

CHLOROFORM *v.* ETHER.

SIR,—I confess to a certain feeling of disappointment that my letter on this subject, which appeared in your journal of March 7th, has not produced more expressions of opinion than it has. In THE LANCET only two have appeared, but I have had sent me from the States a reprint of an article in the *Boston Medical and Surgical Journal* of April 13th, 1882, entitled "Homicides by Chloroform," which in its condemnation of this drug goes further than Messrs. Braine and Buxton. Mr. Braine, after quoting my contention "that in the production of complete anaesthesia there is little or no difference (in danger to life) between chloroform and ether, whilst in the after-effects, especially as regards vomiting, nausea, and depression of spirits, chloroform is much superior to ether," and saying that this is exactly contrary to what he has been endeavouring for years to demonstrate, begs to point out to me that whilst ether is a cardiac stimulant, chloroform, on the other hand, is a depressor of the heart's action; that the former never kills by stopping the heart, whilst, on the contrary, the principal cause of death in fatal chloroform cases is the sudden cessation of the heart's action.

Now, is not this too bad? I write a letter in which it is manifest that I take for granted that chloroform kills by depressing the heart's action, and show how this can be remedied, and then am addressed in the *du haut en bas* fashion of "May I point out," &c. I may say further that when I first began giving chloroform, now some twenty-four years ago, I unconsciously came to the conclusion that the heart is the organ on which it tells first, for I found myself always keeping one hand on the pulse whilst giving chloroform with the other, long before I had formulated the opinion in so many words. Next, he acknowledges that dangerous symptoms occasionally arise during the administration of ether; but when these do occur the respiratory organs are affected, and there is plenty of time for the proper application of remedies, these symptoms being rarely followed by death. Surely this is begging the whole question, to elucidate which my letter was written. Are these symptoms rarely followed by death? Let us see. Mr. Braine asks me to consult the statistics of fatal cases, in which I shall find that the proportion of deaths under the administration of chloroform is about 1 in 4500, whilst that under ether is only 1 in 20,000! Where are these statistics? I challenge them at once as false and absurd. I have seen, I believe, at least 10,000 cases of chloroform administration with only one death, and that was a woman who, as we found afterwards, had been drinking heavily for a fortnight. But I have got some statistics, com-

plied for the Registrar-General, who has kindly furnished me with them. I asked for a return of the deaths from the various anaesthetics for the past ten years, but was informed that they could not be given separately; however, a return of the deaths from chloroform and ether (1874-83), in which probably are included those from other anaesthetics in England and Wales, was sent.

Before giving this, let us consider how stand matters bearing on these statistics. First of all, population has increased, but not in so great a degree as to affect materially the comparatively small number of deaths from these drugs. Secondly, there are many operations done now, or done in greater number than were done formerly; but, on the other hand, there are many operations done now without anaesthesia which formerly were done nearly always with it—such as for cataract, &c. I speak of the days before the introduction of cocaine, and without any reference to it whatever. Thirdly, I believe that there is more care bestowed upon the administration of anaesthetics than formerly; and, fourthly, if what the advocates of ether say is true, there is much greater safety in this drug.

From the first three of these considerations we may fairly draw the conclusion that we ought to expect only a slight increase of deaths owing to the increase of population, the other causes balancing each other, but when we add the fourth, we ought to find a great decrease indeed. Mr. Braine says ether is 4444 times as safe as chloroform! Now what are the facts? In 1882, when ether was much used, the deaths of men from chloroform and ether were more than twice as great as in 1874, when ether was scarcely used at all. In women in 1882 there were exactly 75 per cent. more deaths than in 1874. In the second half of the decade, in both sexes, the numbers are 150, as against 104 in the first half.

Ought not these facts to make us pause before we assume that there is the much vaunted safety in ether? Is it not the fact that all anaesthetics universally used are equally fatal, for you cannot abolish all the outward manifestations of life, save those of respiration and circulation, without coming perilously near to the extinction of these. By "equally fatal," I mean this: that if one anaesthetic were used exclusively for all cases through a certain period of time, and another anaesthetic were used exclusively for all cases through another like period of time, the rate of mortality would be the same in each.

I am told by a friend on whom I can rely implicitly that in a ten years' connexion with a large hospital there have been two deaths from anaesthetics, of which one was from chloroform and one from ether. I believe that during the past year, in the United Kingdom the deaths from chloroform and ether have been about equal.

So far I have confined myself to Mr. Braine's let-