From the US Military to American Prisons: The Legacy of Carl Murchison and the Army Alpha

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Interactions between psychology and the military grew tremendously during World War (WWI). In particular, the intelligence testing program for recruits required the U.S. Army to recruit many psychologists and then to train many more psychologists in a dedicated program at Camp Greenleaf. The consequences of these actions extend across psychological science and practice. We introduce the military testing program and the psychological examiner training program, and we examine Carl A. Murchison as an exemplar of a military-trained psychologist who extended his career from the U. S. Army, where he examined both recruits and some women as discussed below, into his civilian academic career.

Intelligence Testing during World War I

Intelligence testing during WWI emerged from practical concerns about the placement of recruits. How should the U.S. Army best place soldiers into roles commensurate with their intellectual abilities (Carroll, 2026)? Robert M. Yerkes (1921) led the Committee on Methods of Psychological Examination for Recruits, the group that developed the Army tests (Kevles, 1968). This group served as a who's who of prominent testing scholars at that time, including luminaries such as Lewis Terman, H. H. Goddard, Edgar A. Doll, Walter Bingham, and others (Gould, 1996; Wasserman, 2018). The committee developed two distinct tests to accommodate varying levels of English ability among recruits: the Alpha for those who could read and write English, and the Beta for those who could not (Wasserman, 2018). The testing program itself immediately grew into a massive effort that required many trained examiners to work at Army Camps across the United States.

This ambitious testing program unfolded under extreme stress. Although the United States initially delayed its entry into World War I (WWI), once committed, there was immense pressure to deploy soldiers to European battlefields as rapidly as possible (Loewen, 2018). Additionally, the mis-named Spanish Influenza, an influenza that was particularly lethal for young adults, prompted a health crisis in U.S. Army Camps (Barry, 2005). Hastily built camps, time pressures, and influenza exacerbated by the brutally cold winter of 1917-1918 (Barry, 2005), placed psychological examiners under extraordinary strain.

Training the First Military Psychologists

With the leadership of Robert M. Yerkes and the Committee on Methods of Psychological Examination for Recruits, the U. S. Army commissioned psychologists as Army Officers and charged these psychologists with testing approximately 1.75 million recruits (Gould, 1996). This monumental task required a school dedicated to the training of new psychologists who could administer the tests. After considering both Fort Riley in Kansas and Fort Oglethorpe in Georgia, Yerkes (1921) and his team selected Fort Oglethorpe as the site for their work.

The U. S. Army built Camp Greenleaf within the boundaries of Fort Oglethorpe. Camp Greenleaf eventually held thousands of medical, dental, and veterinary officers alongside approximately 70,000 enlisted medics, nurses, technicians, and assistants (Hudson & Mirza, 2016). Austere conditions at Camp Greenleaf resulted from the sudden call to arms, and cadets arrived prior to the establishment of adequate housing. After surveying multiple locations, the Army drained swampland to establish building sites. Therefore, under the guise of instruction in sanitation, the incoming cadets widened a drainage ditch and erected buildings, which eventually housed about 650 of the 1000 inbound officers (Bispham, 1927). The training system came together with remarkable speed, just ten weeks after the United States declared war on April 6, 1917, the first class was already in place by June 15, 1917 (Bispham, 1927).

The larger Sanitary Corps contained the School of Military Psychology, established in January of 1918. All medical officers, regardless of specialty, engaged in three months of general military training (Bispham, 1927), and the school expected to accept 50 military psychologists within a month of notification for a minimum of two months' worth of additional psychology-specific training, including a required 365 hours of instruction on the U.S. Army's intelligence testing needs (Bispham, 1927). Topics included organization and administration of psychological examinations; group examination practice, scoring, and methods; individual examination practice; and statistical methods. Interestingly, advanced training was also provided on topics such as malingering and interacting with soldiers with intellectual disabilities (Bispham, 1927).

Officers recruited to serve as psychological examiners immediately faced their own psychological examinations. Incoming military psychologists completed the Alpha upon arrival as well as a modified officer's qualification card (Bispham, 1927). Incoming officers provided information regarding existing expertise/specialization, publications, additional psychological training (particularly applied training), and personal preferences for future duties. Administrators organized personnel into separate companies for officers and for enlisted personnel. At the conclusion of training, administrators could select up to 50 enlisted soldiers for promotion to officers based on recruits' abilities and knowledge at the conclusion of training. All other enlisted men served as sergeants or corporals (Bispham, 1927).

By June of 1918, administrators had constructed a centrally located psychological testing building beside the headquarters of the Division of Hospitals and Sanitary Training. This two-story building covered nearly 4000 square feet on each of two floors, and psychologists could simultaneously administer the Alpha to approximately 200 men and the Beta to another 100 men. In addition to the Alpha and the Beta, typically administered to groups, examiners learned to administer individual examinations with the Yerkes-Bridges point scale, the Stanford-Binet age scale, and the performance scale examinations (Bispham, 1927).

Given austere conditions and frequent changes in personnel, Camp Greenleaf faced a wave of illness in September of 1918, leading to 2,353 cases of influenza, 1,200 cases of pneumonia, and 325 deaths (Bispham, 1927; see Barry, 2005). With the signing of Armistice on November 11, 1918 (now Veteran's Day), the war effort wound down quickly, and in late 1918, Camp Greenleaf transitioned from a training camp to a demobilization camp, effectively ending all medical training, including psychological training. In all, 68 officers and 226 enlisted men received training at the School of Military Psychology at Camp Greenleaf (Bispham 1927).

Exemplar: Murchison

Carl A. Murchison can serve as an exemplar of an individual who trained as an officer at Camp Greenleaf as his experiences shed light on the WWI testing program as well as applied psychology broadly at this time. Perhaps unsurprisingly, his WWI experiences affected every part of his career trajectory as well as his contributions to psychological science and practice. This article examines his early life before turning to his WWI experiences and the lasting impact of those experiences on his career and psychological contributions.

Born in North Carolina in 1887, Murchison obtained his undergraduate degree from Wake Forest University in 1909 before attending Harvard as a Rumrill Fellow. In 1910, he left Harvard for Rochester Theological Seminary, following in the footsteps of his father, a Baptist minister. In 1914, Murchison changed institutions again, this time heading to Yale for graduate studies in psychology and philosophy before transitioning to Miami University in Ohio in 1916. He planned to stay at Miami University until 1922, but for him as well as for so many others WWI interrupted his plans.

In March 1918, Murchison arrived at Camp Greenleaf and, presumably, joined the construction crew working on drainage and barracks. He served as a First Lieutenant and as an instructor who taught military topics that included drill and gas instruction for soldiers facing chemical warfare (Yerkes 1921, p. 35). While at Greenleaf, Murchison served alongside renowned psychologists and eugenicists including Eugene C. Rowe (Hamilton & Woody, 2020), Walter S. Hunter, Edgar A. Doll, and Edwin G. Boring, all of whom conducted intelligence testing at Greenleaf and other camps (Gould, 1996; Wasserman, 2018; Yerkes 1921).

Murchison's military testing activities developed skills and expertise that shaped the rest of his career. In August 1918, he served at Camp Sherman where he joined Captain George F. Arps, who went on to serve as Dean of Education at Ohio State University (*Lantern*, 1939), and they conducted group examinations with the Alpha. Although limited documentation exists for Murchison's activities, psychological examiners at Camp Sherman, including Murchison and Arps, tested nearly 63,000 recruits with the Alpha and Beta assessments.

Racial, gender, and eugenic biases ran through the WWI intelligence testing program (Gould, 1996; Wasserman, 2018; Woody et al., 2016). Yerkes and others in the Committee on Methods of Psychological Examination for Recruits brought eugenic and racially biased assumptions to their work. For an illustrative example, they assumed that Black and White recruits differed to such a degree that, throughout the WWI monograph (Yerkes, 1921), they analyzed and presented data from these groups separately.

Murchison also seized the opportunity to extend the testing program beyond Army recruits, and his testing experiences with diverse populations would serve as a hallmark of his career. In addition to assessments of individuals who differed by race, Murchison had his first experiences testing women, including women facing allegations of prostitution, described as "questionable women engaged in commercialized vice" (Yerkes 1921, p. 114). The larger program included assessment of approximately 2000 women from state normal schools and other colleges. Additionally, Murchison and others tested alleged prostitutes who lived and worked near military camps and indicated that these individuals had low intelligence test scores (Yerkes, 1921).

During his time at Camp Sherman, Murchison served as Camp Morale Officer and as Chief Examiner, and, in these roles, he studied both recruits and civilians. In his assessments of civilians (Murchison, 1919), he embraced worldviews from Lombroso and Goddard (1914, 1915), and he used the Alpha and Beta to study people convicted of crimes (Murchison, 1919, 1926a). His work evaluated individuals incarcerated across the U.S. sometimes with support from colleagues (e.g., Edgar Doll provided data from New Jersey, Murchison, 1926a). He separated racial and gender groups, and, for White participants, he separated immigrants from individuals born in the United States (Murchison, 1926a). When he did compare women to men, his comparisons were largely drawn within racial groups rather than across them; for example, he examined White women alongside White men who had committed similar offenses, rather than comparing across racial lines (Murchison, 1926b, 1926c).

Murchison's work also inspired analysis and debate, both of which shaped the larger history of psychological assessment. First, Murchison raised questions about validity, arguing that "intelligence is whatever is expressed quantitatively as measured by the Alpha test" (Murchison 1926a, p. 8; see Wasserman, 2018). These questions, among others, prompted the development of other assessments, particularly individual tests to replace group tests

(Wasserman, 2018). Second, in ways that may appear surprising to today's readers, Murchison rejected inferential statistics. He used multiple methods to present his data. In his 1926 book, he ranked Alpha scores for specific populations, for example noting that the median Alpha score for those convicted of embezzlement was higher than the median Alpha score for those convicted of assault and battery (1926a). In other works, he presents frequency tables with percentages of each population who received a specific range of scores (see 1926b, 1926c). In arguments that prevailed, E. G. Boring joined other critics to argue that Murchison's findings were not valid statistically "[and] they are even less valid scientifically" (p. 307, Boring 1926). Though Murchison ultimately lost this dispute, the debate his work provoked helped drive the development of stronger and more rigorous assessment procedures - goals that remain prominent today.

Conclusions

The WWI intelligence testing program provided early connections between applied psychology and the military. Trained under difficult and stressful conditions at Camp Greenleaf, the first military psychologists during WWI stepped into applied testing roles that directed placement of service members. The WWI intelligence testing program's development of standardized tests, testing protocols, and methods of data analysis left a lasting imprint on psychological science and practice, and, in particular, established rigorous standards for assessment. In this way, the collaboration between military need and psychological expertise not only shaped the field but laid the groundwork for the enduring relationship between the military and academic psychology.

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