rivers stepped into the debates on Freud, ducking to avoid all the mud flying about, and put forward a quietly impassioned case for the practical value of a modified analytical approach. In 1917, shell-shock constituted a military and therefore a national emergency. The main criteria for publication of articles on the subject was the immediate relevance of a theory for understanding and treating the disorder. This is what Rivers aimed to achieve in his wartime writings.

It is unlikely that Rivers had fully formulated the theory put forward in *Instinct and the unconscious* at this point, but there is nothing in the earlier articles that conflicts with it. In his 1917 discussion of 'Freud's psychology of the unconscious' he defined the unconscious as a repository of ancestral (most prominently instinctive) as well as individual experience, a view which points towards his lengthier exposition of a biological theory of the war neuroses and was also representative of a wider trend, as shown above.[75] Allan Young's demonstration that a 'biological standpoint' derived largely from Herbert Spencer and Hughlings Jackson is a consistent strand running through all Rivers' varied professional researches militates against the notion that *Instinct and the unconscious* strikes a discordant note in his repertoire.[76] Rivers' writings on the future direction of psychological research also suggest that this post-war publication was a contribution towards his vision of the science. In 1916, he argued that psychology and sociology had essentially the same aims and each should learn from the methodologies developed by the other, a suggestion he underlined with reference to his own experience of studying primitive mentalities and cultures.[77] In May 1919 he further developed this idea of psychology as a science in which the

[74] T.H. Pear, 'Some early relations between English ethnologists and psychologists', *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 90 (1960), pp. 227-37, p. 232.
[75] Rivers, 'Freud's psychology of the unconscious', p. 912. This was a conventional Victorian definition of the bodily unconscious. See J.B. Taylor, 'Obscure recesses: locating the Victorian unconscious', in J.B. Bullen (ed.), *Writing and Victorianism* (London and New York: Longman, 1997), pp. 137-79. It was also a prominent feature within Freud's psychoanalytic theory. See L. Otis, 'Organic memory and psychoanalysis', *History of Psychiatry* 4 (1993), pp. 349-72.
[76] See A. Young, 'W.H.R. Rivers and the war neuroses', *Journal of the History of the Behavioral Sciences* 35:4 (1999), pp. 359-78. Young's work is the most significant contribution yet published to a 'joined up history' of Rivers' intellectual thought.
[77] W.H.R. Rivers, 'Sociology and psychology', *Sociological Review* 9:1 (Autumn 1916), pp. 1-13.

various branches – introspective, experimental, educational, industrial, social, animal, and physiological psychology – should work together and with ethnology and medicine to 'form a harmonious organisation working […] towards the better understanding of that which makes man what he is, which makes human society what it is – the Mind'.[78] This was the approach Rivers had taken in his own work, drawing on his own specialities, to date. *Instinct and the unconscious*, far from being an anomaly, was the work in which this vision was most fully developed.

CONCLUSION

The notion that emotion revealed 'human nature in its common character' and taught 'an equality which is no flattering ideal, but a convincing testimony to the descent of man' pre-dated 1914.[79] The experience of shell-shock appeared to provide positive and depressing proof of its truth. Whether perceived as the dominance of emotion, the recrudescence of instinct, or the loss of self-control, shell-shock was always a regression. The war neuroses were described from a variety of perspectives by different authors: the physiology of emotion, the biology of instinct, and the psychology of the unconscious were all explored in the attempt to understand these disorders. But ultimately all conceptualised the nervous and mental disorders of war in terms of a struggle between the higher and lower in man, and as damning evidence of his animal origins.[80] This evolutionary framework linked apparently diverse explanations of shell-shock, and cut through the division between 'physical' and 'psychological' theories. But it also meant that the war neuroses were aligned with a much older complex of fears regarding human nature, civilisation, and its future development. These anxieties continued into the post-war era, and if anything were deepened by the experience of four years of highly advanced and scientific bloodshed.

The broken soldier was an ominous reminder that only the thinnest and most fragile layer of neural tissue separated the human from the animal. Shell-shock was a great leveller. If man could be reduced to beast by the burden of war, his creature cousins

[78] W.H.R. Rivers, 'Psychology and medicine', *British Journal of Psychology* 10:2 and 3 (March 1920), pp. 183-93, p. 193.
[79] J.A. Hobson, *The psychology of jingoism* (London, 1901), p. 31.
[80] Metaphors of animalism also pervaded British and European fiction produced in response to the war. See A. Bonadeo, *Mark of the beast: death and degradation in the literature of the Great War* (Kentucky, 1989), especially pp. 1-40.

were not immune from its blasts. The phenomenon of shell-shock in cows resulting from the physiological effects of emotion has already been noted. A second definition of the disorder was applied to animals, this time to army horses, in an unsigned article in the *Times* from December 1917. Here, the observation that there was 'a great difference in the horses as they go in and out of line' led into a description of equine trauma which mirrored those of human sufferers. The horses eagerly went into the line full 'of fire and beans', but returned 'plastered with mud and very tired, and show no interest in the gun teams that pass them on their way up'. The intelligence and courage of British horses was favourably compared to those of other nations, particularly the 'Argentine and Canadian horses that lie down and flounder in any shell-hole that gives them excuse for rest'. As with men, 'well-bred horses […] suffer more from shell shock than the low-bred ones'. Finally, the story of a team of gun horses which had miraculously escaped injury from a shell explosion was told. The horses would never again 'approach that wall without shaking and quivering and falling down, or hear the sound of a near approaching shell without showing these same symptoms as a soldier might'. They 'had to be evacuated to a veterinary hospital well behind the lines and out of the range of shell and bomb till time brought forgetfulness and they could be sent up again'.[81] The identification between the shell-shocked soldier and the animal was complete.

[81] [Anon.], 'Army horses: animal sufferers from shell shock', *Times* 28 December 1917