

## The Investigation of Atmospheric Pollution.

STEADY and valuable work is being carried on by the Advisory Committee on Atmospheric Pollution, under the ægis of the Meteorological Office, as the Sixth Annual Report, which we publish as a supplement this week, shows. This Report not only gives the returns of practical observations from 29 stations, but records some interesting results indicating advances in the methods of determining the kind and amount of pollution of the air from smoke, with its corollary of dirty fog. The Committee have decided on schemes of improved attack which are producing results, and they have established a department of research the work of which promises to clear up many atmospheric problems. The injury to health caused by smoke contamination of the air is not realised to the extent it should be, but the work of the Advisory Committee should show the damage to public health in its proper relation to this form of pollution. The present Report shows a marked abatement of smoke pollution. The total solids deposited at practically all stations have diminished during the winter and the summer of 1919-20 as compared with the previous year. The explanation of this is probably the increased use of gaseous fuel, one more argument being thus supplied for superseding coal as an immediate source of domestic heating. A very small percentage of its heating energy is obtained in this way, and the imperfect products of its combustion, representing a great loss of this energy, are poured into the air with results inimical to the well-being of the community and disastrous to fabrics of all kinds. Everybody knows this, but reform tarries.

An interesting feature of the Report is the description of the use of the automatic filter, which was fully described in the Fourth Report of the Committee.<sup>1</sup> Since that time many records have been taken of the suspended impurities in London air and some nice results have been obtained. It has been shown, for example, that there is a cycle in the distribution of the impurities throughout the 24 hours which brings definite reproach home to the open coal fire. At about 6 o'clock A.M., when people light their fires, the impurity commences to increase in quantity, and continues to do so until about 11 A.M. From 11 A.M. till nearly 10 P.M. the quantity varies very little from hour to hour, but at 10 P.M. it rapidly begins to diminish, and has almost disappeared by midnight. There are some interesting results recorded also in the attempts made to determine the acidity of the air, and a tintometer has been designed using methyl-orange and indigo-carmin as indicators in an absorption apparatus. The respective designs are clear from drawings appearing in the Report. It seems open to doubt whether the domestic fire contributes acidity, since the distillation products (smoke) are invariably alkaline from the excess of tar bases and ammonia given off; these are points which investigation should clear up in the course of time. The work of the Committee shows earnestness of purpose all through, and we commend their last Report to the attention of our readers, and indeed to all workers in hygiene and public health.

<sup>1</sup> THE LANCET, June 14th, 1919.

## Annotations.

"Ne quid nimis."

### ILLEGAL USE OF THE RED CROSS.

CASES of the unauthorised use by traders and others of the Red Cross emblem, and of the words "Red Cross," having recently come to the notice of the War Office, attention is drawn by the Secretary of the War Office to the fact that the use of this emblem or of these words for the purposes of trade or business or for any other purpose whatsoever without the authority of the Army Council is an offence under Section 1 of the Geneva Convention Act, 1911. In this Act, which was passed in consequence of the accession of His Majesty's Government to the Geneva Convention in 1906, it is stipulated that the Red Cross emblem or the words "Red Cross" shall not be used, either in time of peace or in time of war, except to protect or to indicate the medical units and establishments and the personnel and material protected by the Convention—i.e., the Army Medical Services of the signatory Powers. It is further stipulated that the signatory Governments shall at all times prevent their employment by private individuals or societies (except those entitled to use it under the Convention), especially their employment for commercial purposes as a trade-mark or trading mark. The unauthorised use of the emblem or words renders the user liable to prosecution for infringing the Geneva Convention Act; it is obviously a duty of all members of the public to assist the Government in carrying out their international obligations in this matter, by strict observance of both the letter and the spirit of the Act and the Convention. It is, moreover, a pity that such a warning should be rendered necessary—presumably by people to whom international or any other obligations are of small moment when they run counter to what is politely termed "business enterprise."

### VIRULENT DIPHTHERIA BACILLI CARRIED BY CATS.

ALTHOUGH the available literature on the transmission of diphtheria from cats to human beings is not convincing owing to the incompleteness of bacteriological examination, many cases have been recorded based on clinical evidence alone. Major James S. Simmons,<sup>1</sup> chief of the Laboratory Service, Walter Reed General Hospital, Takoma, D.C., now reports a case in which he offers bacteriological evidence of this transmission. The patient was an elderly woman who developed a fatal attack of faucial diphtheria after fondling a cat which had been ill one week before the patient's illness began. The cat was said to have had a croupy cough, to have been unable to swallow food, and to have become very thin. The symptoms were at first attributed to a piece of chicken-bone having lodged in its throat. Faucial cultures from the cat and from the patient showed morphologically similar organisms resembling diphtheria bacilli, and the virulence for guinea-pigs was the same, the organisms in both cases killing guinea-pigs six days after subcutaneous injection, but failing to produce lesions in animals previously injected intraperitoneally with diphtheria antitoxin. The cat was chloroformed and a careful post-mortem examination made. The only lesion detected was a small oval ulcer covered with a yellow-grey membrane on the upper surface of the left nasal fossa, cultures from which showed diphtheria bacilli. Throat cultures from a second cat, which had often played with the first, also showed morphologically typical diphtheria bacilli. The second cat died after eight days' confinement in a cage, and post-mortem showed small membranous patches, from which virulent diphtheria bacilli were isolated, on the vocal cords. The history of contact, dates of infection, and bacteriological findings suggest that the first cat was the source of infection of the patient as

<sup>1</sup> American Journal of Medical Sciences, October, 1920.