XLIX.—*On an Ammoniacal Deposit formed in the process of Drying Blood.*

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SOME months since, when visiting the premises of Mr. Richard Tons, blood drier, of Bow Common Lane, London, my attention was arrested by the occurrence of a nearly white crystalline deposit adhering to the roof of a shed in which the process of boiling and drying blood was carried on. This deposit was principally found in the further end of the shed where the gases generated in the process found their way into the external atmosphere. It was present in no great quantity, being partly attached to the wooden rafters, but chiefly adhering to the sides of an iron pipe through which steam was occasionally passed.

Some portions of the deposit formed small stalactites, due, probably, to the water produced by a slight escape of steam, having dissolved the crystalline matter, and the resulting solution having evaporated whilst in the act of slowly trickling down. The portion of the deposit immediately adjoining the iron pipe was, as might be expected, mixed up with a layer of peroxide of iron, and the entire mass, just as it came off, on the application of a gentle pressure, gave, on analysis, the following results:—

	Per cent.
Moisture	0·44
Insoluble silicious matter	0·32
Peroxide of iron	1·21
Sulphate of calcium	0·84
Sulphate of ammonium	96·94
Chloride of ammonium	0·07
	99·82

The small quantities of silica and sulphate of calcium were, no doubt, due to the dust from the roof, which was covered with pantiles resting upon wooden beams, some of which appeared to have been whitewashed. The peroxide of iron, as already observed, came from the pipe to which the deposit was attached. The white portion of the crystalline matter, analysed separately, was found to consist of nearly pure sulphate of ammonium.

One word, in conclusion, as to the origin of this deposit. The blood is first raised to the boiling point by the introduction of steam; it is then submitted to the action of a press, and, finally, dried over hot iron plates. During these operations there is a small amount of ammonia evolved, and also traces of sulphuretted hydrogen, and the presence of these gases, in conjunction with the oxygen of the air, and the steam given off, would appear to be quite sufficient to account for the formation of sulphate of ammonium. Whether such formation is preceded by that of sulphuric or sulphurous acids, or of the sulphide or sulphite of ammonium, I do not, for the present, undertake to decide.