November 16, 1882.

THE PRESIDENT in the Chair.

In pursuance of the Statutes, notice of the ensuing Anniversary Meeting was given from the Chair.

Professor Valentine Ball, Mr. Charles Baron Clarke, Mr. Richard Tetley Glazebrook, and Professor John C. Malet were admitted into the Society.

General Boileau, Mr. W. H. M. Christie, Mr. W. De La Rue, Mr. G. Matthey, and Dr. W. J. Russell, having been nominated by the President, were elected by ballot Auditors of the Treasurer's Accounts on the part of the Society.

The Presents received were laid on the table, and thanks ordered for them.

The following Papers were read:—

I. "On the Nerves of the Frog's Lung." By WILLIAM STIRLING, M.D., Sc.D. Communicated by Professor T. H. HUXLEY, F.R.S. Received June 17, 1882.

(Abstract.)

The author has re-examined the lung of the frog with special reference to its nervous apparatus. Arnold, several years ago, gave a description of the nerves of the frog's lung. Amongst the nerve-fibres he found bell-shaped nerve-cells provided with a straight and a spiral fibre. He was unable to find any nerve-cells in the apex of the lung. Kandarazki has more recently examined these nerves. He was unable to find any trace of a spiral fibre in the nerve-cells, and he considers the appearances which have been figured as such, to be due to folds in the capsule of the cell. After giving an account of the methods used for exhibiting the course, relations, and structure of the nerves of the lung, the author gives an account of the result of his observations.

The pulmonary branches of the vagus enter the lung at its root or near its attached end. The branches contain medullated and non-medullated nerve-fibres, and amongst these fibres before they enter the

lung are ganglionic cells. More than forty medullated nerve-fibres were counted as they entered the lung, but they were even still more numerous, while in addition there were many non-medullated fibres whose number it was not so easy to ascertain. The main trunks of the nerve were traced into the lung under the serosa, where they give off larger and smaller branches—containing medullated and non-medullated fibres—which could be traced across the alveolar wall, giving off finer branches in their course. The main trunks exchange a few nerve-fibres, but the number of fibres so exchanged is not large. Many of the finer branches, which may contain just one or two medullated fibres, could be traced to the muscular septa of the alveolar wall; they dip into it, lose their myeline, and form a plexus of non-medullated fibres with elongated meshes. From this plexus finer branches are given off which dip down between the non-striped muscle-cells. The non-medullated nerves join and form a wide-meshed plexus of nerve-fibrils upon the alveolar wall in relation with the thin layer of non-striped muscle which occurs there. From this plexus fibres are given off which seem to form a second plexus with finer meshes. This plexus is quite distinct in its characters from that which occurs in the alveolar septa. Some non-medullated fibres occur on the walls of the blood-vessels. The nerve-cells which occur along the course of the nerve-fibres are very numerous. They are most numerous where a branch is given off from one of the main trunks, but they also occur along the course of the nerves, it may be at the side or amongst the nerve-fibres, but always within the sheath of the nerve. These nerve-cells present the characters of the cells described by Arnold and Beale, and in the fully developed condition at least are provided with a straight and a spiral process. They are to be found even in the nerve-branches in the apex of the lung. More than three hundred nerve-cells were counted in each lung disposed amongst the nerve-fibres, so that they are relatively far more numerous than the medullated nerve-fibres which enter the lung. The arrangement of the nerve-fibres which supply the muscular coats of the arteries and veins are then described and figured. The paper is illustrated by accurate drawings, which show the exact distribution of the intra-pulmonary nerves, the structure of the nerve-cells, and the plexuses of nerve-fibrils which occur in relation with the muscular coat of the lung and the pulmonary blood-vessels.