

Letters to the Editor.

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Chemical Warfare.

SIR EDWARD THORPE, in his review of Victor Lefebure's book, "The Riddle of the Rhine," in NATURE of November 10, p. 331, quotes a passage which deals with my own work during the initial stages of the war, and that of the Kaiser Wilhelm-Institut für Physikalische Chemie, of which I am the principal. The intention is to make the world believe that the materials for gas warfare were prepared by the German military authorities and chemical industry for the intended war, and that experiments with this end were carried out in my institution, if not previous to the war, at least from August, 1914, onwards.

It is always dangerous to attempt to form a correct estimate of the intentions of others from the traces of events they have left behind them. But the greatest errors must necessarily arise if an outsider tries to deduce from his own impressions the intentions of men whose ways of thinking he does not know and cannot understand.

Perhaps there might have been some ground for suspicion if Germany could have foreseen the trench warfare, and if we could have imagined that the German troops could ever be held up for weeks and months before the enemy's wire entanglements. But previous to the war, and up to the Battle of the Marne, everyone in Germany imagined that the course of the war would be a succession of rapid marches and great pitched battles, and what use would gas have been to a field army in such a war of movements? I think I may safely say that during the course of the war I became acquainted with every man of any importance in the army, in industry, and in science, who had anything to do with chemistry as applied to military offensive and defensive operations, and that I am well informed regarding the development and the course of chemical warfare. Yet among all these men I have never met one who, previous to the war or during the first two months of its course, had conceived the idea of providing the field army with gas, or had made experiments or preparations for such a purpose. We had actually first to read in the French, Italian, and English Press—as, for instance, in the *Pall Mall Gazette* of September 17, 1914—of the terrible things that were in preparation for us before we began to make similar preparations in view of the commencement of the war of position.

As regards my own institution and its work during the first months of the war, that intelligent person who, according to the passage in Lefebure quoted by Sir Edward Thorpe, observed my activities in my institute from behind a wall, lacked the gift of interpreting correctly what he saw and heard. Visitors in grey Headquarters motors did indeed come to my institution in August, 1914, though not to see me upon the subject of chemical means of warfare, but because Headquarters were very anxious to know how motor spirit could be made proof against the cold of a Russian winter without the addition of toluol. The question of gas as means of warfare did not begin to engage our attention until the first three months of war had passed.

In war men think otherwise than they do in peace, and many a German during the stress of war may have adopted the English maxim, "My country, right or wrong," but that German science and industry before the war made preparations with deliberate intent for gas warfare against other nations is an assertion that, in the interest of the necessary interdependence of the nations in the realms of science and industry, must not be allowed to go uncontradicted in so serious and respected a journal as NATURE.

F. HABER.

Kaiser Wilhelm-Institut, Berlin-Dahlem,
December 17.

HERR GEHEIMRAT HABER takes exception to the quotation I made from Major Lefebure's "Riddle of the Rhine," in the course of my notice of that book, on the ground that it implies that the German military authorities were prepared to ignore their undertaking, under the Hague Convention, to abstain from the use of asphyxiating or deleterious gases in war, if not for some time before, at least at its outbreak in the summer of 1914. I have, of course, no precise knowledge of the intentions of the German military authorities, but it was not unreasonable to surmise that these authorities, who deliberately intended to violate the treaty with Belgium, would not hesitate—as, indeed, the sequel showed—to disregard their promise under the Hague Convention if and when it suited their purpose to do so.

As regards their intentions, Field-Marshal Lord French, in his dispatch after the first German gas attack, with which Prof. Haber was concerned, wrote: "The brain-power and thought which has evidently been at work before this unworthy method of making war reached the pitch of efficiency which has been demonstrated in its practice shows that the Germans must have harboured these designs for a long time."

"It is an arresting thought," says Major Lefebure, "that even as early as 1887 Prof. Baeyer, the renowned organic chemist of Munich, in his lectures to advanced students, included a reference to the military value of these compounds"—i.e. to substances intended to produce temporary blindness.

Prof. Haber, it will be observed, does not explicitly deny the accuracy of the statements made by the "neutral," as quoted by Major Lefebure. Indeed, the account is too definite and specific to be set aside by irrelevancies. It is probably true that "everyone in Germany imagined that the course of the war would be a succession of rapid marches and great pitched battles." Some people on this side of the Channel were of a different opinion. But even the vain imaginings of "everyone in Germany" were not necessarily inconsistent with the use of poison gas. It was used on the Eastern front by the Germans when there was little or no question of trench warfare or wire entanglements. Prof. Haber states that he never met a single person who previous to the war or during the first two months of its course had conceived the idea of providing the army with gas. "The question of gas as a means of warfare did not begin to engage our attention until the first three months of war had passed."

The first gas attack was launched in April, 1915, so that on Geheimrat Haber's own showing this method of conducting war was engaging attention at least six months before it was used. After all, the essential point is that it was used, and first used, by the Germans, and in flagrant contravention of a solemn promise given to the world; at what precise