

extraction of the ergot with water, and which is again precipitated by 40 to 45 per cent. alcohol. It is colloidal; after being once dried it is with difficulty soluble in water, and it holds with the greatest energy ash constituents from which it might not have been freed. This substance has been named by us Scleromucin. It contains nitrogen, but gives no albuminoid reaction, nor any reaction of an alkaloidal or glucosidal body. Together with 8.26 per cent. of moisture and 26.8 per cent. of ash, it gave 29 per cent. of carbon, 6.44 per cent. of hydrogen, and 6.41 of nitrogen. We do not consider this substance is to be recommended for therapeutic use, as it is only partially soluble in water after becoming once dried.

In ergot there also occurs from 2 to 3 per cent. of a substance (b) similarly soluble in water, which is also soluble in cold 45 per cent. alcohol, and even in boiling 75 per cent. alcohol; this, on account of its weak acid properties, we have named Sclerotic Acid. It passes in association with other constituents of the ergot extract into the diffusate, when the extract is submitted to dialysis; but after its separation in a pure state it is, like scleromucin, colloidal. It is precipitated by 85 to 90 per cent. alcohol, together with lime, potash, soda, silica, and manganese; but after maceration with hydrochloric acid the greater part of the ash constituents can be separated by a fresh precipitation with absolute alcohol. The sample analysed by us had only 3 to 4 per cent. of ash, and contained 40 per cent. of carbon, 5.2 per cent. of hydrogen, 4.2 per cent. of nitrogen, and 50.6 per cent. of oxygen.

Sclerotic acid forms with lime a compound that is not decomposed by carbonic acid, and which, upon combustion, leaves 19 to 20 per cent. of calcium carbonate. Its reactions, both qualitative and quantitative, are similar to those of scleromucin. The subcutaneous injection of 0.02 to 0.4 gram brings frogs gradually into a state of perfect palsy, accompanied by a peculiar swelling, that may last six or seven days. In recommending our sclerotic acid most strongly for therapeutic use we believe we are justified in the presence of its easy solubility in water, and the fact that it occasions no kind of disturbance in the cellular tissue lying under the skin. Professor von Holst, the leader of the gynæcological clinic in this country, has used our sclerotic acid almost uninterruptedly for a year and a half (with the human subject subcutaneously 0.04 to 0.05 gram), and is thoroughly satisfied with its action.

The sclerotic acid also yields no reactions from which albuminoid, alkaloidal, or glucosidal properties could be inferred. It is tasteless and without smell, and can be prepared almost colorless and but slightly hygroscopic. For those who might wish to experiment upon the therapeutic action of sclerotic acid, it may be here stated that it is prepared according to our instructions at the chemical manufactory of Dr. Fr. Witte, Rostock, Mecklenburg, Germany.

(2) The red coloring matter which is utilized in the forensic