

pect that in this inquiry material assistance would be derived from an accurate anatomical examination of the organs by which the more remarkable secretions are formed; yet, notwithstanding the most minute and careful scrutiny of these organs, our knowledge of the mode in which they are instrumental in effecting the operations which are there conducted, has not in reality advanced a single step. To add to our perplexity, we often see, on the one hand, parts, to all appearance very differently organized, giving rise to secretions of a similar nature; and, on the other hand, substances of very different properties produced by organs, which, even in their minutest details, appear to be identical in their structure.* Secretions are often found to be poured out from smooth and membranous surfaces, such as those which line the cavities of the abdomen, the chest, and the head, and which are also reflected inwards, so as to invest the organs therein contained, as the heart, the lungs, the stomach, the intestines, the liver, and the brain.* In other instances, the secreting membrane is thickly set with minute processes, like the pile of velvet: these processes are called *villi*, and their more obvious use, as far as we can perceive, is to increase the surface from which the secretion is prepared. At other times we see an opposite kind of structure employed; the secreting surface being the internal lining of sacs or cells, either opening at once into some larger cavity, or prolonged into a tube, or duct, for convey-

* Sometimes the secreting organ appears to be entirely composed of a mass of vessels covered with a smooth membrane; in other cases, it appears to contain some additional material, or *parenchyma* as it is termed. Vertebrated animals present us with numerous instances of glandular organs employed for special purposes of secretion: thus, in the eyes of fishes there exists a large vascular mass, which has been called the *choroid gland*, and which is supposed to be placed there for the purpose of replenishing some of the humours of the eye, in proportion as they are wasted. Within the air-bladder of several species of fishes there is found a vascular organ, apparently serving to secrete the air with which the bladder is filled; numerous ducts, filled with air, having been observed proceeding from the organ, and opening on the inner surface of the air-bladder.