

According to Florence (and my own observations confirm his statement), the crystals are sparingly soluble in cold water and very soluble in warm water, reappearing again on cooling. On exposure to the air, they gradually disappear, but reappear on adding a fresh quantity of the reagent. They are readily soluble in ether, alcohol, acids, fixed alkalies and iodide of potassium; they resist solution in very weak ammonia solutions. For their formation to be typical and abundant considerable dilution is necessary, and I have found the degree of this solution a most important detail in making the test.

Dried stains usually give the reaction in a manner fully as prompt and typical as fresh semen, and I have been using as a demonstration specimen for class use a stain on cotton over twelve months old, obtained from a homicide case. Recently, the crystals have been more difficult to obtain in abundance, the reason being apparently the increased difficulty of obtaining a solution of the semen rather than an impairment of the reaction.

The exact nature of the crystals has not been shown, as far as I am aware; I have regarded them as some special crystalline form of iodine.

The nature of the substance which occasions the reaction has not yet been thoroughly established. Florence claims to have isolated from seminal stains a substance which he terms *viriospermine*, and which he regards as a distinctive body producing this phenomenon. He states that it does not correspond in reactions with the substance isolated and called *spermine* by Pöehl. It is said to be very soluble and to resist completely the effects of ammoniacal decomposition.

By using a larger quantity of material, the reaction can be obtained in the test-tube, an abundant red or chocolate-brown deposit of crystals being thrown down. In this way the demonstration of the seminal character of a stain might even be made without the use of a microscope.

A single fibre teased out of a thread in a piece of cotton stained by semen is sufficient to give a profuse crop of crystals under the microscope.

As to the degree to which this reaction is characteristic of semen: Florence claims that it will not react with any of the other secretions of the body, such as blood, urine, sweat, saliva, tears, bile or milk, nor with pus or nasal or vaginal mucus. The secretion of the Cowper's glands does not give it. I have made a number of tests with the various substances mentioned above, and have always obtained negative results, or at all events have never obtained a characteristic reaction.

The sperm of animals is stated by Florence not to give the reaction, as far as his observations went, though these were not extensive. Personally, I have not tested this point with sufficient thoroughness to give an opinion; but as far as my observations go a pseudo-reaction of doubtful nature can be obtained with at least some forms of animal semen. This point is still, as far as I know, unsettled.

In respect to Florence's claim to priority, I think it can hardly be disputed. I can find no recent work on legal medicine in which any chemical test is given for semen. Wood⁴ says, "There are no chemical tests by which seminal stains

⁴ Vol. II of Witthaus and Becker's Handbook, 1894, p. 72.