The British psychologist Philip Vernon once described the 1900s as ‘the most exciting decade in psychology since the death of Aristotle’. That being the case, you might have expected the war that broke out in 1914 to be a very psychological one.

In Britain it was not. The military scarcely knew about psychology – apart from a few oddball intellectuals like J.F.C. (‘Boney’) Fuller, who tried to make use of Gustav Le Bon’s crowd theories. Generals were not in the habit of drawing on civilian expertise, except in areas such as railway logistics, surgery or chemical warfare. As a result, most of the British academic psychologists (Myers, Rivers, McDougall and Brown) worked as psychiatrists in shell-shock hospitals. All were medically trained; Rivers had spent several years working as neurologist at Queen Square and a psychiatrist at Bethlem. In seeking to understand and treat shell-shock (a term coined by Myers) they drew mainly on psychiatrists such as Janet and Freud. Their role was important because the neurologists, supposedly the medical specialists in this field, were at first mystified and defeated by ‘shell-shock’, while the asylum doctors clung to their pre-war belief that mental illness was entirely hereditary.

Only at the end of the war, after he had returned from France, did Myers do some ‘proper psychology’, working on sound for the Royal Navy. Similarly, Rivers, after leaving Craiglockhart in late 1917, did some psychology with RFC flyers. Charles Spearman, a professional soldier by training, spent much of the war guarding a depot in the north of England, but later carried out testing work for the Admiralty. In Britain no attempt was made to apply psychology to the testing of military recruits.

In Europe, however, where the discipline was much better established, psychologists played a more prominent role. In October 1914 Wilhelm Wundt, founder of the first experimental laboratory in Leipzig in 1879, was one of 93 prominent German cultural and academic figures to sign a Manifesto refuting the charges of barbarism made against the German army for its conduct in Belgium. A year later, in The Psychologies of Nations, he sought to argue that Germany’s underlying philosophy was superior to those of France and England.

Many of those involved in the war, on both sides of the Atlantic, were pupils of Wundt. Indeed, the academic discipline of psychology in 1914 was itself essentially a German invention. Frederic Bartlett later recalled that the course taught at Cambridge before the war ‘was Germans, Germans all the way, and if we were going to stick to psychology then to Germany sooner or later we must all surely go’. Bartlett never went to Germany himself, but nearly everyone else did; many had fond memories of the ‘unstinted kindness and precious friendship’ of very many Germans and found it uncomfortable to be at war with

Krupp munitions factory – expertise built up by the Kaiser Wilhelm Institute for Labour Physiology in Berlin was used to minimise fatigue among munitions workers
them. Amongst the conflict-driven dreams Rivers recorded at Craiglockhart Hospital in 1917 was one in which he found himself back in the Heidelberg laboratory where he had worked two decades before. But divided loyalties were most powerfully played out at Harvard, where Hugo Münsterberg, the pioneer of applied psychology and a deeply patriotic German, found himself surrounded by anglophile New Englanders. Instead of returning to Germany, Münsterberg stood his ground but the strain took its toll, and in December 1917, while lecturing at Barnard College, he collapsed, fell from the podium and died.

Had Münsterberg gone back home, he would have been much in demand. The War Ministry in Berlin had no hesitation in calling in physicists, chemists – and psychologists. ‘I myself would have shaken my head in disbelief if someone had told me what sorts of things would be done in my Institute in these war years’, the Berlin psychologist Carl Stumpf declared in 1918. The military drew primarily on the industrial expertise the psychologists had acquired before the war; as early as 1915 aptitude tests developed by ‘psycho technicians’ were being used to select pilots, truck drivers, radio operators and other military specialists. At the same time, the expertise in nutrition and industrial fatigue built up by the Kaiser Wilhelm Institute for Labour Physiology in Berlin was used to minimise fatigue among munitions workers and to help German civilians adjust to the restricted and rationed diets enforced by the British blockade. By the end of the war, more than 11,000 synthetic food substitutes had been developed (Rabinbach, 1990).

At the same time psychologists were set specific tasks by the military. Max Wertheimer, later a leading Gestalt-ist, devised a directional listening device to help soldiers to locate enemy artillery over long distances. It consisted of two funnels of microphones a fixed distance apart mounted on a tripod and connected to earpieces with tubes or hollow cables; but, unfortunately, did not work very well; there was simply too much noise in artillery battles. Wertheimer’s old boss, Carl Stumpf, a musical scholar, had the more congenial task of organising gramophone recordings of the native dialects and songs of the prisoners of war held in camps in Germany (Ash, 1995). In addition, several German psychologists carried out investigations of combat motivation while serving in uniform. Walter Ludwig set 200 officers and wounded soldiers to write an essay on ‘what the soldier thinks in the moment of greatest danger in order to overcome the fear of death’; and concluded that religious feelings, memories of home, and ‘social emotions’ (comradeship) topped the list, with patriotism well down the field. By contrast, Paul Plaut concluded from his own experience and from questionnaires sent out by the Psychological Institute in Potsdam, that ‘one looks after oneself first’. He also emphasised the fatalism that soldiers develop (Watson, 2008).

Although these surveys were not initiated by the military and their findings were largely ignored, overall the psychologists helped to make the German war effort more scientific, rational and modern; they contributed to what military historians call ‘the full rationalization of machine war’ (Strachan, 1996). But they must also take some of the blame for Germany’s failures, such as the maladministration of food rationing which caused such unrest. Above all, the psychologists were unable to prevent Germany suffering a psychological defeat, as civilian morale collapsed in 1917 and desertion and mutiny crept into the armed forces the following year. Yet, professionally, they prospered. Historians agree that the First World War was ‘a turning point for academic psychology in Germany (Ash, 1995); it ‘enabled the discipline to demonstrate to the state its practical usefulness and thus prove its claim to be separate from philosophy. Thanks to the war, new positions dedicated to established psychology were created in institutes of technology and commercial academies’ (Geuter, 1992).

In France none of the big names took part in the war. Alfred Binet had died prematurely in 1911; his student Théodore Simon spent these years running a psychiatric hospital; Théodule-Armand Ribot was 74 in 1914; while Piaget, Flournoy and Claparède were all Swiss nationals. As in Germany, most of those involved with the military had previously been engaged in the ‘science of work’. Thus, Jean-Marie Lahy (1872-1944), a leading French opponent of the ‘scientific management’ theories of Frederick Winslow Taylor which were becoming fashionable in Europe just before the war, carried out studies of the reaction time and sangfroid of machine gunners, measuring variations in their respiration and pulse rate; his colleagues devised test for aptitude for flying. Neither in Germany nor in France did psychologists attempt to test all military recruits; nor did they test for character. When the United States entered the war in 1917, it was once again those who had worked in industry who proved most useful to the military. The US Army, hastily expanding, was happy to accept the help and advice of Walter Dill Scott, a former pupil of Wundt with long experience of aptitude testing in business. Scott’s techniques for finding smart and alert salesmen were easily adapted for military use, and by the end of the war his Committee on the Classification of Personnel in the Army had a staff of 7000 specialists who had interviewed and classified more than 3,000,000 men.

The Army gave Scott a medal. But it was more doubtful about the ambitious testing programme conceived by Robert M. Yerkes, the President of the American Psychological Association. Partly because his own career seemed blocked – he had been unable to get funding for the primate work he wanted to do and had been forced to supplement his income by developing mental tests for patients in a Boston psychiatric hospital – Yerkes saw in the war an opportunity to apply psychology in bold new ways. He persuaded the Surgeon-General of the Army that testing of recruits would help the military to eliminate the mentally unfit and to identify the intellectually superior. Yet, as Yerkes well knew, the technology needed for such testing did not yet exist. Before the war, American psychologists had taken up the mental tests developed in France by Binet and taken further by Stern in Germany; the concepts of ‘IQ’ and ‘mental age’ had been established. Henry Goddard had translated and used the Binet tests on “feeble-minded” children and on

---


**Watson, A. [2008]. Enduring the Great War: Combat, morale and collapse in the German and British Armies. Cambridge: Cambridge University Press.**


---

**looking back**

---

read discuss contribute at www.thepsychologist.org.uk

---

945
Looking Back

immigrants at Ellis Island and in 1916 Lewis Terman had published the Stanford-Binet, which further adapted the tests to American conditions.

Though Yerkes’ initial idea was to test military recruits individually, he soon realised that what the Army needed was a group test that could be conducted by unskilled personnel. Between May and July 1917, he sat down with Terman, Goddard and other colleagues and came up with three tests: the Alpha for literate recruits, the Beta for illiterates, and, for those who failed Beta, a modified Binet individual examination. It then took months to overcome opposition within the US Army and to organise the manpower and facilities needed to carry out the tests, but by the summer of 1918 the programme was under way: in the end, some 1.7 million recruits were tested.

This exercise was of some practical use, in enabling the army to shed potentially vulnerable recruits, though the tests also carried out by psychiatrists were probably more effective. But the military suspected that that was not the real purpose of the testing programme – that Yerkes and his colleagues might ‘ride it as a hobby for the purpose of obtaining data for research work and the future benefit of the human race’. Such suspicions were confirmed when the data came to be analysed. Crudely put, the tests showed that the mental age of the average American was 13.8, that 93 per cent of America’s black population were ’morons’ and that, contrary to expectations, Jews from southern and eastern Europe were not as intelligent as ‘old Americans’ from New England.

Were these findings credible? Critics pointed out, then and afterwards, that the tests themselves contained heavy cultural biases – that they measured education and familiarity with American culture, not innate intelligence. Furthermore, the programme was not carried out under perfect conditions – Gould later described it as ‘a shambles, if not a disgrace’ ... ‘conducted in an almost frantic rush’ and asserted that most of the soldiers taking the tests ‘must have ended up utterly confused or scared shitless’. Yerkes and his colleagues, having expended so much effort, naturally asserted the integrity of their material – though Henry Goddard did admit that ‘we seem to be impaled on the horns of a dilemma: either half the population is feeble-minded; or 12 year mentality does not properly come within the limits of feeble-mindedness’.

Whatever its flaws, Yerkes’ ambitious scheme had important consequences. Firstly, it initiated the IQ wars in the United States: The statement that the average mental age of Americans is only about fourteen is not inaccurate. It is not incorrect. It is nonsense’, thundered Walter Lippmann in 1922. To which Lewis Terman retorted: ‘There is nothing about an individual as important as his IQ.’ Secondly, at a popular level, the tests ‘m ust have ended up utterly confused or scared shitless’. Yerkes and Terman’s intention) and contributed to the climate that produced the 1924 Immigration Act, imposing quotas on immigrants. Thirdly, they ‘put psychology on the map’: ‘the advertising that this testing gave psychology in America reached into the remotest corner of the laboratory and swelled college classes’ (Boring, 1930). Although historians now regard the Army Tests as an early chapter in the argument over race and intelligence, many psychologists continue to see the World War 1 experience in a heroic, or at any rate a positive, light. According to Martin Seligman, psychology ‘responded to the national needs and was itself transformed’.

Was it? In 1920 William McDougall remarked that the Great War was ‘supposed to have revolutionized all our ideas of human nature and of national life’, adding that his own wartime experience had not caused him to change his mind about anything, either because he was too old to learn anything new or because his views had been right in the first place. However, many of his colleagues felt that the war had revealed truths about the human mind that must now be acted upon. ‘Our conception of mind has to be completely altered,’ W.H.R. Rivers told students at Cambridge in 1919. A new world, ‘based on the operation of the unconscious mind’, was going to transform such matters as criminal law. His colleague, Charles Myers, imagined a broader kind of psychology, replacing the ‘meaningless numbers’ and ‘senseless syllables’ of brass instrument psychology with ‘the factor of feeling’; taking the discipline into such areas as mental abnormality, child development and industrial neurosis. Myers opened up the membership of the British Psychological Society to anyone interested in the subject but his efforts to create a mental health clinic in Cambridge and to transform the teaching of psychology in the University were both frustrated when the more conservative elements, alarmed by the ‘wild rise of psychoanalysis’, dug their heels in. Myers went off to London to create the National Institute for Industrial Psychology.

Overall, Joanna Bourke (2001) is right that ‘social and clinical psychology received a significant boost from the First World War’. But her further assertion that there emerged out of the war ‘a new branch of the profession: military psychology’ is more debatable. Certainly wartime experience left some psychologists with a vision of a new role – helping soldiers to endure the mental effects of modern warfare, excluding the vulnerable, separating malingerers from neurotics, and developing new ‘psychological’ methods of training – but a generation would pass before the military allowed them to play that part, and then only in a piecemeal way.

Ben Shephard is a historian and writer
ben.shephard@blueyonder.co.uk

Henry Goddard had translated and used the Binet tests on 'feeble-minded' children and on immigrants at Ellis Island