

# SCIENCE

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## THE AMERICAN CHEMIST IN WARFARE<sup>1</sup>

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It was the fortune of the writer in the latter part of 1916, a few months before the United States entered the war, to be sent by the Ordnance Department to study in England, France, Italy, Norway and Sweden certain chemical processes, particularly those having to do with the fixation of nitrogen.

On this trip many chemical plants were visited. In all of them the same story was told of depleted chemical personnel owing to the loss of chemists in the trenches and the consequent handicap under which all these plants were laboring in their attempts to furnish the armies with the sinews of war. The whole munitions program had been retarded owing to lack of technical men, chiefly chemists, and the statement was everywhere made that the greatest mistake that the Entente countries had made had been in giving too little attention to brain power and too much to physical strength. On the other hand, it was pointed out that Germany had carefully conserved her chemists for the development of the new and terrible forms of warfare she was forcing on mankind. Science was being used as it had never been used before, to aid a relentless power, and the only means of combating the new form of warfare was with its own weapons.

Already France, England, Italy and Canada had withdrawn all chemists remaining in the service for chemical duty at home, but many had already been lost and their loss was seriously felt. France had drawn so far as possible on the chemists and engineers of Norway, and England drew on her colonies. Indeed, the chemist who perhaps more than any other in England is responsible for the success

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