Losing the battle but winning the war: Slotten's mischaracterization of Withrow's address

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In 1917, in the middle of World War I and nearly two years after chemical weapons had first been deployed, James Withrow gave an address before the Ohio Academy of Science entitled "The Relation of War to Chemistry in America". In 1990, the historian Hugh Slotten cited Withrow's address briefly while writing a paper entitled "Humane Chemistry or Scientific Barbarism?". Slotten cited Withrow's address as evidence that American scientists ethically justified their research on poison gas on the grounds that such work advanced science (Slotten 1990, 486). However, in doing so, Slotten grossly mischaracterizes Withrow's original statements. A close analysis of Withrow's address will show that his claims are for more nuanced.

While acknowledging that science had made significant advancements because of the war, Withrow took pains to explain that such advancements could have been made in any event and that the war exerted a terrible toll on science in general. More seriously, Withrow strongly advocated for American scientists to contribute to the war effort not because doing

so would advance science, but because of their obligation to society and to God. Despite Withrow's failure to support the argument that Slotten relies upon him to make, Withrow's address nevertheless provides ample evidence for one of Slotten's main points, namely that American chemists participated in the war effort because it benefited them as a social group.

Considering that Slotten cited Withrow to support his contention that American chemists used the resulting scientific progress to justify work on chemical weapons, his use of Withrow as a primary source is questionable at best (Slotten 1990, 486). Withrow makes only the slightest mention in passing of work on poison gas, noting that "its manufacture is dependent upon labyrinthian chemical engineering operations" (Withrow 1917, 606), while refusing to speak about its ethical implications at all. In some ways, his silence speaks volumes, and it would have been entirely appropriate for Slotten to cite Withrow when describing the complete silence with which American chemists initially greeted reports of poison gas use in the field. Indeed, Slotten's contention that "American chemists seemed initially to pay little if any attention to" gas warfare even though "they were willing to discuss other applications of chemistry" (Slotten 1990, 483) fits Withrow to a tee.

In fact, Withrow gave his address in April of 1917, but Slotten himself points out that American troops did not enter the war until the summer of 1917 (Slotten 1990, 485). The United States declared war on Germany on the same day that Withrow spoke. Of course, Slotten also points out that America's entry into the war was hardly a surprise and that "a few individuals recognized the importance of preparing for gas warfare" (Slotten 1990, 485). Specifically, in February of 1917, the Bureau of Mines offered to coordinate poison gas research across a national network of university scientists on behalf of the War Department

(Slotten 1990, 485). The timing of events suggests that America's forays into poison gas research were in the embryonic stages when Withrow gave his address, having been started only two months before. Given this timing, Withrow's talk seems to hold very little relevance to the question of how American scientists justified their research into poison gas weapons, especially considering that such research came after the talk had been given.

While Slotten claims that "war research contributed to the technical growth of chemistry and the chemical industry" (Slotten 1990, 486) and then uses Withrow to support that contention, a close reading of Withrow shows otherwise. Withrow did say that "the most wonderful and greatest chemical works I have ever seen have been erected in this country since the war began" (Withrow 1917, 605) and that "much has been accomplished in many lines and radically new chemical processes developed" (Withrow 1917, 605). He exuberantly gushed that "the [wartime] progress in industrial chemistry and chemical engineering in this country has been wonderful" (Withrow 1917, 603) while opining that "the progress made here alone has been as great as has been accomplished in many individual decades past" (Withrow 1917, 604). Furthermore, Withrow pointed out that "severe disturbances are very effective at dislocating fetishes" (Withrow 1917, 602).

However, in the same breadth used for praising the benefits of war on chemistry, Withrow made certain to condemn it, saying "Nevertheless, we do not crave progress or development at such a price as war" (Withrow 1917, 602). In fact, he chastised those who believed that "war is a desirable, natural, logical or sort of evolutionary benefit" by explaining that "all this progress has been in spite of war; war could force us to nothing that we did not possess the capacity for before" (Withrow 1917, 603). He goes even further when he claims

that "War therefore is a universal mental depressant and as such, alone, must damage progress in science" and further still in saying that "war is not desirable to science, even if we could restrain our detestation of it and all its works" (Withrow 1917, 596). These passages demonstrate that while Withrow recognized how much science advanced during the war, he remained aware of how much damage war did to science and did not believe that the benefit to science justified scientists' work on the war effort.

Withrow thus raises the question of how American chemists justified their wartime research if not with the belief that such research significantly advanced science. For Withrow, the answer to that question is based on a complex interplay of religious and societal obligations. Having begun his talk by declaring his contempt for war, saying "was is an evil beyond the power of language to express" (Withrow 1917, 595), he explains that war is justified in "spontaneous defense" (Withrow 1917, 595). Moreover, he claims that all people have a "duty to support the civil magistrate in the execution of righteous law and to resist aggression against such law" (Withrow 1917, 595). From whence comes this duty? Withrow claims that it comes from on high by reminding us of its "religious emphasis" (Withrow 1917, 595) and pointing out that civil government is ordained by God, who also conveniently selects its leaders (Withrow 1917, 608). Thus, for Withrow, religious observance inexorably leads to a civic duty to both assist the war effort and not question civilian leaders. These reasons trump scientific progress as a motivation for war research.

A more cynical interpretation suggests that Withrow adopted the religious tones he did in order to defuse the arguments of those who criticized scientists' war work on religious grounds. Coopting Christianity, Withrow De-fanged his most vocal critics by claiming to

be one of them and appealing to portions of Christian theology that were less hostile to the notion of chemists advancing as a group by creating weapons of mass destruction for the government. Conveniently, this rational also absolved scientists from ever having to question the government about the uses it found for their weapons. It hinged on "the ends justify the means" reasoning: since anything is permissible to stop the evil axis powers, no one need worry about moral scruples.

Even though Withrow does not support the argument for which Slotten cites him, he does support one of Slotten's main points. Slotten writes that "chemists' justifications indicate how they welcomed opportunities that would allow them to demonstrate the usefulness of their profession in support of national interests" (Slotten 1990, 487). Contrast this with Withrow who writes "the greatest contribution of science to the present war is the awakening of the average mind to the power and value to mankind of chemistry" in addition to "the use of chemistry in war has been a revelation to the general public" (Withrow 1917, 602). They both agree that the war strongly benefited scientists by giving them a chance to get incredible public relations. But they both agree on more than that.

Slotten writes that "American chemists justified their wartime involvement by arguing that it might increase the prestige of their profession and give it a more important role in postwar political, social, and cultural decision making" (Slotten 1990, 487). Withrow supports this point well when he notes that "thirty-thousand engineers and chemists volunteered to work on the organization of the industries of the country for national defense" (Withrow 1917, 607) thereby showing that chemists did not have to wait for the end of the war to begin influencing the shape of American industry. He continues: "this consulting board

has assisted the country to become self-contained for defense and arranged during peace to prevent useless waste of experienced engineers [since] experienced chemical engineers, like naval officers, cannot be trained in a day" (Withrow 1917, 607). Chemists are so important in fact, that "every chemist in the country is being card indexed" (Withrow 1917, 607).

Of course, making the country self-contained furthers the interests of native chemists at the expense of foreign chemists. Moreover, by comparing chemical engineers to naval officers and admonishing the public to ensure their future availability, Withrow asserts that chemists are so vital for the national defense that the public must see to their perpetual employment. No chemist need worry about unemployment in Withrow's world. Lest anyone think Withrow was exaggerating about the importance of chemical engineers to the nation in wartime, he reminds us of a cautionary tale (Withrow 1917, 607). In it, the British navy allows materials vital for the construction of ordinance past their blockade because they lacked the necessary chemical expertise. The message is clear: nations that wish to survive had best take care of their chemists. Thus, both Withrow and Slotten agree that in the final analysis, the war was the means by which chemists and chemical engineers made themselves indispensable to the American government.

References

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