

practically identical with those of oxyhæmoglobin. After adding excess of strong solution of ammonium sulphide, these bands become somewhat fainter, but still remain visible, and the band of reduced hæmoglobin does not appear. On testing in the same manner blood obtained from a healthy person, the band of reduced hæmoglobin appears promptly on adding a very small quantity of ammonium sulphide.

I have underlined part of the above paragraph because I find that {this simple and easily recognized means of establishing beyond doubt the presence of carbon-monoxide poison is not as generally known as it should be. It should be borne in mind that: (1) The spectrum of carbon-monoxide is practically indistinguishable from that oxyhæmoglobin, but (2) on adding a reducing agent the bands of oxyhæmoglobin become altered, while those of carbon-monoxide persist.*

Other tests for the detection of carbon-monoxide are the addition of caustic alkali, tannin solution, and other substances which give a different colour reaction when CO is present, owing to the fact that the monoxide-hæmoglobin resists the action of the reagent more than normal blood. I did not myself find that these reactions were at all as satisfactory as the spectrum test.

It must be remembered that if a victim lives a few hours after removal from the air containing the gas it will have disappeared from the blood. Hence the collection of a sample of blood should not be delayed. Placed in a well corked bottle, however, the blood will remain for a long time (over two years) without becoming altered, especially if diluted with an equal volume of saturated solution of borax.

Properly speaking, spectrum analysis of the blood ought not to be looked upon as part of an external examination of the body, though, as a rule, in other countries it is expected to be done by the physician making the autopsy and not left to the chemist. For practical reasons, however, I now make a spectroscopic examination form part of the view whenever death is supposed to be due to inhalation of gas, as it seems, in the interests of the public, preferable to do so than to have death attributed to this cause without any direct proof being brought forward.

* A freshly prepared solution of ferro-ammonium-tartrate works more rapidly than ammonium-sulphide as a reducing agent.