by the formation of a National Council established by the people themselves and absolutely free from Government supervision of any sort.

It is our wish to evolve a system that will provide and maintain outdoor games and indoor clubs for all the people throughout their active lives, utilizing for these purposes existing organizations. Present arrangements are far too haphazard, and at the same time too often dependent on casual generosity. Our letter therefore suggested an organized system providing both for the co-operation of the Ministry of Health and the approval of the people through a National Council.

The British Red Cross and Order of St. John, newly chartered to work for the general health of the community, have in their voluntary aid detachments a complete organization capable of co-operating, as in America, on the lines indicated. We have not presumed to advise their joint council, but we believe that their assistance will be as generously given for health in peace time as it was for sickness in time of war.

A directorate of physical education under the Ministry, and in touch with the Board of Education, would be in a position to collate, analyse, record, and distribute information, and by assisting to develop physical education on scientific lines would in time prove itself not the least important factor in preventive medicine.—I am, etc.,

London, W., Nov. 15th

C. GORDON WATSON.

SAFETY OF ETHYL CHLORIDE.

SIR,—With Mr. C. B. Dale's views on the safety of ethyl chloride I am in entire agreement. His own experience amply justifies them. When, however, he says that he has never heard of a death from this anaesthetic it suggests that he has not gone into the earlier literature of the subject. I have seen no deaths reported in the medical journals for several years past. Ethyl chloride has been an established anaesthetic since about 1905, and it is reasonable to suppose that the occurrence of a death under it might not now be deemed worthy of record by everybody. What is more impressive is that during this period, so far as I am aware, this anaesthetic has not been the cause of any coroners' inquests, notices of which, when an anaesthetic is concerned, are nearly always to be found in the lay press.

If Mr. Dale is interested in the matter he will find in my monograph on ethyl chloride a brief account of fatalities that occurred previous to 1907. The majority were due to its administration to unsuitable subjects. Given to children in suitable doses and in a semi-open method, I believe it is absolutely safe.—I am, etc.,

London, W., Nov. 9th.

G. A. H. BARTON.

SIR,—I quite agree with Mr. Bowen and Mr. Dale that ethyl chloride is, for the ordinary operation for tonsils and adenoids, an admirable anaesthetic, affording the right type of narcosis and just the requisite duration of unconsciousness. Given by those who are constantly engaged in this branch of work it is also reasonably safe. But the effects are produced very rapidly, and there is a definite risk of overdose in the hands of quite inexperienced persons. Mr. Dale gives ethyl chloride two thousand times a year, and has no deaths and few frights. Clearly a case of cause and effect.

As regards method, Mr. Bowen did not in his article of October 4th refer to the "vapour" modification of the closed system. If the vial containing ethyl chloride be brought gradually into contact with hot water contained in a cup, the drug may be volatilized under the eye of the administrator, and a more even increase of vapour strength obtained than by tilting the fluid into the bag. Theoretically this accords with the principles by which one likes to give any anaesthetic, and, practically, the results are very good.

I gladly take this opportunity to correct an error in this connexion which occurs in my *Handbook of Anaesthetics* just published by Messrs. E. and S. Livingstone, and to which my attention has been drawn. On p. 125 I ascribe the origin of the method to Dr. Logan Turner, from whom I personally learnt its merits, but who now tells me that the original suggestion came from Dr. J. H. Gibbs of Edinburgh. I must express my sincere regret that the credit for this real advance and safeguard is not given to him in my little book.

Apart from the operation for tonsils and adenoids, ethyl chloride has to compete with nitrous oxide and oxygen. The subject is too large to open in a brief letter such as this, but many of us, I think, look forward to the time when the former will have to give place to a great extent to the latter in its modern shape and developments.—I am, etc.,

Edinburgh, Nov. 11th.

J. S. ROSS.

SIR,—I was interested to see Dr. C. B. Dale's letter in the *BRITISH MEDICAL JOURNAL* of November 8th (p. 616) on the safety of ethyl chloride.

I have often heard that it is a very dangerous anaesthetic, but only know of one death—where, I believe, the cause was an overdose. I have used it in about 700 cases, and have seen a like number of administrations, and in no case have I seen the slightest cause for anxiety.

Blumfeld¹ gives a dosage table which I have found very useful. He points out that variations in the dose are necessary, according to the physique or habits of the individual. He emphasizes the importance of minimizing the dose.—I am, etc.,

Holt, Norfolk, Nov. 8th.

A. S. HENDRIE.

SIR,—I am quite in agreement with Dr. Dale that ethyl chloride in trained hands is by no means a dangerous anaesthetic; but at the same time I must express a little surprise that he has never heard of a death under this drug. In the third edition of *Anaesthesia in Dental Surgery*—by myself and Dr. J. Stuart Ross (1910)—he will find a list of twenty-five casualties under ethyl chloride.

I fully believe the deaths were due to lack of skill and training on the part of the administrator, if not to actual carelessness, but the fact remains. The idea seemed to prevail among some people that ethyl chloride was a sort of "pocket laughing gas," but they rapidly became disillusionized, and the pendulum rather swung the other way from scaremongering—in the metropolis for the most part. Deaths have since been rare apparently, for while preparing the fourth edition² of this book, just out, neither Dr. Ross nor myself found any records of such in the various journals.

The relative safety of the drug compared with ether is very difficult to estimate, but will depend largely on the class of the operation and the experience of the anaesthetist. In the early days—1900–1902—one worked pretty much in the dark; a dose of 7 to 8.10 c.cm. in an Ormsby inhaler being commonly used, and the administration stopped at the discretion of the anaesthetist. I certainly recall several very bad frights, due largely to respiratory spasm. The insertion of a Mason's gag and tongue traction, with sometimes artificial respiration, restored the patient quickly to the normal, but I fancy the surgeon had some misgivings at times!

For adenoids I used to regard it as the anaesthetic *par excellence* after trying ethyl bromide (nasty stuff), nitrous oxide (which gave too short an anaesthesia), and chloroform (which was too dangerous). This was specially so when one was asked—most unjustifiably, I think—to anaesthetize a nervous child in one room and "charge him up" for transport to the operating room and completion of the operation there—both tonsils and adenoids requiring removal, perhaps.

The lack of haemorrhage in such cases was sometimes significant, and it is not a thing which, in my opinion, should be attempted.—I am, etc.,

Peebles, Nov. 8th.

T. D. LUKE, M.D.

SIR,—I am rather surprised that Dr. C. B. Dale should not have heard of a death from ethyl chloride, in view of the fact that one large hospital in London about ten years ago held an inquiry into the subject, and, I believe, discarded the use of the drug as a general anaesthetic on account of a number of fatalities. I cannot agree that ethyl chloride is nearly so safe as ether. Though it takes longer to administer, I think most people who have had experience in the use of both would regard "open" ether as far safer than ethyl chloride, particularly in the case of children.—I am, etc.,

Leadbury, Nov. 12th.

LESLIE B. C. TROTTER.

¹ *Anaesthetics*, 1906, page 61.
² London: W. Heinemann