

It is worth bearing in mind that ethylene produced by alcohol sulphuric interaction is not quite absolute and therefore it is possible in the gas-ether described to have yet other analgesic factors besides ethylene. I have already mentioned that in the process-analgesic-ether, there are other gases which develop besides ethylene.

SOME FACTS BEARING ON PRIMARY ANÆSTHESIA

Discussion of our adopted theories and classifications from a physiological standpoint leads us to the tormenting problem of what anæsthesia really is. Professor Alexander McPhedran drew our attention at the Academy of Medicine to the fact that analgesia may be brought about in some cases by making them take a number of deep rapid respirations. A peculiar coincidence probably relative to this, is that the so-called analgesic substances, carbon-dioxide, ethylene, and other ether gases, when present in an ether, cause rapid, deep respirations much sooner than would occur otherwise.

The following experiments was carried out on myself and then checked by ten other cases with similar results.

Thirty deep inspirations were rapidly taken. No change of sensation resulted except a fullness in the head. One half-hour was allowed to intervene, and six to eight full breaths of analgesic ether were then taken slowly. No change of sensation resulted. Fifteen deep rapid breaths of pure air were immediately taken. Almost a complete loss of peripheral sensation followed. Normal breathing restored, while further rapid breathing again reduced it. With myself I was able to eliminate sensation three times in succession with the one dose of analgesic ether by this rapid breathing method.

It is very difficult indeed to imagine an explanation for the above phenomenon, or even to state whether it is a nerve or circulation condition which makes it possible. In one case who had six anæsthetics of analgesic ether there happened to be a large area of granulation tissue exposed. The absolute analgesic stage would start about forty-five seconds after the beginning of deep rapid respirations. At exactly the same time as the loss of sensation occurred in each administration, the granulation tissue blanched but there was no apparent blanching in the skin, or lips, or change in the pulse rate. Unfortunately the blood pressure in this case was not followed. More circumstantial evidence of perhaps some importance is that at the beginning of an ordinary ether anæsthetic,