

German Battle Casualties: The Treatment of Functional Somatic Disorders during World War I

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ABSTRACT: World War I witnessed the admission of large numbers of German soldiers with neurological symptoms for which there was no obvious organic cause. This posed a considerable challenge for the military and medical authorities and resulted in an active discussion on the etiology and treatment of these disorders. Current historiography is reliant on published physician accounts, and this represents the first study of treatment approaches based on original case notes. We analyzed patient records from two leading departments of academic psychiatry in Germany, those at Berlin and Jena, in conjunction with the contemporaneous medical literature. Treatment, which can be broadly classified into reward and punishment, suggestion, affective shock, cognitive learning, and physiological methods, was developed in the context of the emerging fields of animal learning and neurophysiology. A further innovative feature was the use of quantitative methods to assess outcomes. These measures showed good response rates, though most cured patients were not sent back to battle because of their presumed psychopathic constitution. While some treatments appear unnecessarily harsh from today's perspective and were also criticized by leading psychiatrists of the time, the concentration of effort and involvement of so many senior doctors led to the development of psychotherapeutic methods that were to influence the field of psychiatric therapy for decades to come. **KEYWORDS:** World War I, military psychiatry, treatment, trauma, functional disorders, etiology, case records, hysteria, war neurosis.

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THE PROBLEM OF WAR TRAUMA

SOON after the beginning of World War I, soldiers with paralyzed limbs, shaking bodies, loss of speech and hearing, violent fits, bizarre gaits, and confused minds poured into military hospitals behind the front line and at home. The lack of obvious physical injury surprised the medical profession and stimulated an active discussion on the origin of these disorders and their potential treatment.¹ Many psychiatrists regarded war as a vast laboratory which would enable them to conduct experiments into mental disorders and the relative influences of constitution and exogenous factors on the development of psychopathology.² The “rich experiences of war” with thousands of servicemen suffering from mental breakdown were also used for some of the first quantitative intervention studies in psychiatry.

It was a crucial feature of military psychiatry that treatment outcomes were not only defined by improvement of symptoms but also by the ability to return to active military service or contribute to the country’s economy through labor. The majority of German military psychiatrists attributed the occurrence of war trauma to a “psychopathic constitution” and deemed those affected not suitable for active military service.³ It became common practice not to send “nervous individuals with mental shock” back to the front line because they posed “a burden to the force” and “hazard for the military strength of the army.”⁴ In December 1916, the deputy physicians-general to the German Army held a meeting in the war ministry and

1. Max Nonne, “Therapeutische Erfahrungen an den Kriegsneurosen in den Jahren 1914–1918,” in *Handbuch der ärztlichen Erfahrungen im Weltkriege 1914/1918*, ed. Otto v. Schjerning (Leipzig: Barth, 1922), 4: 102–21.

2. See, for example, Karl Bonhoeffer, “Über die Bedeutung der Kriegserfahrungen für die allgemeine Psychopathologie und Ätiologie der Geisteskrankheiten,” in *Handbuch der ärztlichen Erfahrungen im Weltkriege 1914/1918*, ed. Otto v. Schjerning (Leipzig: Barth, 1922), 4: 3–44; Ernst Rittershaus, “Zur Frage der Kriegshysterie,” *Z. Gesamte Neurol. Psychiatr.*, 1919, 50, 87–97; K. E. Mayer, “Elektro-suggestive Behandlung hysterischer Stupor- und Dämmerzustände,” *Z. Gesamte Neurol. Psychiatr.*, 1919, 45, 381–92.

3. Prominent examples include Hermann Oppenheim, “Stand der Lehre von den Kriegs- und Unfallneurosen,” *Berliner Klinische Wochenschrift*, 1917, 49, 1169–72; Karl Bonhoeffer, “Einige Schlussfolgerungen aus der psychiatrischen Krankheitsbewegung während des Krieges,” *Arch. Psychiatr. Nervenkr.*, 1919, 60, 721–28; Fritz Fraenkel, “Über die psychopathische Konstitution bei Kriegsneurosen,” *Monatsschrift für Psychiatrie und Neurologie*, 1920, 47, 287–309; Heinrich Stern, “Die hysterischen Bewegungsstörungen als Massenerscheinung im Krieg, ihre Entstehung und Prognose,” *Z. Gesamte Neurol. Psychiatr.*, 1918, 39, 246–81; Richard Hirschfeld, “Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen,” *Z. Gesamte Neurol. Psychiatr.*, 1916, 34, 195–205.

4. Ernst Beyer, “Die Heilung des Zitterns und anderer nervöser Bewegungsstörungen,” *Psychiatr.-Neurol. Wochenschr.*, 1917/18, 35/36, 226–28.

agreed guidelines for the treatment of war trauma. These guidelines stipulated that neurotic soldiers were to be classified as “unfit for military service” or “fit for home duty” and discharged into their prewar profession without being granted a pension. This policy was based on their observation “that it [was] the nature of neurotic illness to relapse if the individual returned into the same or similar circumstances and that it did not relapse if the cured [were] sent back into their civil life.”⁵ According to the new regulation by the war ministry, the loss of potential combat strength was thus offset by the use of the former soldiers as industrial or farm labor and the avoidance of pension claims.

ETIOLOGICAL MODELS AND TREATMENT

The war rekindled the debate over the concept of “traumatic neurosis,” a term that had been introduced by the Berlin-based neurologist Hermann Oppenheim (1858–1919) in 1889 to indicate the organic origin of the neurological and psychological consequences of catastrophes such as railway accidents. Most German psychiatrists and neurologists moved away from this concept very early in the war.⁶ Oppenheim himself moved from a focus on a somatic origin of the traumatic neuroses to a mixed model that allowed for mutual influences of psychological and somatic factors. In 1917, he stated that psychological shock could influence physical processes through the “vasomotor-secretory-trophic nervous system” (a term he used to describe the autonomic nervous system).

The vast majority of German psychiatrists believed that hysteria could only develop in individuals with a “psychopathic predisposition.” The impact of the traumatic event was regarded as secondary to constitutional weaknesses and moral inferiority. A much smaller number argued that “the immense accumulation of psychological and physical traumata brought along by the war” was sufficient to cause mental disturbance in any person.⁷ This question was not only relevant from the perspective of psychological theory and nature–nurture debates, but also related to the very practical consequences of compensation and pensions.

5. Max Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen,” *Z. Gesamte Neurol. Psychiatr.*, 1917, 37, 191–218.

6. For a detailed analysis of their reasons and the discussions between Oppenheim and his critics, see Paul Frederick Lerner, *Hysterical Men: War, Psychiatry, and the Politics of Trauma in Germany, 1890–1930* (Ithaca, New York, and London: Cornell University Press, 2003). See also Stefanie C. Linden, Volker Hess, and Edgar Jones, “The Neurological Manifestations of Trauma: Lessons from World War I,” *Eur. Arch. Psychia. Clin. Neurosci.*, 2011 (advanced access: doi:10.1007/s00406-011-0272-9).

7. See, for example, Willibald Sauer, “Zur Analyse und Behandlung der Kriegsneurosen,” *Z. Gesamte Neurol. Psychiatr.*, 1917, 36, 26–45.

The question of the disease model was also important for the choice of treatment. The wartime imperative of returning invalid soldiers to productive roles countered the lack of interest in therapeutic innovation that characterized university psychiatry of the late nineteenth and early twentieth centuries.⁸ In 1917, Max Nonne (1861–1959), who became known for his successful treatment of war neurosis with suggestion under hypnosis, stated that “war has taught us to be . . . less fatalistic towards the treatment of functional nervous disorders.”⁹ The Hamburg-based physician was convinced that war neurosis was curable and that “every uncured case [had to] be a silent reproach to the physician.” It will be shown in subsequent sections of the paper that the increasing influence of psychological disease models was accompanied by the development and implementation of a vast array of largely psychological interventions for war trauma. Conversely, the effectiveness of specific treatments also influenced etiological models. For example, the success of hypnosis led some physicians to confirm the psychological genesis of the disorder, whereas a positive response to physical treatment methods pointed toward a somatic origin.

SCIENTIFIC LITERATURE AND CLINICAL RECORDS

Several authors have analyzed the accounts of treatment methods for war trauma in the psychiatric literature of the time.¹⁰ Attention has been focused on the more spectacular and controversial methods, such as the electro-suggestive therapy promoted by Fritz Kaufmann.¹¹ The most comprehensive analysis of the attitude of German psychiatry to functional disorders has been conducted by Paul Frederick Lerner, who grouped the treatments into four categories: deception, startling, isolation, and persuasion.¹²

8. Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present* (London: Fontana Press, 1999); Edward Shorter, *A History of Psychiatry: From the Era of the Asylum to the Age of Prozac* (New York: Wiley, 1997); Stephanie Neuner, *Politik und Psychiatrie: Die Staatliche Versorgung Psychisch Kriegsbeschädigter in Deutschland 1920–1939* (Göttingen: Vandenhoeck & Ruprecht, 2011), 55.

9. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen.”

10. Hans Binneveld, *From Shell Shock to Combat Stress: A Comparative History of Military Psychiatry* (Amsterdam: Amsterdam University Press, 1997).

11. Jason Crouthamel, *The Great War and German Memory: Society, Politics and Psychological Trauma, 1914–1945* (Exeter: University of Exeter Press, 2009), 33–34; Binneveld, *From Shell Shock to Combat Stress*; Andreas Killen, *Berlin Electropolis: Shock, Nerves, and German Modernity* (Berkeley, California; London: University of California Press, 2006), 127–28 and 138–140; Frank Lembach, “Die ‘Kriegsneurose’ in deutschsprachigen Fachzeitschriften der Neurologie und Psychiatrie von 1889 bis 1922” (MD thesis, Ruprecht-Karls-Universität Heidelberg, 1998), 35–47.

12. Lerner, *Hysterical Men*, 122.

However, treatment methods and their implications for causal models of war trauma have not been reviewed in relation to the case records of German soldiers diagnosed with functional disorders. Unlike most previous scholarship in this field, this paper is not only based on the publications of the treating psychiatrists but also on original patient notes from the Universities of Berlin and Jena. These were selected because both departments were led by prominent psychiatrists, Karl Bonhoeffer (1868–1948) and Otto Binswanger (1852–1929), who also actively published about war neuroses and their treatment.

During World War I, 1,043 servicemen were admitted to the “Psychiatrische und Nervenklinik” (department for psychiatric and nervous disorders) of the Charité, the Medical School of Berlin University (1914: 217, 1915: 357, 1916: 212, 1917: 152, 1918: 105). We randomly selected one hundred servicemen (9.6 percent of the whole sample; twenty-five cases each from 1915, 1916, 1917, and 1918). A random number sequence was generated for all admission numbers by year and twenty-five subjects selected for each of the four years. The case records provide a detailed account of the soldiers’ war experience, their biographies, presenting symptoms, and responses to treatment.¹³ The department comprised a neurological and a psychiatric wing and had the status of a military hospital where training was provided for army doctors. Soldiers and civilian patients were treated in the same building. During World War I, the psychiatric department of the Berlin Charité was a center of excellence focusing on the precise diagnostic assessment and evaluation of pension claims—often providing a second opinion for seemingly treatment-resistant cases. Treatment had to be limited to a short period of time and could not make great demands on resources.

Seventy-two of the one hundred soldiers were assessed regarding their fitness for military service. The largest group ($n = 33$) was classified as unfit for any military service. Twenty-nine soldiers were assigned to duty at home camps, four to garrison service, and only six to front-line duties.¹⁴ This accords with other accounts of return rates of German soldiers with functional disorders to active military service.¹⁵ However, only seven (out of one hundred) servicemen with functional disorders were granted compensation, which was again in line with the low rate of approved pension claims.¹⁶

13. For details, see Linden, Hess, and Jones, “The Neurological Manifestations of Trauma.”

14. *Ibid.*

15. Lerner, *Hysterical Men*, 137.

16. Neuner, *Politik und Psychiatrie*.

We also surveyed the psychiatric records of the Jena Military Hospital (“Kriegsarchiv I. Weltkrieg”) held at the university archives (“Universitätsarchiv der Thüringer Universitäts- und Landesbibliothek”) and randomly selected one hundred cases (every twentieth case), twenty-five each from 1915, 1916, 1917, and 1918. Whereas the Berlin case records offered an exceptionally detailed assessment of psychopathology and cognitive status, the Jena patient records provided more information regarding treatment methods and responses. During the war years, the psychiatric department in Jena was headed by Otto Binswanger who had already published textbooks on neurasthenia, epilepsy, hysteria, and general psychiatry. Before Binswanger was appointed head of the psychiatric department in Jena in 1882 (a position he held for thirty-seven years), he had worked as consultant at the department for psychiatric and nervous disorders of the Charité in Berlin where he had also completed his postgraduate training. Out of the 2,275 soldiers treated at the Jena institution during the war years (and also in the months after the armistice), 1,945 (86 percent) case records have survived.

Because wartime medical publications are not fully catalogued in online databases, we had to hand search the leading psychiatric and neurological journals for papers about war neuroses and treatment methods. The following German language publications were searched for the years 1914–20: *Zeitschrift für die gesamte Neurologie und Psychiatrie*, *Archiv für Psychiatrie und Nervenkrankheiten*, *Psychiatrisch-Neurologische Wöchenschrift*, *Monatsschrift für Psychiatrie und Neurologie*, *Deutsche Medizinische Wöchenschrift*, *Wiener Medizinische Wöchenschrift*, *Münchener Medizinische Wöchenschrift*, and *Berliner Medizinische Wöchenschrift*.

THEMES OF THE THERAPEUTIC LITERATURE

During World War I, psychiatrists adopted a range of treatment programs for functional disorders, often those associated with the names of Fritz Kaufmann, Otto Binswanger, Max Nonne, and Ferdinand Kehler.¹⁷ Many of these treatments derived from interventions that were available before the war. The Austrian neurologist Fritz Kaufmann, who practiced in Mannheim and whose electro-suggestive therapy would become the most widely used treatment method for functional disorders in Germany during the war, had already treated a patient with electricity and suggestion

17. Fritz Kaufmann, “Die planmässige Heilung komplizierter psychogener Bewegungsstörungen bei Soldaten in einer Sitzung,” *Münchener Medizinische Wöchenschrift*, 1916, 63, 802–4; Otto Binswanger, *Die Hysterie* (Vienna: A. Hoelder, 1904); Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen”; Ferdinand Kehler, “Zur Frage der Behandlung der Kriegsneurosen,” *Z. Gesamte Neurol. Psychiatr.*, 1917, 36, 1–22.

at Erb's department in Heidelberg in 1903.¹⁸ Likewise, Binswanger's deprivation therapy, where patients were isolated and deprived of human contacts and distraction (which he applied to a large number of servicemen), was derived from a treatment concept developed by the American Silas Weir Mitchell, who had used this therapy for neurasthenic women in the late nineteenth century.¹⁹ Weir Mitchell's holistic treatment program—combining physical and psychological rest, special diet, massages, hydro- and electrotherapy—was introduced to Germany in the 1880s and was still an essential part of Binswanger's treatment regime in Jena during World War I.²⁰ In his textbook on “Hysterie” and his lectures on “The pathology and therapy of neurasthenia,” Binswanger had described the use of isolation therapy for severe cases of hysteria and neurasthenia with the aim of achieving “complete mental and intellectual relaxation.”²¹ Nonne hypnotized soldiers in the Hamburg barracks as early as 1889 and found that “the atmosphere of military discipline and the associated attitude” made them receptive to hypnotic suggestion.²²

Although the doctor–patient relationship was far from symmetrical during peacetime, the nature of military hierarchy and the imperative demands of a nation at war eroded the soldier–patient's autonomy. The psychiatrist adopted a dominant authoritarian role, being both a doctor and a military superior. The therapeutic process was often described as a “battle of will” between physicians and soldiers, where military discipline and the duty to endure any treatment were considered to be essential therapeutic factors.²³ Very rarely was the relationship between the doctor and physician seen in a different way. Johannes Bresler, the founding editor of the *Psychiatrisch-Neurologische Wochenschrift*, was unusual in emphasizing that mutual trust contributed significantly to the outcome of treatment.²⁴

Most psychiatrists who treated traumatized servicemen believed that the end justified the means, even if the therapy appeared to be harsh and sometimes almost as traumatic as the war experience itself.²⁵ According to

18. Killen, *Berlin Electropolis*, 79.

19. Shorter, *A History of Psychiatry*.

20. Binswanger, *Die Hysterie*.

21. *Ibid.* For neurasthenia, see Otto Ludwig Binswanger, *Die Pathologie und Therapie der Neurasthenie* (Jena: Gustav Fischer, 1896), 303.

22. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen,” 198.

23. Hirschfeld, “Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen.”

24. Johannes Bresler, “Das Kaufmann-Verfahren bei funktionellen Nervenstörungen,” *Psychiatr.-Neurol. Wochenschr.*, 1917/18, 19/20, 101–6, 113–17.

25. Kehrer, “Zur Frage der Behandlung der Kriegsneurosen”; Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen”; Mayer, “Elektro-suggestive Behandlung hysterischer Stupor- und Dämmerzustände.”

a War Ministry decision, a patient's consent was only required for serious interventions (e.g., those involving general anesthesia).²⁶ The application of electric currents did not fall into that category until the War Ministry banned the use of strong, very painful sinusoidal currents in late 1917. After several known deaths—and presumably a considerable number of severe adverse reactions that went undocumented—resistance against the Kaufmann method grew among both patients and doctors and its use was restricted by the military medical authorities in the final weeks of the war.²⁷

In the process of evaluating new treatment methods, psychiatrists observed that not only the nature of the intervention but also other therapeutic variables—such as the physician's personality and dedication—had an impact on treatment outcomes. Ferdinand Kehrer, a neurologist in Freiburg who advocated the combination of structured military exercises and hypnosis, emphasized that personality and aptitude of the physician were more relevant for the treatment response than scientific principles or adherence to therapeutic schools.²⁸ Nonne likewise stressed that treatment success did not depend on the choice of therapy but on the dedication and charisma of the physician.²⁹

At the other end of the spectrum, several psychiatrists pleaded for a focus on the patient's individual needs and advocated a treatment adjusted to the social background, intellectual properties, and motivation of the subject.³⁰ In the words of Binswanger, "We do not treat an illness but an ill human being."³¹ For example, it was generally accepted that not all servicemen with functional disorders were susceptible to hypnosis.³² Finally, although education and social status varied greatly in the Berlin and Jena samples, class does not seem to have affected the choice of treatment in any major way. The situation may have been different for commissioned officers, who were only rarely admitted to the hospitals documented here.

26. Kehrer, "Zur Frage der Behandlung der Kriegsneurosen."

27. Lerner, *Hysterical Men*, 107; Bresler, "Das Kaufmann-Verfahren bei funktionellen Nervenstörungen."

28. Kehrer, "Zur Frage der Behandlung der Kriegsneurosen."

29. Nonne, "Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen."

30. Kehrer, "Zur Frage der Behandlung der Kriegsneurosen."

31. Binswanger, *Die Hysterie*, 847.

32. Nonne excluded patients with strong resistance, fear of the procedure or doubts of the efficacy of the treatment. See Nonne, "Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen."

EARLY INTERVENTION AT THE FRONT LINE

By mid-1916, doctors dealing with traumatized soldiers came to the conclusion that treatment was more successful if initiated early.³³ German psychiatrists realized that soldiers with functional disorders should not be sent home away from their combat units because this would consolidate their symptoms and reduce their chances of returning to active duty.³⁴ Instead, specialized neurological and psychiatric treatment units where early specialist intervention could be undertaken were established close to the combat zone early in 1917.³⁵ This concept of forward psychiatry had been incorporated into British and French military practice earlier in the war and was supposed to lead to improved recovery rates.³⁶ Julius Raecke who worked at a specialist treatment unit for nervous disorders near the combat zone claimed that at least two-thirds of the cases could be returned to active duty at the front line after a brief intervention. However, apart from very few similar reports, there is not much evidence that the forward psychiatry was as effective as Raecke claimed for German armed forces or those of any other combatant nation.³⁷

RECOVERY AND AFTERCARE

Some treatment protocols document a full recovery within a few days or weeks. Others report treatment responses within minutes or hours, giving the impression that functional disorders were cured instantaneously, almost magically, as spectacularly set into scene in Nonne's film on the treatment of war neuroses.³⁸ The films of the time, used by charismatic doctors like Nonne in Germany or Hurst in Britain to promote their therapeutic approaches, provide interesting insight into the ways in which successful

33. Ernst Jolowicz, "Kriegsneurosen im Felde," *Z. Gesamte Neurol. Psychiatr.*, 1917, 36, 46–53; Mayer, "Elektro-suggestive Behandlung hysterischer Stupor- und Dämmerzustände."

34. Hirschfeld, "Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen"; Jolowicz, "Kriegsneurosen im Felde"; Julius Raecke, "Feldärztlicher Beitrag zum Kapitel "Kriegsneurosen," *Archiv für Psychiatrie und Nervenkrankheiten*, 1918, 59, 1–5; Kurt Schneider, "Einige psychiatrische Erfahrungen als Truppenarzt," *Z. Gesamte Neurol. Psychiatr.*, 1918, 39, 307–14.

35. Bresler, "Das Kaufmann-Verfahren bei funktionellen Nervenstörungen."

36. Edgar Jones, Adam Thomas, and Stephen Ironside, "Shell Shock: An Outcome Study of a First World War 'PIE' Unit," *Psych. Med.* 2007, 37, 215–23.

37. Raecke, "Feldärztlicher Beitrag zum Kapitel 'Kriegsneurosen.'" For doubts about the effectiveness of forward psychiatry, see Edgar Jones and Simon Wessely, "'Forward Psychiatry' in the Military: Its Origins and Effectiveness," *J. Trauma, Stress*, 2003, 16, 411–19.

38. Max Nonne, *Funktionell-motorische Reiz- und Lähmungs-Zustände bei Kriegsteilnehmern und deren Heilung durch Suggestion in Hypnose* (Hamburg: Allgemeines Krankenhaus Hamburg-Eppendorf, 1918).

treatment was reenacted without demonstrating the actual treatment process.³⁹

Nonne observed that remitted symptoms could be precisely reproduced by hypnotizing patients who had recovered. Nonne concluded: "This proves that there are still engrams of the disorder in the brain and this explains the standby position of the symptoms and their tendency to flare up again."⁴⁰ This tendency for functional disorders to relapse created a need to develop long-term treatment strategies in order to prevent a recurrence of symptoms. For example, occupational therapy was introduced at the Jena Military Hospital where partly or completely remitted soldiers were sent on a daily basis to workshops, a garden and a farm in about an hour's walking distance from the hospital. In a similar vein, Nonne established an aftercare program at his Hamburg hospital, which included manual labor (in the hospital, a nursery, and different workshops) in combination with military exercises and gymnastics.⁴¹ Nonne believed that the most effective long-term relapse prevention was to discharge cured patients into their previous civil occupation. Nonne was also—to our knowledge—the only German physician who conducted a follow-up study on successfully treated patients. At least six months after their discharge from his treatment unit, Nonne sent them a questionnaire. Out of sixty contacted patients, forty-six replied. According to the written responses, twenty-six had returned to their prewar occupation; sixteen worked reduced hours, and four had experienced a relapse of symptoms.⁴²

TREATMENT SCHOOLS AND CONCEPTS

While commonly used treatments had their conceptual origins in the prewar period, the conflict itself was crucial in providing large numbers of patients with similar symptom profiles so that they could be studied in a systematic manner. The exchange of ideas on treatment approaches in the medical press and during conferences as well as the monitoring of outcomes also reached a completely different dimension in comparison to the prewar years.

Most treatment programs involved supervised structured exercises. Reward and punishment were used to reinforce desirable and deter dysfunctional behavior. Furthermore, the majority of therapies conducted for

39. Edgar Jones, "War Neuroses and Arthur Hurst: A Pioneering Medical Film about the Treatment of Psychiatric Battle Casualties," *J. Hist. Med. Allied Sci.*, 2011 (advanced access: doi:10.1093/jhmas/jrr015).

40. Nonne, "Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen."

41. *Ibid.*

42. *Ibid.*

servicemen with functional disorders applied suggestive methods in some way.⁴³ The patient was told—either when awake (“waking suggestion”) or while under hypnosis (“hypnotic suggestion”) that his symptoms would disappear or had already been cured. Command suggestions (“Befehlssuggestionen”) accompanied many therapies. During the war years, treatment methods were continually optimized and economized so that by the end of the war, systematic mass treatment was available, closely linked to rehabilitation programs and work therapy aiming to prevent a relapse of symptoms.⁴⁴ The treatment of functional disorders in Germany during World War I was not regulated by a central body of military doctors. New treatments were evaluated through trial and error, and therapeutic innovations discussed in psychiatric/neurological journals or conferences such as the 1916 War Congress of the German association for Psychiatry in Munich or the 1918 Budapest meeting on psychoanalysis.

“BEHAVIORAL THERAPY”

One main aim of the treatment of functional disorders was behavior modification. A few years before World War I, the American psychologist Edward Thorndike had proposed animal learning theory. One of its basic tenets was that a particular behavior increased in frequency if it produced a positive outcome, such as a food reward, and that it decreased if coupled with an unpleasant consequence.⁴⁵ Such links between rewards (or positive reinforcers) and desirable behaviors or between punishments and undesirable behaviors could also be adapted for behavior modification in humans. Although we found no evidence for a direct influence of animal learning theory on the development of wartime treatment programs, the analogies are striking. For example, the treatment of the war neurotic was frequently compared to the taming of a wild animal. Nonne applied electric stimuli: “like the spur of a rider used for a lazy or stubborn horse” and Kehrer compared the treatment of enuresis in his soldier patients to the “house training of a young dog.”⁴⁶ Other psychiatrists were familiar with concepts of reinforcement and model learning, and also gradual exposure, which later assumed a central role in behavioral therapy. They also used schedules of reinforcement (or punishment) for small learning

43. Peter Riedesser and Axel Verderber, *Maschinengewehre hinter der Front: Zur Geschichte der deutschen Militärpsychiatrie* (Frankfurt: Fischer Taschenbuch Verlag, 1996).

44. Lerner, *Hysterical Men*. See Lerner’s chapter on “War Psychiatry in Wuerttemberg,” 129–37, where he describes “the rationalization of psychiatric care.”

45. Edward L. Thorndike, *The Elements of Psychology*, 2nd ed. (New York: A.G. Seiler, 1912).

46. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen”; Kehrer, “Zur Frage der Behandlung der Kriegsneurosen.”

steps, similar to what was later called “shaping” in operant conditioning. For example, psychiatrists at Jena told their patients that even minor relapses into hysterical behavior would be punished immediately by isolation therapy. They also learned very soon that “flooding,” confronting the traumatized soldier with his greatest fear (return to front-line service), did not work.⁴⁷ As a result, we disagree with Hans Binneveld’s view that military psychiatry failed to produce any important therapeutic innovations.⁴⁸ However, it was not until after World War II that behavior therapy or behavior modifications were deployed on a greater scale, initially in the United States and later in Europe.⁴⁹

REWARD-BASED APPROACHES

Most physicians tried to consolidate progressive treatment successes with rewards such as baths, massages, and garden walks. Repeated praise and reassurance accompanied most therapies, and some programs even included performance-related pay.⁵⁰ Some physicians granted their patients home leave when a certain treatment goal had been achieved.⁵¹ In the latter stages of the war, some successfully treated soldiers were even rewarded by discharge from military service; probably the most potent reinforcement for the traumatized serviceman.⁵² Nonne told the soldiers who were discharged from his wards as “unfit for military service” that they would not have to return to active duty if they worked efficiently; alternatively, they would have to undergo more therapy in a military treatment unit, and he claimed that the war ministry had agreed to this procedure.⁵³ A similar situation arose in the UK where a number of soldiers with apparently chronic disorders recovered in 1918 when the regulations changed to allow their discharge from the armed forces, provided their symptoms had remitted.⁵⁴ The treatment in Jena was also characterized by the interplay of punishment and reward. One patient with a functional gait disorder was told that if his symptoms did not improve “a big operation, a body

47. Beyer, “Die Heilung des Zitterns und anderer nervöser Bewegungsstörungen.”

48. Binneveld, *From Shell Shock to Combat Stress*.

49. John A. Mills, *Control: A History of Behavioral Psychology* (New York: New York University Press, 1998).

50. Kehler, “Zur Frage der Behandlung der Kriegsneurosen.”

51. Hirschfeld, “Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen”; Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen.”

52. Beyer, “Die Heilung des Zitterns und anderer nervöser Bewegungsstörungen.”

53. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen.”

54. Edgar Jones, “Shell Shock at Maghull and the Maudsley: Models of Psychological Medicine in the UK,” *J. Hist. Med. Allied Sci.*, 2010, 65, 368–95.

transection, was needed, as he then would be likely to suffer from a severe organic disease.”⁵⁵ At the same time, every little treatment success was instantaneously followed by a reward such as walks in the garden, granting of home leave, or visitors.

PUNISHMENT WITH ELECTRICITY

Punishment for dysfunctional behavior (such as bizarre gait, stammer, or tics) or loss of function (such as paresis of arm or leg, inability to talk) was most commonly carried out by the application of painful electric stimuli. Electrotherapy had been established at the Charité in 1867 by Carl Westphal. The initial rise of electrotherapy in Berlin and elsewhere in Germany was fueled by organic models of hysteria and neurasthenia, where the electrical stimulation was seen as regenerating the body's nervous energies.⁵⁶ From the 1890s onwards, explanatory models became increasingly psychological. In Andreas Killen's analysis of electrotherapy, its “reinvention as a type of suggestive treatment was linked to the emergence of a psychogenic theory of neurosis.”⁵⁷ In addition to its use as an adjunct to suggestive therapies, electrical stimulation could be directly utilized to punish unwanted behavior.

The case of JM, a twenty-two-year-old from Berlin Charlottenburg who was treated at the Charité for two months, is typical of this electrotherapeutic approach. JM read medicine from Easter 1914 until the summer of 1916 when he passed his first medical exam (“Physikum”). He was a vegetarian, fluent in several languages, played different musical instruments, and liked drawing. In the summer of 1916, he was sent to the Western front as an infantry soldier. After a shell explosion, he experienced a sharp pain in his right ear and was unable to speak. At a military hospital, JM was treated with hypnosis and electric currents. As his speech did not recover, he was sent to a base hospital where he was treated with speech therapy and breathing exercises without any success. He was then admitted to various other military hospitals where he received physical therapy, massages, more speech therapy, and a form of shock therapy which involved inserting a ball-shaped metal probe into his larynx, causing him to choke. There was, however, no lasting treatment success.

When JM was finally admitted to the Charité in January 1918, he attempted to speak but could only “manage to make sibilant and aspirate sounds, once also an ‘a’ and an ‘o.’ When asked to say ‘e’ he open[ed] his

55. Bestand S III, Abt. IX, Nr. 906, Universitätsarchiv der Friedrich-Schiller, Universität, Jena. (Hereafter Universitätsarchiv, Jena).

56. Killen, *Berlin Electropolis*, 55.

57. *Ibid.*, 49 and 128.

mouth widely as if wanting to say ‘a.’ He grimace[d] and trie[d] to indicate with gestures that he [could not] speak.” His hearing was intact. Although there was no physical injury, he dragged his right leg when walking. Because no abnormality of the vocal cords was found at an ENT consultation, psychiatric treatment was initiated. Under the influence of suggestion and with the help of a mirror through which he could observe his facial expression, JM was asked to say “Fahne” (flag) and “fahren” (drive). Although he finally managed to say “Fa,” the lack of further progress caused the therapist to end the session.

To accelerate treatment, painful electric currents were applied to the patient’s neck. JM actively tried to resist the treatment by lashing about, but was restrained by two male nurses. At first, he only managed to make sibilant sounds, at the same time “wildly gesticulating with his hands and theatrically moving his head.” JM was repeatedly told not to worry and that he would be able to speak very soon. After five minutes, he was able to say an open “a” with loud voice; after ten minutes, he was able to repeat whole words with loud voice and good articulation. After this treatment, he talked fluently with loud well-articulated speech. Following this treatment success, he was referred to the silent ward (before he had been on the “loud ward for the severely mentally ill patients”). As he was still dragging his right leg behind, electric shocks were applied to his leg, while he was repeatedly cheered on by the physician. After only five minutes of treatment, the patient was able to walk “in parade pace.”

On the ward, the patient was reported as behaving appropriately; he was very polite and not pretentious. He read newspapers and medical books, transcribed patient files, and examined other patients’ urine. Pain in his arms was treated by electric therapy. After this, he did not report any further pain. On discharge from the Charité, JM was diagnosed with hysterical gait disorder and aphonia as well as “psychopathic constitution” when it was recorded that he had made a complete recovery. He was not granted any compensation and was declared “fit for garrison service.”⁵⁸

Out of our sample of one hundred soldiers with functional disorders admitted to the Charité during the war years, eighteen—mainly with functional motor disorders (such as paralysis of a limb or tremor)—received treatment in form of electric shocks combined with suggestive methods.⁵⁹ The electric currents were commonly applied to the affected body part using a faradic brush. Response rates to electric shock therapy were reported as being very high, with most patients recovering after a

58. Historisches Psychiatriearchiv Charité, M8875/1918, case record translated by Stefanie Linden.

59. Linden, Hess, and Jones, “The Neurological Manifestations of Trauma.”

single treatment session, but it is unclear whether symptoms were cured or whether patients reported improvement to avoid further unpleasant treatment. Furthermore, there is no account of the long-term effect of the treatment because no follow-up studies were conducted. No adverse effects from electric treatment were reported.

In Berlin, electrotherapy and suggestion (as well as medication) were used over the whole period of the war. The records do not suggest that treatment strategies changed during this time, except that early in the war, patients were frequently sent to rehabilitation centers in or around Berlin (such as Haus Schoenow in Berlin Zehlendorf) for electrotherapy, whereas in 1918, they received the same treatment in the Charité.

The Kaufmann method also used electric currents in combination with suggestion.⁶⁰ Before electric stimuli were applied, the patient was told that the treatment would be painful, but that he would be completely cured after only one therapy session (“suggestive preparation”). Painful electric currents were then applied to different body parts—in gait disorders to the legs, in aphonia to the neck or tongue—for about two to five minutes, followed by exercises, which were again followed by electric stimulation. The physician joined in the strict exercise regime and continued his verbal suggestions. Nonne treated about 130 patients—mainly with motor disorders—with the Kaufmann method in his own Hamburg unit and reported a recovery rate of about 74 percent.⁶¹ However, as Nonne was convinced that treatment success did not depend on the strength of the electric current, he applied only brief and weak electric stimuli. Nonne also threatened soldiers who were about to be discharged from active service with reenlistment if they had a relapse of symptoms.⁶² This use of negative reinforcement may have explained Nonne’s high success rates. Another physician who used electric currents was Gustav Oppenheim who invented a special device for the treatment of servicemen with functional tremor.⁶³ During treatment, the patient was attached to an electrode and an interrupter. Whenever his tremor set in, he received an electric shock. The goal of the procedure was that over time, the patient would learn to control his tremor. The treatment was

60. Kaufmann, “Die planmässige Heilung komplizierter psychogener Bewegungsstörungen bei Soldaten in einer Sitzung.” For another report of high rates of treatment success, see M. Raether, “Neurosen-Heilungen nach der Kaufmann-Methode,” *Deutsche Medizinische Wochenschrift* 1917, 43(11), 321–23.

61. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen,” 197–98.

62. *Ibid.*, 209.

63. Gustav Oppenheim, “Zur Behandlung des Zitterns,” *Neurologisches Zentralblatt*, 1917, 36, 620–24.

continued over a few days to prevent a relapse of symptoms. Through this continuous feedback, behavior was supposed to be altered permanently which was reflected in the high success rates reported.

Even in Jena, where only weak faradic currents were used, patients were threatened with the application of strong electric currents. This was in stark contrast to Binswanger's statement in his 1904 textbook that, "Every psychologically minded physician will object to these methods of punishment and threat, because the emotional shock could cause unforeseen damage even in a healthy individual."⁶⁴

OTHER FORMS OF PUNISHMENT

Treatments with an element of punishment could take a wide range of forms beyond this application of electric currents. A draconian way of managing servicemen suffering from severe vomiting was described by the Charlottenburg doctor Richard Hirschfeld.⁶⁵ The physician was present at mealtimes and compelled the patient to eat until he vomited. The patient was then forced to swallow the vomit rather than being allowed to expectorate it. In Jena, patients with tremor or hysterical contractures underwent perhaps the most drastic of the punishing interventions. The affected limb—in two cases even the neck and head—was put in plaster for several days. This intervention had mixed results, but immediate recurrence of symptoms was not unusual. In treating refractory cases, the Jena psychiatrists even threatened to put a fully functioning limb in plaster. In Jena and Berlin, patients with severe hysterical symptoms were confined to the locked psychiatric ward, where otherwise mainly aggressive, agitated, loud, and confused patients were treated. The only way to escape imprisonment on the locked ward was to demonstrate a recovery from symptoms. Such cures could occur within a very short period of time, often within hours of admission. This practice was not reported in the wartime psychiatric literature, although at least two major university departments, those of Jena and Berlin, practiced it.

Isolation was another option for punishing patients who did not respond to or comply with other therapies. Soldiers were confined to their bed in a single room and not allowed to read, write, smoke, talk to the nurses, or receive visitors. Binswanger, who based this mental deprivation treatment ("psychische Abstinenzkur") on his observation that attention or compassion resulted in an exacerbation of hysterical symptoms, claimed high success rates with this approach. Another reason for

64. Binswanger, *Die Hysterie*, 879.

65. Hirschfeld, "Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen."

using isolation therapy was that the removal of all stimuli was supposed to allow the patient to recover without distraction. In Jena, however, where twenty-two out of our one hundred cases were isolated in this manner, this treatment was explicitly used to “punish” the patient.⁶⁶

The following vignette of patient AB, taken from the Jena records, illustrates the use of punishment in the treatment of traumatized soldiers. Before the war, twenty-six-year-old AB worked as a forester in Gerstungen, a small town in Thuringia. He had undertaken military service from 1909 to 1911. Immediately after the outbreak of the war, AB was conscripted into the infantry and served with a unit that invaded Belgium on August 9, 1914. Afterwards, he was sent to Eastern Prussia and Galicia where he endured all stresses and strains without any major complaints. On November 19, 1914, he suffered from a shell injury to his left lateral malleolus. Treatment in a military hospital in Blankenburg led to a quick and complete recovery. In January and April 1915, he had to undergo an operative removal of two lipomas (benign tumors of fatty tissue) on his right elbow, resulting in iatrogenic damage to his radial nerve and transient loss of sensation in the fingers of his right hand. From May 1915, he experienced pain and tremor in his right forearm as well as persistent headaches. In June, he had a bout of tonsillitis and was granted furlough. As the tremor of his right arm and hand did not improve, he was admitted to the Jena Military Hospital on February 1, 1916.

On admission, he showed a coarse tremor in his right arm, most prominent in his wrist joint, with the amplitude increasing toward his hand. He was diagnosed with “emotional shaking tremor of the right arm” (“emotionaler Schütteltremor”). For four weeks, he was—unsuccessfully—treated with bed rest and wet packs of his right arm. He was then confined to a single room, not allowed to leave his bed, receive visitors, read, or write. The psychiatrists also tried positive suggestion telling him of the quick recovery of a close friend. However, three weeks of isolation therapy did not achieve any improvement: AB appeared hopeless and depressed, consistently pointing out that he was not able consciously to control the shaking in his arm.

On March 24, 1916, his right arm and hand were completely immobilized by putting them into plaster. At the same time, “a simple torticollis following a cold [made] him believe that the disease [had] now moved into his head; this [showed] how suggestible the man is.” A brief psychotherapeutic intervention used persuasion in order to convince him that this was not the case. Meanwhile, the right arm and hand appeared to be

66. Bestand S III, Abt. IX, Nr. 511, Universitätsarchiv, Jena.

motionless within the plaster. Occasionally, a slight vibration of the fingers could be observed. After twelve days of immobilization, the plaster was removed, but the tremor immediately reappeared. AB was ordered out of bed and instructed to do light work in the garden. Although the treatment had not resolved his tremor, AB's mood lifted when the plaster came off. On May 2, after three months of treatment, AB was discharged as being "temporarily unfit for military service" and sent home in order to return into his civil occupation. Reexamination after six months was recommended and AB was granted 30 percent disability.⁶⁷

Binswanger himself indicated that the ban to read or write and to receive visitors—as part of his isolation regime—were "harsh and difficult to impose" and thus only applied to severe cases of hysteria.⁶⁸ Another extract from the Jena case records illustrates that Binswanger's treatment regime could cause suffering but at the same time be very effective, at least from the physicians' perspective.⁶⁹ The patient was a thirty-one-year-old orderly who had been at the front line from November 1914 to April 1916. From February 1916 on, he had developed shortness of breath and in April, he lost his voice. On admission to the Jena military hospital, he could not talk and was gasping for breath at a continuous rate of sixty per minute (this continued for days). Electrotherapy of the larynx, speech therapy, breathing exercises, verbal suggestion, and transferal to the locked psychiatric ward failed to address his symptoms. A ward doctor made the following note in the patient's case record:

The man is told that his lack of progress and his nervous character . . . could only be overcome through absolute rest, he had to be patient. If necessary he would have to rest in isolation for a year or longer. At the beginning he is very upset about the isolation. Cries and sobs, retches and gasps for breath, as if trying to say something, indicating that he wanted to write something down. He is told that every written communication had to be prohibited. Only when he regained his voice he would be allowed to unburden himself about his illness.

Two days before Christmas, the patient reacted furiously to the doctor's remark that in order to avoid any emotional excitation he was not allowed to take part in the holiday celebrations; he threw his feces about his room, threw a cup against the wall, and threatened a male nurse. He was

67. Bestand S III, Abt. IX, Nr. 426, Universitätsarchiv, Jena (translated by Stefanie Linden).

68. Binswanger, *Die Hysterie*, 395.

69. Bestand S III, Abt. IX, Nr. 710, Universitätsarchiv, Jena.

transferred to the observation room, where he "was so upset that all the sudden he regained his voice. . . . Is transferred to the dormitory, is allowed to attend the Christmas celebrations."

Not all patients responded so well Binswanger's therapy. Sometimes when soldiers did not respond to treatment, Binswanger abandoned his general practice of offering soldiers a discharge from military service as illustrated in the following case. M.R., a twenty-seven-year-old reservist developed functional mutism before he could be sent to the front line. After nineteen days of unsuccessful electrotherapy and waking suggestion in Jena, he was sent back to his regiment with the note: "The absence of speech does not prevent him from doing his service."⁷⁰ This case showed the considerable power that psychiatrists could exercise over their soldier-patients. Clearly, the failure of cure in this case was not blamed on the doctor but on the patient.

ELECTRICITY FOR PURPOSES OTHER THAN PUNISHMENT

Electricity was not simply used as a form of punishment. Milder currents were supposed to help re-activate paralyzed or relax tightened limbs (contracture).⁷¹ One idea behind this "awakening of function" was that patients had forgotten how to use a nonfunctioning body part. By demonstrating the muscular contractions and movements, it was hypothesized that the patient would get a feeling for the normal use of the disabled limb. In addition, faradic stimulation of affected muscles was thought to reactivate cortical areas responsible for the movement of the affected limb, also reviving images of movement ("Bewegungsvorstellungen") stored in the cortical area through association.⁷² The use of electrical stimulation in cases of hypesthesia (reduced sensory perception) followed a similar rationale. The gradual application of increasing electric currents was supposed to induce a sensation and therefore facilitate the recovery of normal sensory function. A treatment for functional deafness practiced by Robert Sommer exposed the patient to strong, unexpected auditory stimuli.⁷³ Sommer put the patient's forearm into a strap and secured his fingers. The patient was told to hold his fingers completely still. Without announcement, a bell rang behind the patient. The patient, startled by

70. Bestand S III, Abt. IX, Nr. 360, Universitätsarchiv, Jena.

71. Beyer, "Die Heilung des Zitterns und anderer nervöser Bewegungsstörungen"; Oehmen, "Die Heilung der hysterischen Erscheinungen in Wachsuggestion," *Deutsche Medizinische Wochenschrift*, 1917, 43, 463-66.

72. Binswanger, *Die Hysterie*, 883.

73. Robert Sommer, "Beseitigung funktioneller Taubheit, besonders bei Soldaten, durch eine experimental-psychologische Methode," *Archiv für Psychiatrie und Nervenkrankheiten*, 1917, 57, 574-75.

the unexpected sound, moved his hand, which was recorded on a graph. The recording thus served as evidence of intact auditory processing.

SHOCK/SURPRISE ATTACK (“AFFEKTSCHOCKMETHODEN”)

Shock and surprise were considered powerful treatment tools and could be readily induced by electric stimulation; Kaufmann called this method “Ueberrumpelungsmethode” (surprise attack). It was believed that the soldier’s active resistance to treatment could be overcome or disabled by means of an unexpected and sudden action. For example, physicians applied unheralded painful electric stimuli to patients who had been forced to remove their clothes to make them feel more vulnerable.⁷⁴ Then the electric therapy was suddenly interrupted and the patient was told to do exercises involving the dysfunctional body part, at first synchronous with the physician and then alone. A second course of unannounced electric stimulation was followed by more exercises.

Richard Hirschfeld, who mainly treated patients with aphonia, used faradic currents in combination with verbal suggestion.⁷⁵ Unlike Kaufmann, who delayed treatment until soldiers had recovered from acute shock, he initiated treatment as soon as patients arrived at the hospital, even if this was in the middle of the night, reducing their ability to resist the procedure. If patients with aphonia did not respond to electric currents applied to their neck, they received a general anesthesia with ether and/or chloroform after being told that they would be able to speak after the procedure. While waking, the patient received strong faradic currents to his auricle and nasal mucosa. Simultaneously, he was vigorously told that he could talk now and that he had already talked in his sleep. As soon as the patient started talking—before gaining full consciousness—he had to continuously recite poetry. When he talked too little or too quietly, he was punished with more faradic stimuli. Patients afterwards had amnesia for the intervention and they were not told what had been done to them. Hirschfeld reported a very high immediate success rate with this treatment, though he conducted no follow-up studies to establish the permanency of his cures.

Several other psychiatrists noticed that patients were particularly prone to suggestion on waking because their active resistance was disabled in this state between sleep and wakefulness.⁷⁶ Mann gives an example of a mute, very pious soldier who was cured when woken up from sleep by shouting

74. Bresler, “Das Kaufmann-Verfahren bei funktionellen Nervenstörungen,” 113.

75. Hirschfeld, “Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen.”

76. D. Dub, “Heilung psychogener Taubheit, Stummheit (Taubstummheit),” *Deutsche Medizinische Wochenschrift*, 1916, 42, 1601–2.

at him: "Praise the lord"; he immediately replied: "Now and forever, amen."⁷⁷ M. Rothmann practiced the "wonder drug technique" where patients were told that there was a potent drug to cure their symptoms instantaneously.⁷⁸ As the drug was painful to ingest, this would have to be done under a general anesthetic. On waking from the anesthesia, the patient was encouraged to believe that the drug had worked. A similar method was introduced by D. Dub who anesthetized his patients with ether and, on waking, operated an X-ray machine, pretending that something measurable had changed and the patient was cured.⁷⁹ The most radical shock treatment was that of Otto Muck, an ENT surgeon from Essen. In the mute soldier, Muck induced an intense fear of suffocation through the insertion of a ball probe into the larynx ("Mucksche Kehlkopfkugel"). This terrifying experience commonly led to the patient shouting out in extreme fear recovering his voice within seconds.⁸⁰

LEARNING FROM A ROLE MODEL

Several therapeutic interventions were based on the idea that soldiers with functional disorders would learn healthy behavior from recovered comrades or their treating physician. For example, Kehrer strictly separated untreated patients from others with similar symptoms and only allowed them to socialize with successfully treated comrades ("propaganda of the cured").⁸¹ A number of psychiatrists used this method as "suggestive preparation" before the actual treatment was started.⁸² Moreover, the psychiatrist himself was supposed to serve as a role model for the patients. He fully participated in most therapies with an exercise component and thus functioned as a "pace maker."⁸³ A related approach explicitly addressed the patients' thought patterns through an early form of cognitive therapy, developed by the Swiss psychiatrist Charles Dubois under the heading of

77. G. Mann, "Zur Frage der traumatischen Neurose," *Wiener Klinische Wochenschrift*, 1916, 52, 257-61 (as cited by Bresler, "Das Kaufmann-Verfahren bei funktionellen Nervenstörungen," 103.).

78. M. Rothmann, "Zur Beseitigung psychogener Bewegungsstörungen bei Soldaten in einer Sitzung," *Münchener Medizinische Wochenschrift*, 1916, 63, 1277-78 (as cited by Lerner, see, *Hysterical Men*, 115).

79. D. Dub, "Heilung psychogener Taubheit, Stummheit (Taubstummheit)." I was not able to find the first names for M. Rothman or D. Dub.

80. Otto Muck, "Psychologische Betrachtungen bei Heilungen funktionell stimmgestörter Soldaten," *Münchener Medizinische Wochenschrift, Feldärztliche Beilage*, 1916, 63, 441.

81. Kehrer, "Zur Frage der Behandlung der Kriegsneurosen," 13.

82. Bresler, "Das Kaufmann-Verfahren bei funktionellen Nervenstörungen"; "Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen"; Nonne, "Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen."

83. Kehrer, "Zur Frage der Behandlung der Kriegsneurosen," 8.

rational psychotherapy or “rational education.”⁸⁴ Its application to war trauma, advocated by George Flatau and Hirschfeld, entailed the correction of wrong assumptions about the organic origin of the symptoms and led to rapid recovery in some cases, although this procedure could also induce anxiety about being considered a malingerer.⁸⁵

It was also deemed important to minimize the influence of negative role models. In Jena (where the military hospital and psychiatric unit were separated), there was a strict policy of separating hysterics with acute symptoms (mainly psychogenic seizures) from their comrades in order to avoid “hysterical infection,” most commonly through isolation therapy. The ostracism of individuals with hysterical symptoms found its harshest expression in Kehrer’s suggestion to banish all hysterical men from public places so that no one had to bear their “unpleasant look.” He also condemned any expression of pity or compassion for hysterical soldiers. Moreover, they were denied aids such as walking sticks and sunglasses.⁸⁶

REACHING THE SUBCONSCIOUS MIND

The disease model advocated by Nonne assigned a key role to unconscious processes in the formation of functional symptoms, “Hysterical reactions of the psychopaths [are] subconscious defence mechanisms against unpleasant and exciting situations, and the fixation of these states [is] not intentional but a subconscious pathological process, an affectively induced split consciousness, which [can] not be controlled by the affected individual.”⁸⁷ These unconscious processes were targeted by the wartime psychiatrists in three major ways: suggestion methods with or without hypnosis, and psychoanalysis. Hypnotic suggestion was often used when wakeful suggestion did not work. Nonne had first witnessed the therapeutic application of hypnosis by Charcot in Paris in 1889 and later by Bernheim in Nancy. On his return to Hamburg, he had observed that “the atmosphere of military discipline and the associated attitude” made soldiers highly receptive to hypnotic suggestion.⁸⁸ One major advantage of hypnosis over therapies using electric currents like the Kaufmann method was that it had no serious adverse effects. Hypnosis was, however,

84. Charles Paul Dubois and L. B. Gallatin, *The Influence of the Mind on the Body* (New York: Funk & Wagnalls, 1906), 57.

85. Georg Flatau, *Kursus der Psychotherapie und des Hypnotismus*, 2nd and 3rd ed. (Berlin: S. Karger, 1920), 34–40; for Hirschfeld see Lerner, *Hysterical Men*, 121–22.

86. Kehrer, “Zur Frage der Behandlung der Kriegsneurosen,” 22.

87. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen,” 208.

88. *Ibid.*, 198.

less practicable; the physician had to be well trained and the patient susceptible.

Nonne claimed very high success rates with his technique; he reported that by the end of the war, he and his Hamburg colleagues had treated one thousand and six hundred cases of hysteria with a response rate of 95 percent.⁸⁹ Although the vast majority of his patients—mainly with motor disorders—were recorded as being cured after a short intervention, only a very small percentage of cases (3.5 percent) were discharged from his unit as fit for military service. In his textbook on hysteria, Binswanger mentioned three reasons why he strongly opposed treatment methods involving deep hypnotic states. First, he did not believe in its effectiveness. Second, he had seen cases where hypnosis actually triggered hysterical symptoms like seizures, and third, he believed it to be too deep an intrusion into an individual's psyche. Furthermore, he did not believe in abreaction and argued that the powers of suggestion were highly overrated.

PSYCHOANALYTIC THERAPY

Psychoanalytic therapy of functional disorders was practiced in only a few treatment units in Germany.⁹⁰ With thousands of traumatized soldiers in need of therapy, this time-consuming method, which required well trained and experienced physicians, was not very practicable. In addition, patients had to be reasonably well educated and had to fully engage in the psychoanalytic process. Furthermore, psychoanalysis was still largely a procedure employed for outpatients by neurologists and general doctors, and academic and asylum psychiatry only slowly overcame its hostility to this new treatment philosophy.⁹¹ However, psychoanalysis was supposed to guarantee a permanent treatment success rather than simply correct abnormal behavior.

The Austrian physician Josef Breuer was the first to report that hysterical symptoms vanished when the memory of the triggering event and the affect associated with it were reactivated (abreaction).⁹² Psychoanalytically oriented psychiatrists believed that hysterical symptoms developed in patients who lacked the ability to abreact. The retained affective material was unconsciously converted into physical symptoms. They posited a

89. Max Nonne, *Anfang und Ziel meines Lebens. Erinnerungen* (Hamburg: Hans Christians Verlag, 1971).

90. See, for example, Sauer, "Zur Analyse und Behandlung der Kriegsneurosen"; Fritz Stern, "Die psychoanalytische Behandlung der Hysterie im Lazarett," *Psychiatrisch-neurologische Wochenschrift*, 1916/17, 1-2, 1-3.

91. Shorter, *A History of Psychiatry*, 154-60.

92. Josef Breuer and Sigmund Freud, *Studien über Hysterie* (Leipzig and Vienna: Franz Deuticke, 1895).

number of reasons why the affective abreaction might not be possible. First of all, the affective material might be retained because the traumatic situation or the social circumstances did not allow an abreaction. Secondly, the individual wanted to forget and therefore suppressed the memory of an unbearable event. Sigmund Freud put the main emphasis on this repression of unbearable images/ideas.⁹³ Psychoanalysts also believed that a state of altered consciousness during a traumatic event would lead to a failed abreaction of affective material and thereby to hysterical manifestations. All three scenarios seem conceivable for the soldier involved in trench warfare. However, the experiences of World War I soldiers contradicted some of Freud's ideas; for example, the notion that all neuroses were based on sexual conflicts.

Fritz Stern, a general practitioner who served in a military hospital in Berlin Charlottenburg, published the first German article on the psychoanalytic treatment of war neurosis.⁹⁴ His approach was that of a cathartic talking cure that uncovered repressed memories and their associated affect leading to an abreaction. Willibald Sauer, a Munich physician serving in a general field hospital wanted "to show how valuable it can be to take Freud's viewpoint into consideration when dealing with war neuroses."⁹⁵ He practiced the so-called Frank method (named after the Zürich psychiatrist Ludwig Frank), which was based on Freud's and Breuer's theories but was supposed to "strip them off all mere speculations and interpretations." His treatment relied on the same principle as Stern's (an abreaction of the affect associated with the pathogenic experience). Unlike Stern, though, he conducted his sessions in a darkened room to induce a sleep-like state that would facilitate access to hidden memories. Sauer claimed that his patients fully recovered so that he could send them back to military service, but it is not known how many of them actually went back to active duty. Another variation on classical psychoanalysis was the relative brevity of the intervention. For example, Ernst Simmel developed a brief version of analytical therapy that included hypnosis and dream interpretation.⁹⁶ The military authorities were primarily interested in psychoanalysis because they were hoping for improved recovery rates with permanent treatment successes facilitating the soldier's return to the front line.⁹⁷ On

93. *Ibid.*

94. Stern, "Die psychoanalytische Behandlung der Hysterie Im Lazarett."

95. Sauer, "Zur Analyse und Behandlung der Kriegsneurosen."

96. See Doris Kaufmann, "Science as Cultural Practice: Psychiatry in the First World War and Weimar Germany," *J. Contemp. Hist.*, 1999, 34, 125–44, 140; for a detailed discussion of Simmel's method, see Lerner, *Hysterical Men*, 171–75.

97. José Brunner, "Psychiatry, Psychoanalysis, and Politics during the First World War," *J. Hist. Behav. Sci.*, 1991, 27, 352–65.

September 28, 1918, members of the International Psychoanalytic Association, among them Freud, as well as high ranking medical officials from the Hungarian, Austrian, and German armies met in Budapest to discuss the potential of psychoanalysis in the battle against war neurosis. Simmel was one of the keynote speakers. Subsequent plans to establish psychoanalytic treatment units for war neurosis could not be realized, though, because of the imminent collapse of the Central Powers.⁹⁸

OTHER PHYSICAL THERAPIES

Contemporaneous publications on the treatment of functional disorders did not discuss medication in detail. Soldiers admitted to the Charité during World War I commonly received the limited range of available drugs. Medication was primarily prescribed for sedation and analgesia. Calming medications commonly used were Valerian, bromide salts, chloral hydrate, paraldehyde, and the barbiturate veronal. Analgesic medications most commonly administered were aspirin, antipyrine, phenacetin, and pyramidone. Diet, massage, physio-, hydro-, and work therapy were also part of the whole treatment concept.⁹⁹

Binswanger also strongly believed in work therapy, thirty-nine out of our one hundred randomly picked patients were sent out to work in the hospital gardens, the farm, or various workshops (for example, joinery, boot-making). A characteristic note in the records reads, "The best therapy is productive labour, through which [the patient] will regain his self-confidence."¹⁰⁰ Many patients also received physical therapies, such as cold wet packs (twenty-three patients), hot or cold baths (eleven patients), or had whole body massages (seven patients). Twenty-seven out of one hundred patients were prescribed a rest cure, commonly associated with a high calorie diet. Exercise was part of the treatment regime and patients were sent to the "medico-mechanical institute" in a former Jena school (nineteen patients).

TREATMENT CLASSIFICATION AND THE ISSUE OF DECEPTION

Most of the treatment methods described above involved a variety of elements, such as suggestion, surprise, punishment, and repeated exercises. Hardly, any treatment concept can be purely assigned to a single category. Of Lerner's four categories of treatment, only "startling" ("Shock/surprise

98. Lerner, *Hysterical Men*, 185.

99. Rafael Weichbrodt, "Die Behandlung hysterischer Störungen," *Arch. Psychiatr. Nervenkr.*, 1917, 57, 519-25; Hirschfeld, "Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen."

100. Bestand S III, Abt. IX, Nr. 1311, Universitätsarchiv, Jena.

attack”) and persuasion/cognitive approaches have equivalents in our classification. However, our category of “surprise attack” is broader than Lerner’s, who classified treatments like Rothmann’s “wonder drug technique” and Dub’s use of suggestion in the waking phase under “deception.”¹⁰¹ Although deception or “faux therapeutic intervention” was certainly part of the process, the leading effective principle seems to have been in the element of surprise.¹⁰² Similarly, Lerner described Sommer’s method of startling functionally deaf patients as a technique that was “based on deception and trickery” and “used the trappings of science and advanced medical practice . . . to deceptive, purely suggestive ends.”¹⁰³ Again, we classified this approach as a surprise attack rather than deception. Rather than a pseudoscientific technique, this was a clever way of demonstrating an intact stimulus–response sequence motivated by the latest neurophysiological experiments. Whereas the first two methods by Rothmann and Dub comprise an element of deception in that the patient is made to believe that a certain procedure had been undertaken—when this was not the case—Sommer’s treatment was not based on false information at all.

Moreover, we differ from Lerner in that we consider isolation primarily as a form of punishment rather than a separate category. Although isolation was used to promote recovery by removing all potentially exciting stimuli and distractions, the Jena case records unequivocally classify it as a punishment. Whereas Lerner categorized the different treatments mainly by procedure, we focused on the underlying therapeutic principles and implicit concepts (behavior modification, subconscious processes, cognitive structures).

Under pressure from military authorities to return as many soldiers as possible to active duty or to productive labor at home, any intervention seemed justifiable and legitimate. German psychiatrists confined their patients to locked wards, anesthetized them, used radiation and electricity and put entire limbs into plaster. Doctors and patients did not seem to question the legitimacy of these methods. After the war, Charles Myers, former consultant psychologist to the British Expeditionary Force in France, addressed the issue of “the justifiability of therapeutic lying” in a letter published in the *Lancet*.¹⁰⁴ He strongly condemned any attempt to deceive the patient even if this were driven by a genuine desire to cure

101. Lerner, *Hysterical Men*, 114–16.

102. *Ibid.*, 114.

103. *Ibid.*, 117–18; for Sommer’s method, see Robert Sommer, “Beseitigung funktioneller Taubheit, besonders bei Soldaten, durch eine experimental-psychologische Methode.”

104. Charles S. Meyers, “The Justifiability of Therapeutic Lying,” *Lancet*, 1919, 27, 1213–14.

symptoms. He also considered it dangerous and unnecessary to mislead people into thinking that they suffered from an organic illness although he admitted that “the full truth is not always possible and explanations have to be couched in terms fitted to the mentality of the patient.” In publications of German psychiatrists during and after World War I, these questions were not raised. During the war, German and British psychiatrists felt that the method used to cure war neuroses was not relevant as long as it proved successful.¹⁰⁵

DIFFERENT SYNDROMES: DIFFERENT OUTCOMES

Richard Hirschfeld observed that “less severe disorders that are not very debilitating regarding social and work life but limit the fitness for military service are held on to rather affectionately.”¹⁰⁶ Different functional disorders indeed seem to have had different outcomes. One observation was that hysterical seizures and hysterical tremor were difficult to treat or even resisted treatment.¹⁰⁷ Conversely, other functional disorders, such as hysterical deafness, speech disorders, and pareses, had a better prognosis and could be treated successfully even after long illness duration.¹⁰⁸ This view is supported by our Berlin data, where a large proportion of patients (47 percent) with functional motor disorders (paresis of the arm or leg, gait disorders) showed a complete recovery on discharge. Conversely, most patients with dissociative seizures (44 percent) were discharged uncured.¹⁰⁹ The Berlin patient of the case history reported above was said to be completely recovered, which was also in keeping with reports of hysterical deafness responding very well to treatment.¹¹⁰ However, apart from Nonne’s survey, no follow-up studies were conducted to establish how permanent the reported cures were.

The Jena case records tellingly illustrate that even if treatment resulted in a complete recovery of the patient, symptoms tended to recur with exposure to front-line service. The patient R.S., who developed a coarse

105. Jones, “War Neuroses and Arthur Hurst.”

106. Hirschfeld, “Zur Behandlung im Kriege erworbener hysterischer Zustände, insbesondere von Sprachstörungen.”

107. Semi Meyer, “Die nervösen Krankheitsbilder nach Explosionsschock,” *Z. Gesamte Neurol. Psychiatr.*, 1916, 33, 353–70. Nonne, “Über erfolgreiche Suggestivbehandlung der hysteriformen Störungen bei Kriegsneurosen.”

108. A. Bostroem, “Zur Psychologie und Klinik der psychogenen Hörstörungen,” *Z. Gesamte Neurol. Psychiatr.*, 1918, 40, 308–41; Dudley William Carmalt Jones, “War-Neurasthenia, Acute and Chronic,” *Brain*, 1919, 42, 171–213; Julius Donath, “Kriegsbeobachtungen über hysterische Stimm-, Sprach- und Hörstörungen,” *Monatsschrift für Psychiatrie und Neurologie*, 1918, 40, 301–17; Stern, “Die hysterischen Bewegungsstörungen.”

109. Linden, Hess, and Jones, “The Neurological Manifestations of Trauma.”

110. Bostroem, “Zur Psychologie und Klinik der psychogenen Hörstörungen.”

shaking of his head immediately after a close shell explosion, was treated at the Jena military hospital in January/February 1915.¹¹¹ After a rest cure and application of a strong bandage to his head and neck, the patient completely recovered. He received home leave in order to get married and was then sent back to the front line. Binswanger met the patient by chance three months after his discharge at a railway station in the South of Germany and found him to be shaking with his head. The patient told him that his disorder had reappeared after a short stay at the front line.

THE QUESTION OF SIMULATION

As Lerner states in his book *Hysterical Men*, “neither military nor medical authorities devoted significant amounts of attention to the simulation issue during the war.”¹¹² Aggravation of preexisting symptoms was considered more common. Nevertheless, some psychiatrists tried to establish guidelines for the distinction between hysteria and simulation.¹¹³ They concluded that a strong wish to avoid front-line service through illness was dominant both in hysterics and in malingerers. They were at a loss to distinguish these two groups on the basis of their clinical symptoms. A hysterical origin was considered likely in cases where there was a proven prewar history of hysterical symptoms, especially in childhood, or evidence of a psychopathic constitution throughout life. Conversely, malingering was suspected when symptoms did not vary with the emotional state of the patient and when no clear triggers could be identified.¹¹⁴

The Berlin case files hardly mention simulation. The Jena psychiatrists were more interested in the detection of potential simulation or aggravation of symptoms. Any patients suspected of simulating or consciously exaggerating their symptoms were closely observed, especially at times when they believed to be unwatched or when they were distracted. However, the diagnosis of simulation was rarely confirmed at discharge from hospital (in less than 0.5 percent of all cases). Even if simulation was suspected, treatment was not different from that of a patient with “hysteria” or “psychopathic constitution.” The following comment was frequently found in the Jena case records: “The award of a pension would turn him into a pension hysteric (Rentenhysteriker), whereas the enforcement to work will be educational.”¹¹⁵

111. Bestand S III, Abt. IX, Nr. 153, Universitätsarchiv, Jena.

112. Lerner, *Hysterical Men*, 139; see also Lembach, *Die “Kriegsneurose,”* 128.

113. W. Mayer, “Über Simulation und Hysterie,” *Z. Gesamte Neurol. Psychiatr.*, 1918, 39, 315–28.

114. *Ibid.*

115. Bestand S III, Abt. IX, Nr. 1227, Universitätsarchiv, Jena.

It is difficult to generalize about treatment simply because there were so many doctors engaged in the war effort. Some were steeped in military tradition and sought to serve the needs of the army, while others who remained civilian at heart emphasized the needs of the individual soldier patient or veteran. The following case from Jena demonstrates that even if “pension hysteria” and deliberate simulation of symptoms were strongly suspected this did not necessarily have adverse consequences for the patient if he encountered a sympathetic doctor; not all patients were so fortunate.

E.J., a forty-five-year-old locksmith and war pensioner was admitted to the Jena Military Hospital in September 1917 with a diagnosis of “neurosis and aggravation.”¹¹⁶ He had fought at the Russian front from April until July 1915 when he was buried following several shell explosions. Treated in several military hospitals for severe shaking, EJ was discharged from the army in July 1916 with a pension. He then worked in his own company. Complaining of pressure in his head and general weakness, he applied for an increase in his pension and was sent to Jena for assessment where the doctor wrote:

The whole behaviour of this man during the examination appears to be contrived and insincere. Dressing and undressing is carried out briskly. On the examination table he moves his legs aimlessly, sighs, opens his eyes widely, looks at the physician in a threatening manner, covers his eyes with his hand, clattering his teeth, trembles. . . . Only answers questions slowly and vaguely. . . . Refuses any treatment, changes his mind later but all the sudden leaves the hospital in the evening.

The physician concluded:

His whole behaviour is contrived and unnatural and gives the impression that this is a deliberate deception through exaggeration. Due to the lack of organic signs it is impossible to say if the subjective symptoms really exist. We cannot recommend an increase in his pension.

On re-admission, EJ was diagnosed as suffering from “pension neurasthenia” (“Rentenneurasthenie”).

CRITICISM OF THE CONFLUENCE OF MILITARY AND MEDICAL GOALS

An important question remains as to whether psychiatrists treating servicemen with functional disorders acted out of genuine concern for the

116. Bestand S III, Abt. IX, Nr. 1097, Universitätsarchiv, Jena.

individual patient or saw themselves as servants of the state and the national cause (the “confluence of military and medical goals”).¹¹⁷ It is often argued that the psychiatric profession was subverted for the purpose of the war machinery and that psychiatrists were under pressure to return as many soldiers as possible back to the front line.¹¹⁸ Some modern accounts of German military psychiatry are highly critical of the treatment methods applied to traumatized soldiers during World War I.¹¹⁹ Peter Riedesser and Axel Verderber identified “violence against the patient” as the main characteristic of all treatment methods applied to hysterical soldiers during the war.¹²⁰ Psychiatrists, they argued, aimed to make “the stay in military hospitals more terrifying than duty at the front-line” because the primary goal of the physician was to send war neurotics back to combatant duties. In their perspective, the German psychiatrists of World War I were essentially brutal henchmen of the military leadership.

Our study of original psychiatric case records from Berlin and Jena confirms this account of German military psychiatry only in part. Some methods were doubtless unnecessarily painful and unpleasant, and accusations to this effect were leveled by some of the psychiatrists themselves. However, the attitudes of the more critical psychiatrists seem contradictory in that they denounced some treatment methods as brutal but then endorsed other invasive approaches.¹²¹ Most German psychiatrists justified their uncompromising behavior in terms of the exigencies of the military effort. Faced in the first half of the war by the combined forces of Britain, France, Russia, and Italy, it was vital that the German Army kept as many soldiers as possible in the front line. A notable exception was Kurt Schneider who questioned whether the usefulness as a soldier was the most important criterion by which to judge a young male.¹²²

Most psychiatrists seem to have behaved in a way that was compatible with their status as military officers. Yet, as demonstrated above, if they ever had the goal of sending traumatized soldiers back to the front, this was abandoned in the course of the war. Although this policy may have been driven more by the prevalent medical ideology that attributed traumatic reactions to underlying mental and moral weakness than by genuine concern for the patients’ well-being, it did prevent most of their patients

117. Lerner, *Hysterical Men*, 128.

118. Neuner, *Politik und Psychiatrie*, 66; Lembach, *Die “Kriegsneurose,”* 4–16, and 180.

119. Neuner, *Politik und Psychiatrie*, 55.

120. Riedesser and Verderber, *Maschinengewehre hinter der Front*, 42–43.

121. See, for example, Binswanger’s critique of Faradism in Binswanger, *Die Hysterie*, 929; Nonne’s critique of isolation therapy which he dismissed as “too harsh,” see Nonne, “Therapeutische Erfahrungen an den Kriegsneurosen in den Jahren, 1914–1918,” 113.

122. Schneider, “Einige psychiatrische Erfahrungen als Truppenarzt.”

from being sent back to further front-line service, contrary to the allegations of Riedesser and Verderber.¹²³

Psychoanalysis seems to have been a significant exception from this rule because analytically oriented therapists such as Simmel had the express aim of rendering their patients fit for military service, an attitude Lerner calls “one of the great ironies in the history of wartime psychiatry.”¹²⁴ One reason for this difference may be that psychoanalysts, even more so than psychiatrists, felt the need to establish their field as a respected domain of medicine and thus seized the opportunity to demonstrate tangible treatment results.

The diagnosis of “hysteria” constituted a compromise between the state’s desire to minimize the burden of pension claims—by not accepting the causal relationship between war trauma and symptom manifestation—on the one hand and the duty of care for the individual patient on the other. By giving the patient the label of hysteria, it was implicitly accepted that he did not consciously simulate his symptoms and thus could not be convicted by a court martial, and he would be saved from front-line hardship. As Ben Shephard stated in his account of military psychiatry, the Germans [as compared to the British and French] were “more willing to accept that men who had broken down would not be much use as soldiers again, and followed a deliberate policy, not simply of work therapy but of converting shell-shocked soldiers into farm or factory workers to fill labour shortages at home.”¹²⁵

Having become aware of the limitations of treatment, British medical authorities adopted a similar policy only in 1918.

CONCLUSION

World War I marked a turning point in the history of psychiatric treatment in Germany. The challenge posed by thousands of traumatized soldiers awakened the creativity and pioneering spirit of a profession that had largely resigned itself to a form of therapeutic nihilism. Psychiatric and neurological journals and conferences were a forum for discussion of psychopathology, etiological concepts, treatments, and treatment outcomes, including the first systematic therapeutic trials in the history of psychiatry. Treatments developed for war neurotics were diverse and reflected a broad range of theoretical positions. Most treatments worked through the systematic reinforcement of “healthy” behavior and aimed to transform the

123. Riedesser and Verderber, *Maschinengewehre hinter der Front*.

124. Lerner, *Hysterical Men*, 174.

125. Ben Shephard, *A War of Nerves: Soldiers and Psychiatrists in the Twentieth Century* (Cambridge, Massachusetts: Harvard University Press, 2001), 101.

traumatized soldier into a valuable laborer (but not necessarily to return him to active duty). It is striking how many concepts incorporated into the treatment of war neurosis seemed to anticipate what would later be known as behavioral therapy.

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