

proper place in the coloured bands;—that these bands move over the surface of the film under the influence of gravity, and may be blown into fragments or into molecules of all colours, or even recombined with the film; that they may be blown into two systems of coloured rings, the one revolving from right to left, and the other from left to right; and that under the influence of the centrifugal force, these molecules are carried into their place in Newton's scale—those of the first orders going to the centre of the rings, and followed by those of higher orders that happen to be in the film when it is blown upon through a tube in the direction of a diameter.

“It is impossible,” the author adds, “to convey in language an adequate idea of the molecular movements, and the brilliant chromatic phenomena exhibited on the soap films, and it is equally impossible for art to delineate them. The visible secretion of a colourless fluid from a film less than the twelve thousandth of an inch in thickness,—its separation into portions of every possible colour,—the quick passage of these portions into bands of the different orders in Newton's scale,—their ever varying forms and hues when the bands either break up spontaneously, or are forcibly broken up,—their conversion into revolving systems of coloured rings under the influence of a centrifugal force,—their various motions when the film is at rest, and protected from aerial currents,—their recombination into a colourless fluid when driven to the centre or margin of concave and convex films, and their re-absorption by the film by means of mechanical diffusion, are facts constituting a system of visible molecular actions, of which we have no example, and nothing even approaching to it in Physics.”

## 2. On the *Musculus Sternalis*. By William Turner, M.B., Demonstrator of Anatomy.

In this paper the author described the results of his observations on the presence of the musculus sternalis in upwards of six hundred bodies dissected in the anatomical rooms of the University of Edinburgh. He had found it in nineteen individuals, *i.e.*, in about 3 per cent. of the bodies examined. It occurred nearly equally in the two sexes. It bore no relation to the general muscularity of the individual. In eleven subjects the muscle was single, in eight

double, making together twenty-seven specimens of the muscle. The variations which it exhibited in its attachments, size, and shape, were then described. In no case were its fibres continuous with those of the rectus abdominis, or were tendinous intersections found in it, but it mostly arose either from the flattened tendon of the external oblique muscle of the abdomen, or from the cartilages of the lower true ribs, and in many instances it was continuous at its upper end with the sternal tendon of one or both sterno-mastoids, whilst in others it was inserted into the aponeurosis covering the pectoralis major. It was always superficial to the great pectoral muscle. Of the single specimens, four occurred on the right side, two on the left; whilst in the remaining five it arose on one side of the middle line, and was inserted either altogether or in part on the opposite side. It formed an excellent illustration of the truth of the general statement, that occasional and rudimentary structures are especially liable to variations in arrangement.

A sketch of the history of the muscle, from the first observation by Cabrolus in 1604, was then given, and the various opinions as to its morphology were discussed. In opposition to the view usually entertained by anatomists, the author contended that it was not an upward extension of the rectus abdominis, such as is so frequently seen in the mammalia, so that the name rectus sternalis, or sternalis brutorum, usually applied to it, is not appropriate. For it was not continuous with the rectus, and was placed superficial to the pectoralis, whilst the anterior end of the mammalian rectus is always continuous with its abdominal part, and, moreover, concealed by the pectoral muscle; and further, another muscle has occasionally been seen in man which, differing in its position from the sternalis, lying under cover of the great pectoral muscle next the ribs, is undoubtedly to be regarded as homologous with the anterior end of the mammalian rectus.

The sternalis muscle, from many of its relations, seems to be most closely allied to the *panniculus carnosus*, or great skin muscle of the quadruped, and may perhaps be regarded as an additional rudiment of that muscle, occasionally present in man, though it must be admitted that the human platysma (which is generally acknowledged to represent the panniculus) lies on a plane superficial to the fibres of the sternalis in those individuals in whom they coexist.