

from the gene pool. This resulted in the killing of over twelve million people, six million of whom were Jewish. Another example is the compulsory sterilization laws that were passed in the U.S. The first such law was passed in Indiana in 1907 which began “the involuntary sterilization of any habitual criminal, rapist, idiot, or imbecile committed to a state institution and diagnosed by a physician as ‘unimprovable.’”<sup>12</sup> Following this first law, other similar laws were passed around the country. These laws disproportionately impacted women, and in many cases, women of color. South Carolina demonstrated this in 1956 where all twenty-three forced sterilizations carried out were on African-American women.<sup>12</sup> Galton’s eugenic idea that humans can control and manipulate their gene pool laid the groundwork for these actions and other similar actions to be carried out.

**Conclusion**

Multiple factors and facets of Galton’s life helped to mold a conglomeration of his ideas into what he eventually called eugenics. Galton’s main theory, which was encapsulated in eugenics, was that intelligence and mental characteristics are hereditary. Galton felt he proved this theory through all of his research. But, what Galton leaves out of his theory are the environmental impacts on an individual’s mental and physical development. It seems almost ironic that we can gain such insight into understanding how Galton came to his conclusion about eugenics looking almost solely at the environments surrounding him throughout his life. While his intellect is what enabled him to achieve so much in his lifetime beyond founding eugenic thought, it was the environmental circumstances throughout his life that fostered that intellect. This conclusion is further supported by looking at how he was raised, who he was raised by, where he was able to travel as a young adult, and who he associated with throughout the

course of his life. Galton’s main course of action for promoting eugenics was through education. He published numerous books, wrote articles in newspapers and magazines, and gave lectures. Galton did this because he felt the key to eugenics becoming an accepted ideology lied within it becoming part of the social consciousness. Francis Galton’s life is an excellent example of how one person and their idea can evolve into something much larger than themselves.

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**The “Conscientious Guinea Pigs”: How conscientious objectors contributed to medical science during World War II and beyond**

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**Introduction**

World War II is often described as the “good” war – the United States’ least controversial participation in any war.<sup>1</sup> And yet, among the almost eleven million men who were drafted by the Selective Service System (SSS)<sup>2</sup> were about 12,000 conscientious objectors (COs) who refused any kind of military service, even as non-combatants, because of their religious, ethical, or moral beliefs. Instead, they spent the war years in Civilian Public Service (CPS) camps, where they performed “work of national importance,”<sup>3</sup> working for the Civilian Conservation Corps,<sup>4</sup> on dairy farms, in mental hospitals, on a variety of civilian projects, including as firefighters and smoke-jumpers, who parachuted in to combat forest fires.<sup>5</sup> A small group of about 500 COs also volunteered for medical tests, which involved depriving them of proper nutrition, infecting them with exotic diseases, and exposing them to harsh environments.<sup>6</sup> Although small in number, through their participation in the experiments, these “Con-

scientious Guinea Pigs”<sup>7</sup> significantly contributed to modern scientific knowledge and medical progress. The experiments yielded many useful results, including a better understanding of the human body’s reaction to environmental factors; ground-breaking research of the physiological and psychological effects of malnutrition, which led to further study of the relation between nutrition and disease; the discovery of new treatment drugs for a variety of diseases, such as typhus, pneumonia, and malaria; and the development of new scientific investigative techniques and instruments.

In addition, by serving the war years in CPS camps and participating in dangerous medical experiments, the COs had refuted many of their initial critics’ assertions that they may be, in Truman’s words, “plain cowards and shirkers.”<sup>8</sup> Toward the end of the war, when the government released information about the medical experiments, the news media extensively covered the story, portraying the COs as brave men who were committed to both their country and mankind. After the war,

public opinion towards COs had changed considerably, with a majority now seeing COs in a positive light.<sup>9</sup> In fact, one may say that the COs had made a convincing case for a democratic state allowing its citizens to follow their conscience and refuse to fight in wars. In 1948, the United Nations General Assembly included the “right to conscience” in the Universal Declaration of Human Rights and later explicitly affirmed the right to conscientious objection.<sup>10</sup> Subsequently, laws in the United States expanded the right of COs, allowing a claim not only on religious beliefs but also on moral or ethical convictions.<sup>11</sup>

**Background: The Civilian Public Service**

In World War I, the U.S. government had not provided any alternative service for men who refused military service because of their religious beliefs. Instead, all COs had to join the military as non-combatants, performing medical work on battlefields or menial labor around encampments. While 4,000 draftees took these jobs, about 450 men, mainly members of the Historic Peace Churches - Mennonites, Brethren, and Quakers - refused to aid the military in any way. As a result, they were court-martialed according to the 64th Article of War, which stated, “Any person subject to military law who ... willfully disobeys any lawful command of his superior officer, shall suffer death or such other punishment as a court-martial may direct.”<sup>12</sup> For example, Ulysses DeRosa, was sentenced to life in prison for “refusing to shovel refuse at Ft. Riley”<sup>13</sup> while others received sentences that ranged from death, later commuted to life in prison, to imprisonment that averaged 16½ years.<sup>14</sup>

After the harsh treatment of the COs during World War I, which many had considered “unworthy of a democratic nation,”<sup>15</sup> the Peace Churches realized that they needed to find a solution in case of future wars. When events in Europe and Asia raised the possibility of another war, they met in Newton, Kansas, in 1935 to discuss alternatives to compulsory military service for COs who refused even non-combatant service. Their goal was to establish a program like the American Friends Service Committee (AFSC), that is, the Quaker, work camps that was administered by civilians. After World War II broke out in 1939, they met with President Roosevelt in January of 1940 to discuss a civilian public service program that “would provide constructive services to the country and the world.”<sup>16</sup> However, public opinion did not support such alternative programs to military service. A Gallup Poll in January of 1940 found that only 13.2% of those polled said COs should be exempted from military service in case of war.<sup>17</sup>

Still, there was the sentiment that while “there is obviously no place [with] a nation at war] for the malingerer, for the man whose pacifism is simply a cloak for cowardice, for the traitor,” a “free country” must not violate the individual’s religious rights, embodied in the Constitution, by forcing him to fight in a war against his conscience.<sup>18</sup> Just before the Draft Bill was passed in the fall of 1940, an editorial in the *Washington Post* supported alternative service, stating, that “no liberal government desires to impair or destroy the liberty of conscience of the individual by commanding him to perform acts that do violence to his innermost convictions of what is right.” There were also more pragmatic reasons, mainly that forcing COs into the military would be counter-productive and create martyrs. The editorial thus concluded that “the United States stands to gain a great deal more than it can possibly lose by refusing to apply coercion of any kind to the few” whose pacifist beliefs take precedence over the citizen’s duty to fight for his country.<sup>19</sup>

When Congress passed the Selective Training and Service Act on September 15, 1940, instituting the first peace-time draft in U.S. history, a provision for conscientious objectors was included. Section 5g specifically not only allowed exemption from combatant but also from non-combatant military service based on religious belief:

“Any such person claiming such exemption ... be assigned to non-combatant service ... or ... if he is found to be conscientiously opposed to participation in such noncombatant service, in lieu of such induction, be assigned to work of national importance under civilian direction.”<sup>20</sup>

While the Act opened the door for an alternative service program administered by civilians, it did not address important issues such as pay, insurance, provision for dependents, program implementation, or, most importantly, what constituted “work of national importance.” Moreover, when Clarence Dijkstra, Director of the Selective Service System, told President Roosevelt of his plans for CO work camps, the President “expressed ... aggressive opposition” and replied that COs would not go “into [CCC] camps because it would make it too easy for them, and he proposed to see that they had an Army officer to drill them.”<sup>21</sup>

However, once the president heard that the Peace Churches would pay for the camps and the public would approve, he relented. In February 1941, the Civilian Public Service (CPS) was formally created when President Roosevelt signed Executive Order 8675 to “establish or designate work of national importance under civilian direction for persons conscientiously opposed to combatant and non-combatant service in the land or naval forces of the United States.”<sup>22</sup> The National Service Board for Religious Objectors (NSBRO), which consisted of representatives from the Peace Churches as well as over two hundred other religious denominations,<sup>23</sup> would run the CPS, select camp sites, match COs with the camps, and work with those men who were denied CO status by the draft boards or who refused any alternative service and rather went to prison. For example, 5,000 COs went to prison, including penicillin researcher Donald Charles DeVault who refused to do the work assigned to him in a CO camp.<sup>24</sup>

On May 15, 1941, less than six months after the first draftees reported for military training,<sup>25</sup> the first group of COs also reported to CPS duty at Camp Patapsco, Maryland.<sup>26</sup> Within a short time, over 150 camps were set up across the United States, where COs worked 9-hour days without pay for up to six years until 1947, when the last COs were released.<sup>27</sup>

**“Work of National Importance:” The Medical Experiments**

It soon turned out that “work of national importance” meant that the men reported to camps under the direction of the U.S. Forest Service, the National Park Service, or the Soil Conservation Service, where they performed primarily menial labor, digging ditches and clearing brush despite many of them being highly educated. Many CPS men grew frustrated because they wanted to do important work and not “plant[ing] trees while the world’s on fire.”<sup>28</sup> Samuel Legg, a CO, explained, “We were full of idealism ... Everyone else around us is pulling down the world; we want[ed] to build it up.”<sup>29</sup>

Moreover, there also was the perception that COs were cowards, who stayed safely in the United States while other young men fought overseas. *The Lincoln County Times* in Oregon expressed the opinion of many locals when it opined, “Why are these conscientious objectors allowed to go out, drink, and publicly flout [sic] their draft status in front of hundred of people who have dear ones in the Uniform of These United States?”<sup>30</sup> As a result, in the early years of the CPS, COs

frequently faced open hostility. Shop owners refused to serve them; for example, a store in New Hampshire displayed a sign that read, "No Skunks Allowed! So you conscientious objectors keep to H... out of this Shop!"<sup>31</sup> Also, the family's of COs, who received no payment while their husbands and fathers were in CPS camps, faced scorn and hatred. Louise Brown, whose husband was in San Dimas CPS camp in Southern California, recounted: "When I looked for jobs they'd ask what my husband did and I'd say he was a CO. I was literally cursed and kicked out the door."<sup>32</sup>

COs wanted to prove their usefulness and courage to establish that their refusal to fight with weapons was not cowardice. CO Luke Birky, a smokejumper, explained: "Many of us had been labeled as 'yellow bellies,' cowards, for not wanting to go into the war, ... for some of us at least, there was a secondary motivation ... to try to do tasks that might even be dangerous to show that we had courage also."<sup>33</sup> Therefore, the NSBRO actively lobbied for the work of national importance that had been promised by law.<sup>34</sup> As a result of these efforts, several thousand men were assigned to more meaningful work: They fought forest fires, taught at schools for the disabled, or worked in mental hospitals. For example, in June 1942, the first COs arrived at Eastern State Mental Hospital in Williamsburg, VA. One year later, over 2,000 COs worked in mental institutions or training schools for the disabled.<sup>35</sup>

Another option for COs to prove their usefulness to society was to participate as human subjects in medical experiments. In the summer of 1941, President Roosevelt had signed Executive Order 8807, establishing the Office of Scientific Research and Development (OSRD) to do "research on scientific and medical problems relating to the national defense,"<sup>36</sup> which included a committee that coordinated medical research that was conducted by private and governmental research institutions. Many of the research projects required human subjects, and over the next 4 years, about 500 COs volunteered in 41 medical experiments where they contributed more than 150,000 work days.<sup>37</sup>

To ensure that the medical studies were not used for purely military purposes but that their "destructive aspects are outweighed by their long-run humanitarian significance,"<sup>38</sup> researchers sent their project descriptions to the NSBRO, who evaluated them, informed the COs about the nature of the project, and recruited the participants. Hundreds of COs applied to participate because they were desperate to escape the boredom of the camps and prove their worth to the United States and their fellow men. For example, Henry Perry, director of CPS Camp Petersham, urged David Swift, from AFSC, to select one specific CO for an experiment, because "Ralph wants desperately to participate, ... he has seriously spoken of walking out of camp and going to jail [unless he is selected]."<sup>39</sup> Rather than taking lives in the war, the COs saw their contribution to science as a way to "help save millions of lives."<sup>40</sup> Because many experiments were dangerous, a second reason was to prove one's courage, as stated by Neil Hartman, "I was young and I wanted to show that I was not a coward, so when they offered me this chance of being a guinea pig, it fit right in with my scheme of things of proving that I was willing to take risks on my own body, but I just did not want to kill someone else."<sup>41</sup>

The medical studies fell into three main categories: (1) the effects of extreme environmental conditions, (2) nutrition, and (3) diseases. They included experiments on fatigue, aviator's "blackout," frostbites, survival on lifeboats, compression, and lice prevention; the effects of different diets under various conditions, such as al-

titude, heat, cold, bed rest; and, finally, finding treatments for diseases, such as infectious hepatitis, atypical pneumonia, jaundice, malaria, and typhus.<sup>42</sup>

**Environmental Studies: The Life Raft Experiments**

Some of the first guinea pig experiments, which started as early as September 1942, studied the effects of exposure to adverse environments at sea. While their original purpose was to help ship-wrecked crews or downed aviators, it soon became apparent that the study had much larger implications. Researchers conducted several experiments, including how men could cope with low calorie diets, the minimum amount of water necessary to avoid dehydration, the effect of sea water on the human body, and how best to prevent bodily water loss in various environments. During these experiments, the men endured constant deprivation: the lack of water or food, while being drenched in sea water in a life raft in Boston Harbor for 8-9 hours a day, nausea and vomiting from drinking sea water, and chills and heat exhaustion.

The research clearly demonstrated that the old emergency rations were insufficient and had to be augmented. As one CO wrote to a journalist for *Reader's Digest*, "one of our men followed the official navy ration with 400cc of fresh water per day for eight days. He ended up in the Emergency ward with a temperature of 101."<sup>43</sup> Other experimental results determined the safe amount of sea water consumption, which until then researchers had thought to be fatal, and the prevention of water loss by cooling off, all of which the Navy implemented immediately.<sup>44</sup> According to a June 1943 *Washington Post* article, with the title "Death is Losing One of Today's Great Battles," the research not only led to better life raft rations, but also to a booklet which was included in the emergency kit, "printed on waterproof paper and ... resistant covers" with detailed information for ship-wrecked mariners on how to behave, thus improving their chances for survival.<sup>45</sup> Ironically, it was more than one year later, in July 1944, that the public learned for the very first time that it was COs who had been the medical subjects in these widely publicized experiments that were "designed to save lives among the fighting forces."<sup>46</sup>

**Nutrition Experiments: The Minnesota Starvation Project**

Perhaps one of the most important experiments was the Minnesota Starvation Project. Towards the end of the war, it became obvious that it would be a huge challenge to feed the millions of semi-starved people in Europe and Asia. The agriculture was devastated in those countries, and physicians and public health officials acknowledged "the deficiency in their data and their interpretation as applied to populations"<sup>47</sup> when it came to feeding malnourished people efficiently. In May of 1944, Dr. Elmer Sevringhaus, a researcher at the University of Wisconsin, wrote a letter to the Brethren Service Committee, stating that controlled experiments were absolutely necessary to "plan for the most economical use of the limited food materials for the population of the world." The letter, in which he urged COs to sign up for a study, was included in a recruiting brochure<sup>48</sup> for what was later known as the *Minnesota Starvation Experiment*. The NSBRO approved the project and pre-selected 100 CPS men from the 400 applicants. The scientists then selected 45 COs for the experiment, stressing that the experiment would involve extreme physical duress to ensure that the COs were committed to the experiment and would not cheat or drop out.

The experiment, which started in November 1944, was a one-year controlled study conducted by Dr. Ancel Keys, a professor of physiological hygiene at the University of Minnesota's School of Public Health who had previously developed the *K ration*, a food ration for parachute troop-



Photo 1. Front and back cover page of a recruiting brochure for the Minnesota starvation experiment. Blair, J. ed. *Will You Starve That They Be Better Fed?* Brochure (1944). Swarthmore Peace Collection, DG002, Series 5, Box 15.

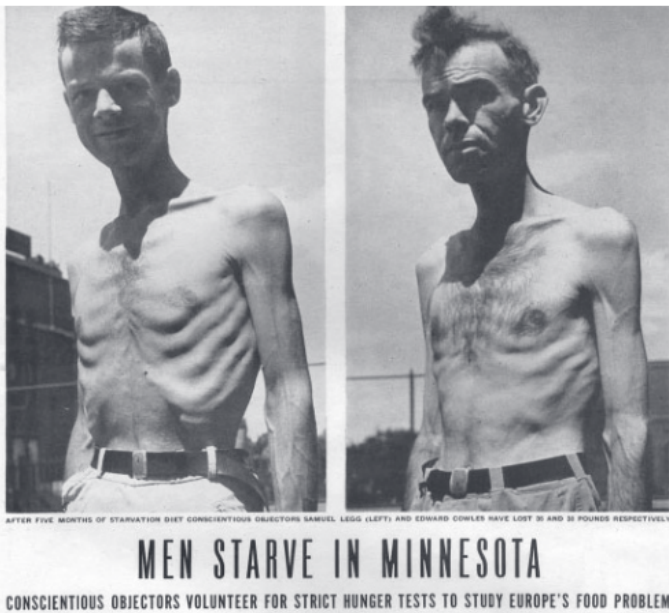


Photo 2. "After five months of starvation diet conscientious objectors Samuel Legg (left) and Edward Cowles have lost 35 and 30 pounds respectively." *Life* reporting on COs participating in Minnesota starvation experiment. 30 July, 1945. Volume 19, no. 5, p. 43.

ers. Keys' goals were first, to find out how starvation affected civilians physiologically and psychologically, and second, how to best re-feed them. To answer these questions, he proposed to simulate these conditions with healthy CO volunteers. The experiment, which ultimately involved 36 volunteers, consisted of three phases: The first phase lasted for three months, during which the volunteers received about 3,000 calories of food per day to establish a baseline. Over the next six months, they then were fed a diet of "food most commonly available under European famine conditions, ... bread, potatoes, turnips and macaroni of approximately 1,500 calories per day, calculated to result in a loss of 20 to 30% of the original body weight." This was followed by a "rehabilitation diet" for three months to find foods which could help them recover quickly. Throughout the experiment, the men had to perform physical activity that equaled an energy expenditure of about 3,000 calories per day. The researchers carefully monitored and measured the physical and psychological effects and collected enormous amounts of data.<sup>50</sup>

The project had an almost immediate impact. In July 1945, while the experiment was still under way, several newspapers, including *Time* and *Life* reported very positively about the COs' hardship during the experiment and their desire to save lives. *Life* showed shocking photos of the emaciated men, headlined "Men Starve in Minnesota."<sup>51</sup> Suddenly, millions of people learned about the starvation experiment and the COs' contributions. As one CO recounted, "there was a long period when nobody gave any attention to it because they didn't even know the experiment was going on. But somewhere it broke ... [and] we were besieged by the ... press."<sup>52</sup>

The research demonstrated that the recovery of starving people was

“much slower, more laborious and complex than anticipated,” and that starvation had a profound impact on the psychological and social behavior.<sup>53</sup> Although the full results were not published until 1950,<sup>54</sup> relief workers immediately used the preliminary results to re-feed the starved people worldwide. This included the Government and Relief in Occupied Areas (GARIOA) program, which was approved by Congress in 1946 and consisted primarily of food aid to prevent “disease and unrest” in occupied Germany.<sup>55</sup> The shocking finding of the Minnesota experiment that showed that a starved person “ceases to be a social creature” and is driven only by the “brute desire for self-preservation, rather than any consideration for others,”<sup>56</sup> also inspired the Marshall Plan. This corner stone of U.S. foreign policy aimed at rebuilding Western Europe to establish democracies and to prevent Communist influence.<sup>57</sup> The COs were proud of their contribution because as Max Kampelman stated, “it was satisfying to us, the participants, to know that the results were used to help concentration camp victims, prisoners of war, and refugees.”<sup>58</sup>

In the longer term, the starvation experiment led to a better understanding of the relation between nutrition and disease. By analyzing the Minnesota data and comparing the heart death rates in the U.S. with those in food-deprived Europe, Keys realized that diet greatly affected basic body functions, such as blood pressure, cholesterol level, and resting heart rate, all of which had been regarded as fixed until then. He confirmed his theory in his famous *Seven Country Study*, proving that the intake of saturated fat is the main environmental factor for coronary heart disease and establishing the benefits of the Mediterranean diet.<sup>59</sup> Keys, also dubbed “Mr Cholesterol” for demonstrating this connection between a fatty diet and heart disease, gained fame as the bestselling author of *Eat Well and Stay Well* and graced the cover of *Time* in 1961.<sup>60,61</sup> In addition, Keys’ results of the behavioral and psychological effects of starvation are still being cited in research on eating disorders, such as bulimia and anorexia, metabolic adaptation, and in studies on weight loss because of illness and injuries.<sup>62</sup>

#### **Dangerous Diseases: The Malaria Experiment**

Some of the most dangerous experiments that COs participated in were the disease experiments, particularly the malaria experiments. In a recruitment brochure for medical volunteers that was posted on the bulletin board at Camp Big Flats, researchers stated that “malaria is considered the outstanding medical problem of the world,” which annually killed between three and six million people.<sup>63</sup> Though atabrine was an extremely effective drug for treating both malaria and its symptoms, it did not actually cure malaria. Many of the troops in the South Pacific war theater were infected, and researchers calculated that the relapses that would occur once they stopped taking atabrine would cost the United States 25,000,000 man-days spent in the hospital every year.<sup>64</sup>

Therefore, the malaria experiments, which were conducted at various research hospitals, were designed to find a drug that would actually cure the disease. They involved infecting men with malaria to study the effectiveness of a variety of potential drugs. Some of the experiments involved extremely high doses of drugs that were known to be toxic, or that had only been tested on animals but not on humans, and the researchers told the COs that it was “impossible to rule out the possibility of a fatality.”<sup>65</sup>

One of the 30 men participating in a two month-experiment at Goldwater Hospital, New York, described how all volunteers fell ill two weeks after allowing infected mosquitoes to bite them. The men endured sickness and fever for four days before researchers finally administered the drugs. The drug trials left them frail and weak as

they went home for a week of sick leave, during which they had to send tiny blood samples to the hospital. Because the risk of relapse was high, each man carried a sealed envelope containing atabrine pills and a letter by the hospital with instructions to seek immediate medical assistance if necessary.<sup>66</sup>

The results gathered from the malaria experiments proved impeccable. The first anti-malaria experiment led to subsequent studies, which in turn led to even better treatments. The study’s three scientists, Drs. Shannon, Brodie, and Udenfried, published over a dozen papers on malaria in the next few years and ultimately developed Chloroquine, “the drug of choice to treat malaria for several subsequent decades.”<sup>67</sup>

Perhaps more importantly, during their experiments the researchers also developed a new instrument, a spectrophotofluorometer (SPF), which measured how much of the drug was in the subject’s blood. This instrument, and the principles of fluorescence on which it was based, was later used in a wide range of important scientific experiments. For example, Julius Axelrod, who won the 1970 Nobel Prize for medicine for his work on neurotransmitters, concluded that “the SPF . . . changed the direction of the whole field of neurobiology.”<sup>68</sup> After the war, the malaria scientists continued their work at the National Institutes of Health, where Bernard Brodie was the head of the Laboratory for Chemical Pharmacology and John Shannon the first director of the newly established Heart Institute and later director of NIH. They assembled an eminent group of scientists with several future Nobel Prize winners among them, published hundreds of scientific papers, and received numerous accolades, including election to the National Academy of Science, one of the highest honors for U.S. scientist. In 1967, Brodie received the Lasker Award, which is often called the U.S. Nobel Prize, “for his extraordinary contributions to biochemical pharmacology.”<sup>69</sup>

#### **Impact and Conclusions**

The COs had volunteered as medical guinea pigs because they wanted to help mankind by contributing to medical and scientific knowledge and also to prove that it was not cowardice when they refused to serve in the military. Throughout their participation during the experiments, they impressed the researchers with their dedication and commitment. For example, Allan Butler, MD, who directed the sea water experiment, wrote to the AFSC that the COs were “very intelligent and cooperative [and] permitted us to acquire considerable amount of very accurate information.”<sup>70</sup> Moreover, the COs and the churches they represented realized that through their work they were winning over the public, which initially had rejected the COs’ motives. In a 1943 report to AFSC about his visit inspecting Massachusetts General Hospital, J. Huston Westover concluded, that Milton Gold, one of the COs had garnered immense respect among everybody at the hospital and “made major contribution to the general public relations while located at the hospital.”<sup>71</sup> Another CO, who participated in the atypical pneumonia experiment in Pinehurst, North Carolina, wrote in July 1944 in a letter to the *Washington Post* how the townspeople had “been impressed by the risk we’re taking . . . and have taken us to their collective bosom, . . . sending cigarettes, ice cream and flowers.”<sup>72</sup>

Indeed, over the course of the war, the public’s attitude toward COs changed dramatically. In a 1940 Gallup poll, the public had vehemently disagreed with any kind of alternative service for COs.<sup>73</sup> In the early war years, COs were frequently mistreated and immensely disliked. For example, a CO recounted how the locals had rather a fire destroy their town than call the CO firefighters from the nearby camp: “We woke up one morning to find out Plymouth had burned down and

they never called the men from the camp... They were willing to let  $\frac{1}{3}$  of their town burn down rather than let those damn COs come out.<sup>74</sup> The media had reported about COs and discussed their right to refuse military service, especially in the time before the Draft Bill was ratified in 1940. However, it wasn't until July 1944 that the government disclosed that COs had participated in medical experiments, such as the life raft studies, even though the results had been widely reported in the press in 1943. The underlying reasoning was probably best expressed by General Hershey, director of Selective Services, when he testified before Congress, stating that "the conscientious objector, by my theory, is best handled if no one hears of him,"<sup>75</sup> presumably to prevent any negative impact on wartime morale.

In June 1944, the media started reporting positively and more specifically about COs and their service. For example, the *Sioux Tribune* stated that COs should "get credit in the public thinking for what they are doing for the country and its citizen"<sup>76</sup> while the *Washington Post* editorialized that COs were doing dangerous and difficult work for the nation, and therefore should not be harassed or "accused of dodging the hazards of war."<sup>77</sup> Only a year later, in 1945, public opinion had changed dramatically, too. *Time* reported that the state of California had introduced legislation to bar COs from jobs as state employees but that the public disagreed with this view of criminalizing COs. According to a Gallup poll, 75% of the public thought that COs deserved better treatment and should receive fair pay for their services.<sup>78</sup> Moreover, a large majority did not reject COs, and "would accept them during this war as friends, or closer."<sup>79</sup> Even the government praised COs who had participated in atypical pneumonia studies, calling "their willingness to serve as volunteers ... a courageous act of the very highest order."<sup>80</sup> While one may speculate that the Allies' victory created a more accepting climate for COs, by 1945, a large part of the population accepted conscientious objection to military service on the basis of religious or ethical beliefs and viewed the COs no longer as cowards or traitors. When the AFSC shared the 1947 Nobel Peace Prize with the British Society of Friends for their humanitarian work, the *Washington Post* stated that while often persecuted, the Friends "now are held in high regard throughout the world."<sup>81</sup>

Finally, in 1950, the Selective Service concluded that the CPS was an example of American democracy "in a period of concentration camps, slave labor, and other features of totalitarianism elsewhere."<sup>82</sup> While this assessment must be seen within the context of the beginning of the Cold War, thus contrasting the free West with the totalitarian East, the government considered the CPS system overall a positive experiment, which contributed to "liberalizing the conscription practices of the US government."<sup>83</sup> Subsequent legislation conferred CO status not only based on religious but also on moral and ethical beliefs, firmly established classifications of non-combatant military service and civilian work assignment,<sup>84</sup> and put COs on more equal footing with those serving in the military. Thus, from 1951-1973, when the United States converted to an all-volunteer military, COs did not work in camps but were assigned to individual employers to perform "civilian work contributing to the maintenance of the national health, safety, or interest" for a period as long as those inducted in the armed forces, usually 24 months. This provision is still in effect, should a draft ever be instituted.<sup>85</sup> Thus, the CPS camp system, which had started as an "important exercise" that "may have great future significance in connection with fulfilling an obligation for duty within the limits of faith,"<sup>86</sup> was never repeated. And yet, the COs had left their mark, not only contributing to far-reaching medical discoveries but also working

as draft counselors during the Vietnam war, when COs outnumbered those inducted into the military (33,041 to 25,273 in 1971), taking over leadership roles in their churches, and engaging in migrant programs, the civil rights movement, and national and international peace movements for decades to come.<sup>87,88</sup> In the end, they proved what a soldier at Fort Bragg said about COs: "After all, a fellow doesn't have to carry a gun to be brave."<sup>89</sup>

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