

ly reticulated surface of great extent, admirably calculated to prevent the passage of the air through it, and to create, by its motion, that degree of resistance which it is intended the wing should encounter.\* In feathers not intended for flight, as in those of the ostrich, the fibrils are altogether wanting: in those of the peacock's tail, the fibrils, though large, have not the construction which fits them for clasping those of the contiguous lamina; and in other instances they do so very imperfectly.

A construction so refined and artificial as the one I have been describing, and so perfectly adapted to the mechanical object which it is to answer, cannot be contemplated without the deepest feeling of admiration, and without the most eager curiosity to gain an insight into the elaborate processes, which, we cannot doubt, are employed by nature in the formation of a fabric so highly finished, and displaying such minute and curious workmanship. It is only very recently that we have been admitted to a close inspection of the complicated machinery, which is put in action in this branch of what may be called *organic architecture*; and certainly none is more fitted to call forth our profoundest wonder at the comprehensiveness of the vast scheme of divine providence, which extends its care equally to the perfect construction of the minutest and apparently most insignificant portions of the organized frame, whether it be the down of a thistle, the scales of a moth, or the fibrils of a feather, as well as to the completion of the larger and more important organs of vitality.

Every bird, on quitting the egg, is found to be covered on all parts except the under side, with a kind of down, consisting of minute filaments, collected in tufts, and resem-

\* A very clear account of the mechanism described in the text is given by Paley, in the 12th chapter of his "Natural Theology." Many of the minutest details I have supplied from my own observations with the microscope. The branched form of the upper fibrils, and the reticulated structure of the laminae themselves, when viewed with a high magnifying power, are particularly beautiful microscopic objects.