

but two or three points which I would like to bring out. First, in performing removal of parts of the lung or the whole of one lung in dogs, one of the chief difficulties has been found to be that after closure of the soft parts the vacant space was not immediately filled up by bulging of the mediastinum, uprising of the diaphragm, and falling in of the thoracic walls, but that gradually, within a few days, there occurred a large transudate into the cavity which caused the death of the animal from the third to the fifth day. I believe that Dr. von Eberts was the first, working at that time upon rabbits, to adopt the principle of inducing negative pressure at the close of the operation after having performed part of the operation under positive pressure. He was the first to employ aspiration of the chest to remove the pressure after closing the thoracic wall. Although Dr. Robinson has come to use this procedure, Dr. von Eberts employed it last fall. In this way the transudate is very much less likely to occur; in other words, the mediastinum is given time, under more normal conditions, to accommodate itself to the vacant space, and the space is gradually filled up to a very large extent, without much transudate or with none at all. The time has certainly come when, in Montreal, we must be prepared to do exploratory thoracotomies, if necessary, on both sides of the chest. Of course, we have done this on one side when we were sure that the other side was in good condition; but there are cases in advanced surgery in which a double operation is indicated. This work indicates a beginning in this line in Montreal. There are other applications of differential pressure in ordinary clinical work, such as certain points in the treatment of empyema, removal of tumours of the thoracic wall, exploring of the lung itself for abscess, and possibly for removal of tumours and excision of a lobe of the lung for chronic bronchiectasis—there are numerous processes like these which can be very much better treated if one had such an apparatus perfected. I might call attention to Meltzer and Auer's article in a late number of the New York Medical Record, in which they advise the method of continuous intra-tracheal insufflation. This does very well in laboratory animals. Elsberg has proposed a more elaborate apparatus in the human, by which the insufflated air is supplied by a motor-driven pump. The theory is, that this can distend the lung at about half its normal excursion, and that the lung can be kept in this state without respiratory movement at all. If this can be proven to be applicable with safety to the human, it will have the advantage over the positive and negative apparatuses that it can be used by the average surgeon with safety and economy. The question is a very wide one, and I think the Society is to be congratulated in having this extremely scientific series of experiments placed before it.