It had been my original intention to have dissected the carcases of the specimens of Arctocephalus gazella and of Macrorhinus leoninus collected by H.M.S. Challenger, and to have compared the anatomy of their muscular, vascular, and nervous systems, so far as these were uninjured, with the corresponding parts in species of the genus Phoca which I had from time to time collected and stored in the Anatomical Museum of the As time went on I found that, from the pressure of many duties, I should be unable to overtake this part of the work. I entrusted the specimens therefore to a former pupil, Dr. William C. Strettell Miller, in whose skill as a dissector I had confidence, to make the dissections and to draw up an account of his observations. now done so far as regards the muscular system and the nerves which supply the muscles. and his description appears as an Appendix to this Report. The time occupied in dissecting, comparing, and describing the specimens was upwards of a year, and the dissections were very carefully conducted. I should also say that the responsibility of this part of the investigation rests with Dr. Miller, for beyond giving an occasional superintendence over the dissections, and an opinion on some point when he was in doubt, I have not interfered in the conduct of his work.