In the 20th century, each war has produced its own categories of psychological and psychiatric casualty; however, World War I was the first clear exemplar of the complex interacting variables of combat stress and its dominant symptom sets.

It is difficult today to comprehend the enthusiasm with which the belligerent populations of both sides greeted the outset of World War I. The notion of war was both glamorous and desirable; it was to be the test of both national and individual toughness, character, and worth. Military doctrine on both sides called for a war of maneuver guided by the “spirit of the offensive” that would be both brief and glorious. The short period of maneuver ended weeks after the initial German offensive on the West. It was followed by the deadlock on the Marne and the “race for sea,” which ended with the prolonged stalemate of trench warfare. The means of war were ultimately much different from those hypothesized at its outbreak.

**SHELL SHOCK**

There are few reports of casualties that might be considered of a “psychological” nature during the initial period of the war of maneuver. Following the stabilization of the trench line from Switzerland to the sea and the commencement of trench warfare during 1915, the picture began to change. From 1915 on, the war produced significant numbers of casualties suffering from “shell shock.” This new disorder, actually first seen during the Russo-Japanese War, produced a wide array of both physical and psychological symptoms, and during 1915 several major transitions were made in terms of the recognition and evaluation of the new illness. In the past, the breakdown of behavior associated with this new syndrome or sickness would have been characterized as cowardice or malingering and been treated either punitively or with contempt.
World War I was a watershed period when the effects of “combat stresses” began to be recognized. These changes in perception were captured in extraordinary fashion in a statement by Company Quartermaster Sergeant Gordon Fisher:

I went further along and looked into the next dug-out and there was a guardsman in there. They talk about the psychology of fear. He was a perfect example. I can see that Guardsman now! His face was yellow, he was shaking all over, and I said to him, “What the hell are you doing here?” He said, “I can’t go. I can’t do it. I daren’t go!” Now, I was pretty ruthless in those days and I said to him, “Look, I’m going up the line and when I come back if you’re still here I’ll bloody well shoot you!” . . . when I came back, thank God, he’d gone. He was a Coldstream. A big chap six foot tall. He’d got genuine shell shock. We didn’t realize that at the time. We used to think it was cowardice, but we learned later on that there was such a thing as shell shock. Poor chap, he couldn’t help it. It could happen to anybody (Macdonald, 1995, p. 476).

While often referred to as a unitary phenomenon, shell shock was actually a diverse congeries of symptom complexes. Osler (1892) (see Chapter Four) observed almost all of these. The initial cases that were recognized as shell shock appeared after an enemy artillery attack. At first, most in the military medical system viewed it as a physically induced illness. In the classical model of Western medicine, a single causal agent was identified; shell shock was defined as a “commotional” illness: a physical ailment generated by the shock wave of exploding ordnance coming into contact with the head, producing micro-hemorrhaging in the brain, hence the term “shell shock.” This micro-hemorrhaging was presumed to produce alterations in behavior and a wide range of symptoms. The most flagrant and widespread were severe physical symptoms that were completely disabling and could be very long lasting. Other symptoms were of the sort described in Macdonald (1995). Most prominent were the symptoms that came to be called conversion disorders or conversion reactions. All had been prominent in the spectrum of hysteria: blindness, paralyses, contractures, aphonias, anesthesias, and profound amnesias. Other symptoms presented in clusters were considered diagnostic of neurasthenia.

A significant number of shell shock victims could be described in the same terms as those used for stragglers in the American Civil War: withdrawn; staring into the middle distance; exhibiting tremor; often clutching their weapons; overly responsive to any loud, sudden noise; continuously fatigued with any effort or exertion; and unable to function as soldiers. The extent of the range of symptoms and their protean nature is underlined by the following description by Major William E. Boyce, a medical officer in the 30th Infantry in World War I:

Some of them cursed and raved and had to be tied to their litters; some shook violently . . . some trembled and slunk away in apparent abject fear of every in-
coming shell, while others simply stood speechless, oblivious to all surroundings (Coffman, 1986, p. 224).

For those soldiers not exhibiting major physical symptoms, field and medical officers initially assessed shell shock as cowardice or malingering. It is likely that a number of such individuals were executed for cowardice in the face of the enemy.

By the winter of 1915, however, both British and French physicians (primarily neurologists to whom the cases were referred) had noted that the vast majority of soldiers diagnosed as suffering from shell shock had not been close enough to artillery bursts or other explosions to have suffered physical commotional damage. Thus, there was no external event that could physically produce the symptoms and altered behaviors. Indeed when some of these casualties died, autopsy produced no evidence of brain hemorrhages, even at the microscopic level, or of other central nervous system insults or lesions that might be held accountable. The logical alternative was then to conclude that the greatest contributors to such illnesses were emotional and psychological stresses, brought on by the strains of the battlefield and the war zone. The sources that were drawn upon for diagnosis were the standard categories of hysteria, neurasthenia, and traumatic neuroses (see Chapter Four for definitions).

The Shift to a Psychological Interpretation

French physicians were the first to reach the conclusion that shell shock was essentially a psychological phenomenon, a response to the strains of terrifying and overwhelming battlefield experiences. British military medicine came to the same conclusion and ultimately divided the classification into two categories: “shell shocked wounded”—those exposed to direct physical trauma—and “shell shocked sick”—those for whom there was no exposure to direct physical trauma (Babington, 1997). Both the British and French defined the problem in terms of the meta-category of hysteria and as one particularly grounded in the construct of suggestibility (as Babinski had developed it). The missing element of physical trauma in shell shock led to many complications in diagnosis. Was the patients’ reaction neurasthenia? Hysteria? Traumatic neurosis? For a large number of patients, the diagnostic category never became more precise than the administratively useful, if vague, “Not Yet Diagnosed (Nervous).”

After 1914, a number of physicians began to see shell shock as essentially a psychological or emotional disorder. An interesting early observation was made by Myers (1915, p. 320) in his summary of three cases:
They appear to constitute a definite class among others arising from the effects of shell shock. The shells in question appear to have burst with considerable noise, scattering much dust, but this was not attended by the production of odor. It is therefore difficult to understand why hearing [in these cases] should be (practically) unaffected, and the dissociated “complex” be confined to the senses of sight, smell, and taste (and to memory). The close relation of these cases to those of “hysteria” appears fairly certain.

Equivalent reports appeared in the German medical literature in 1915.¹

It is important to point out that the rising number of cases of shell shock diagnosed as hysteria was paralleled by a rising number of cases of hysteria among soldiers who had never been deployed out of Britain. In his article “Some Diseases Which Have Become Common Among Soldiers in This Country” in Guy's Hospital Gazette, C. P. Symonds (1916, p. 439) points out that “one is also struck by the number of functional conditions met with in men who have not been abroad.”

Social and cultural factors appear to have powerfully influenced diagnosis and disposition. Officers were less likely to break down during combat than enlisted men but, proportionally, were more likely to break down over time. Officers were more likely to produce the symptoms of neurasthenia, while enlisted men were more likely to produce the symptoms of hysteria, particularly conversion disorder symptoms. In addition, enlisted men exhibiting mild symptoms were liable to be returned to the trenches immediately, while officers with similar symptoms were usually withdrawn for more-protracted treatment. Leed (1981, p. 164) states:

in war, as in peace, the notion that disease could be without physiological signs, that it could have a purely behavioral expression, seems to be the exclusive property of the higher social orders.

Treatment of Shell Shock

The treatment methods were diverse but were all deeply rooted in preexisting constructs and perceptions. Many physicians utilized punishment in patterns that psychologists today would characterize as massive aversive reinforcement to alter behavior. Treatment of enlisted men tended to be harsher and more punitive than that of officers. (See, for example, Ellis, 1984.) One of the most common treatment modalities, particularly popular in the French Army, was a form of faradization (application of electric shock, using very high voltage and low amperage) called torpillage. It was found to be particularly useful when

¹See, for example, Binswanger, 1915; Gaupp, 1915; and various others.
shocks were applied to the affected part of the body. Very high levels of success were reported; contracture rapidly disappeared, and/or vision, speech, hearing, use of a limb, etc. were rapidly restored. The use of “electric therapy” to “restore proper function to weak nervous systems” and “weak nerves” went back for a good number of years. In addition to such treatments as torpillage, enlisted men were often treated with an entire array of what came to be called “disciplinary therapies” by both medical officers and those on the line (see Leed, 1981). A possible contextual reason for the adoption of ideas and therapies designed to return as many men as quickly as possible to the front may have its roots in the more and more desperate manpower needs of the combatants as the war progressed. For the Allies these needs were not ameliorated until the United States entered the war. Both the British and French Armies were declining in absolute numbers and replacements could not make up losses. These radical forms of therapy were seldom used with officers in the British Army. Typical treatment for them was rest and encouragement, usually accompanied by withdrawal from the combat zone for a longer period of rest and rehabilitation. Some officers were treated with “primitive” forms of psychotherapy, ranging from the nascent forms of psychoanalytic treatment to pep talks and appeals to patriotism and loyalty.

CHANGES IN THE SIGNIFICANCE OF MILITARY GROUPS AND TREATMENT NEAR THE FRONT LINES

World War I saw the return, from the time of the Roman Legions, of the segmental organization of the force on the battlefield, with battalions, companies, platoons, and even squads achieving a new tactical and social criticality in battle—a process that was to accelerate rapidly throughout this century. By implication, we must consider that the consequences of these changes for the sustainment of the soldier on the battlefield and for his mental health and psychological well-being were momentous.

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2 It had been pioneered by Beard in the treatment of neurasthenia and had been taken up by many others. A somewhat gentler version of torpillage in a civilian environment is reported by Cobb, 1915, which involved a chair fitted with ten pair of aluminum electrodes. At the time, these methods were controversial: Did they rehabilitate the nervous system or was the therapy so punitive that the subject was forced to give up his symptoms to protect himself by thus avoiding additional shocks?

3 These studies were carried out by W.H.R. Rivers at the Craiglockhart hospital for shell shock. The victims were brilliantly described by Pat Barker in the trilogy centering on Rivers and Siegfried Sassoon, the poet who became a “shell shock” case as a young infantry officer on the Western Front. See Barker, 1992, 1994, and 1996.

4 Leed (1981, p. 169) points out that, “Lortat-Jacobs reported that he had obtained good results in Paris with shell shocked soldiers merely by appealing to the ‘individual’s sense of honor and by publicly administering the oath.’” In the American medical histories of the war, equivalent therapeutic successes were reported for similar simple appeals to patriotism, the flag, and, above all, return to one’s comrades.
Prior to World War I, small units and small groups were generally the soldier’s primary support and nexus of relationship during training and garrison duties. However, his physical and psychological survival in battle depended upon the integrity of the entire force. If the “line of battle” were broken, his possibilities of survival were minimized. In World War I, the matrix of squad, platoon, and company became the critical variable to both his survival and the survival of the primary group with which he had bonded in training and garrison. This tactically driven reordering of the social structure and ecology of combat thus becomes, I believe, a major driver of the importance of the psychosocial climate of the small unit and the qualities of its leadership in determining mental health consequences for soldiers.

The use of return to the group\(^5\) as a motivation for soldiers to get well was a more consistently powerful source of motivation in World War I than it had been previously. B. H. Liddell Hart (1927) was, I believe, the first to point out the revolution in the social structure of combat that this war created. Liddell Hart states that prior to World War I, no structure below regiment or brigade equivalents had any maneuver independence or responsibility on the battlefield. Battalion, company, and platoon were all part of an almost amorphous line of battle. This is because before World War I, the soldier was dependent for his ultimate survival not on his immediate comrades but on the integrity and cohesion of the entire line. In World War I, the immediate group had become a powerful source of survival. Treatment as described above was carried out as close to the front as reasonably possible, in venues ranging from the communications trenches to hospital facilities, with a reasonable level of success with all forms of therapy. The soldier expected and was expected by the therapists to return to his immediate group.

THE REDEFINITION OF HYSTERIA

What was most impressive to those British psychiatrists and neurologists who were involved in treatment of troops close to the front, as well as to psychiatrists involved in treatment in hospitals in France and in the United Kingdom, was the speed with which they were able to accomplish cures of often intractable physical and psychological symptoms. Dr. Arthur Hurst was at the forefront of treating soldiers with hysteria.\(^6\) Hurst (1919) proposed a new definition of hysteria: “Hysteria is a condition in which symptoms are present that have been produced by suggestion and are curable by psychotherapy.” Hurst felt that one

\(^5\)Particularly the group defined by squad, platoon, and company.

\(^6\)Hurst was the officer in charge of Seale Hayne Military Hospital and a neurologist at Guy’s Hospital. Hurst and his collaborator J.L.M. Symns held salient positions in British military medical treatment and research.
of the keys to understanding hysterical symptoms was the high level of suggestibility present in human beings, a point that I believe continues to be of great importance. As Hurst (1919, p. 563) put it,

there is no one who is so devoid of suggestibility that he may not develop them [hysterical symptoms] if the suggestive influence is sufficiently powerful. Whether a given person will develop hysterical symptoms under given conditions depends upon the degree of his suggestibility and the strength of the suggestion.

Hurst lists four major categories that produced hysterical symptoms during World War I: Fear, which resulted in shell shock; gassing, which resulted in “gas neurosis”; trivial wounds, which caused hysterical symptoms; and injuries or disease of the nervous system, in which symptoms amplified long after physical damage had resolved. It is of great interest that in his analysis of shell shock, Hurst (1919, p. 563) presages the analysis of many prominent military psychiatrists and medical sociologists of World War II (including Glass and Parsons):

In the first two years of the war cases of this kind were given the unfortunate name of “shell shock” in the belief that they were organic in origin and due to actual concussion caused by the explosion of powerful shells. Consequently no attempt was made to cure them by psycho-therapy, and the treatment by rest and sympathy helped to perpetuate them; this unfortunate result was increased by the use of the word “shell shock,” which gave the patient the idea that he was suffering from new and terrible disease. When, at last, the true nature of the condition was recognized, it was found that psycho-therapy not only resulted in the immediate disappearance of the symptoms . . . but cases of two and three years standing were also frequently cured at a single sitting at hospitals.

Another of Hurst’s major points still relevant today is his view of the amplificatory and tenacious relationship between a real precipitating disorder, injury, or insult and the processes of suggestion, in terms of the continuation and exacerbation of symptoms.

Rivers (1918) varied from Hurst in seeing shell shock, renamed by some, “war neurosis,” as a breakdown of the human being’s rational defenses and abilities to deal with fear and anxiety. Others, in all the major combatant nations, began to adduce further causal factors arising out of the developing depth psychologies of Freud and other psychoanalysts. Leed, for example, cites the psychoanalyst Sandor Ferenczi, whose view encompassed the shattering loss of a soldier’s self-esteem in technological warfare, which deprived soldiers of the tools to defend themselves. Although other psychiatrists had differing notions of causation, all agreed that the leading cause of “war neurosis” was not sudden overwhelming trauma, but prolonged static exposure to and anticipation of danger.
Most commentators agreed that symptoms of war neurosis could be resolved rapidly with psychotherapy treatment that included reassurance, education, and explanations about treatment combined with the patient’s belief in the efficacy of the treatment. Underlying this treatment, there appears to have been a mutual trust between the patients and their military physicians, a trust that has certainly diminished over time. As Rixon (1919, p. 417) put it,

> In treating these conditions there is one factor indispensable to success—i.e., the patient’s own belief that he can be cured. At neurological centers this point is gained by the “atmosphere of cure” prevailing. The patient is in a ward with others who until recently were, they tell him, just as bad as he is.

Indeed, Hurst and Symns (1918, p. 139) asserted:

> Our more recent experience has shown that the prolonged re-education which we had thought was required to convert into a cure the great improvement which followed the active treatment of long standing cases directly after admission is unnecessary, and we are now disappointed if complete recovery does not occur within 24 hours of commencing treatment, even in cases which have been in other hospitals for over a year.

Rivers, however, appears to have required a much longer period of psychotherapy to achieve results.

Although Hurst, Rivers, and others espoused an essentially “psychogenic” etiology for what had come to be defined as war neurosis, there were those who continued to believe that physical insult—i.e., commotinal hemorrhaging in the brain—was the only cause of legitimate shell shock. This group still had significant support within the military establishment.

**The American Experience**

Prior to entering World War I, the United States sent Thomas Salmon, a leading New York physician, to examine how the Allies were dealing with the problem of shell shock. Salmon fundamentally accepted the psychological concepts developed by the British and French and the treatment models that had been developed by the British. Those sets of constructs for dealing with the problem of shell shock or war neurosis became the organizing principles for the U.S. Army when it entered the war. As a result of Salmon’s recommendations, a psychiatrist and a support staff were assigned to each division (see, U.S. Army Medical Department, 1929). The psychiatrist’s duties, as outlined by the chief surgeon of the American Expeditionary Force (A.E.F.), were:

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7 Centered at the Maudesley Hospital, the premier institution of its kind in Britain.
to keep the fighting strength of the Division at the highest possible point and bring about the prompt elimination from the Division of those who become unfit for duty. Examination and sorting of officers and men returned to advanced sanitary posts for exhaustion, concussion by shell explosion, and war neuroses in order to control their evacuation. Treatment of light cases of exhaustion, concussion and war neuroses in divisional sanitary formations, so as to preserve the greatest number possible for duty (quoted in Raynor, 1918).

American military psychiatrists found their duties to be very similar to those of their British counterparts:

Functional nervous disease is responsible for at least 10 per cent of the evacuations of soldiers during an attack. The vast majority of these men are found to have hysteria. . . . Those who do not have hysteria are for the most part in a state of high emotivity, termed anxiety neurosis on the records of the A.E.F. However, the majority of anxiety cases do not arise during battle. That condition is usually of slow onset and occurs after long continued duty, as has been shown in the French Army (Williams, 1919, p. 549).

POSTWAR CONCERNS

The models and concepts that were developed during the war did not persist after the soldiers returned to civilian life. The primary “lessons” or concepts that came to dominate the civilian literature in the 1920s are those of predisposition and a return to the constructs of Charcot and Babinski. Certainly, significant influences came from the concepts popularized by Freud and his followers. The kinds of symptoms and reactions classified under the rubric of “hysteria” were considered the result of profound tendencies in the individual, both constitutional and developed as part of an aberrant psychological history. Issues of cost and pensionability came to the fore. The individual who continued to exhibit symptoms tended to be described as an inadequate personality or as constitutionally inferior. Many of those who testified before the British War Office Committee on Shell Shock in 1922, including a number of medical officers, still viewed it as an expression of cowardice or of manipulation to obtain discharge from the danger zone (see Leed, 1981). In the United States, the eugenics movement and racially motivated concepts8 strongly influenced thinking. It was accepted that some ethnic groups were predisposed to developing war neuroses.

This mode of thought—defining aspects of such symptomatic responses in racist terms as inherently predispositional—was stated baldly (and quite acceptably to an audience of distinguished psychiatrists in the section on nervous and mental diseases) at the annual meeting of the American Medical

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8Sentiment was strong enough to lead to changes in immigration laws.
Association in 1921. After focusing on “pension neurosis,” Benton (1921, p. 362) continues:

In addition to the recently growing pension neurosis group another group has been present and prominent continuously since the opening of this hospital.

The particular condition occurs among foreigners, especially, Italians, Greeks, Austrians and Poles. It is most pronounced in Italians . . . . One of the fundamentals of the condition seems to arise from the general belief that the United States is a very wealthy country and that its government is due and destined to provide for them for the rest of their lives.

THE LESSONS OF WORLD WAR I

In summary, during World War I some important themes were established that affected interpretation of psychological problems in later wars. First, the most common symptoms of the consequences of combat in World War I, whether termed shell shock, hysteria, war neurosis, or gas neurosis, were physical. The most common modes of response to phenomena—which we, today, define as stress-related psychological, psychosocial, or psychophysiological—were also physical. These physical responses were particularly striking among enlisted personnel. Officers appear to have more often exhibited the lesser but equally disabling and sometimes more tenacious symptoms of neurasthenia. In addition, there seems to be a correlation between culture and symptoms. World War I’s value system was closer to that of the Civil War—polarized between the courageous and the cowardly—than to that of our era. While military and civilian physicians rapidly came to agreement that the overwhelming majority of “shell shock” and “war neurosis” casualties were attributable to a primary psychological, psychophysiological, or physiopsychological origin, popular culture and belief held to the older system of Civil-War-era beliefs.

It is of interest to note that the extraordinary living conditions of trench warfare were seldom evoked as contributory to shell shock. Mud, hunger, fatigue, chronic sicknesses, often continual damp, lice, and rats were seldom mentioned as possible contributors to the soldiers’ state. Even so astute an observer and therapist as Rivers (1918) preferred an essentially psychological model of causality, deriving the symptoms of war neurosis from the degree of immobility demanded of the soldier in his combat task. A fuller appreciation of the roles that might be played in symptom generation by environmental factors in the combat zone was not to come until World War II.

As a cultural phenomenon during World War I, the legitimacy of the symptoms that called for withdrawal of the soldier from the trenches or the combat zone

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9Public Health Service Hospital for the Care of Psychoneurotic War Veterans.
would then, for most, be questionable if physical symptoms were not a part of the expression of the disorder. The punishment for the exhibition of essentially psychological symptoms was often in the earlier years of World War I, summary and massive. Men whom we would today classify as combat-stress casualties were shot for “cowardice.” Ferguson (1999) indicates that a significant proportion of the 346 British soldiers executed were shot for cowardice, many of whom were suffering from shell shock. Babington (1997) illustrates this cogently with four cases of soldiers previously seen as suffering from shell shock who were subsequently executed for cowardice. In Britain, “cowardice” was punishable by death until 1930.

The values of Western culture changed between World War I and World War II. For instance, before World War I, *dulce et decorum est pro patria mori* (it is a sweet and decorous thing to die for one’s country) was engraved at the top of memorial boards at schools and colleges. Throughout the war, many people really believed this sentiment, as did such prowar poets as Rudyard Kipling, Rupert Brooke, and Alan Seegar. It was not until the 1920s that the concepts of war as a waste, loss, and/or sacrifice in vain were widely explored in relation to World War I. Along with such percepts came a corresponding legitimization of both behavior breakdown for some and a view that the “normal” person was capable of negotiating a symptom-free life course in war and after it.

In hindsight, World War I has taught us that each war interacts with the beliefs of the wider popular culture and the medical and psychological knowledge and beliefs of the time. In response to the events of combat and deployment, soldiers experience, as a result of this interaction, a “culture of illness” and a set of (in Kleinman’s (1988) terms) “legitimate,” illness narratives that are both appropriate to those beliefs and acceptable to the social systems of the military and the nation. From observations about World War I veterans, we find another important fact: the high degree of interaction between symptoms initially generated by physical insult (such as toxic exposure, disease, or wounding) and the psychological and psychosocial processes characterized under the terms hysteria and war neurosis. Enduring, sometimes disabling, symptoms followed the pain and minor disability of slight wounds. Symptoms of disease often continued after the actual illness was resolved, and “gas neurosis,” continued to reproduce the initial symptoms, long since cleared, of exposure to toxic agents in use on the battlefield. Today, these observations would indicate that physiolog-

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10 Exemplified in the poetry of Siegfried Sassoon and the novels of Erich Maria Remarque.
ically stressful and assaultive experiences involve the interaction of the physical insult with the cognitive system that determined its consequences.\textsuperscript{11}

\textsuperscript{11}In some sense, these perceptions were lost in the almost purely psychological paradigms of psychogenic disorder that gained popularity in the 1930s through the writings of Flanders Dunbar and much of Freudian doctrine.