

of the leucocytes, in great numbers, in the adenoid tissue during digestion; and, also, to certain proofs of the ability of the leucocytes to combine, with peptones in a loose form of combination.

The similarity of these two functions of the colorless corpuscles, as determined by Hofmeister for peptones, and by Zawarykin for fats, cannot fail to suggest the probability of a very definite and important function of these corpuscles in general nutrition. Possibly, also, the anomalies observed in the absorption of saccharine food, and in the glycogenic functions of liver and muscles, may in time receive some explanation through the functions of the colorless corpuscles.

It seems as if we were, at last, beginning to obtain an idea of the functions performed by these important cells, whose close connection with the life of the organization has been generally recognized, though but vaguely understood. J. M. S.

HUMAN PROPORTION.

Human proportion in art and anthropometry: a lecture delivered at the National museum, Washington, D. C.

By ROBERT FLETCHER, M. R. C. S. E. Cambridge, King, 1883. 37 p. illustr. 8°.

FROM the earliest ages, man has found his standards of measurement most conveniently in some bodily measure, like the digit, the palm, the span, the foot, or the cubit. As these measures necessarily vary with the size of the individual, the attempt to ascertain their average led to the first systematic measurements of the human body: hence have sprung the innumerable schemes of human proportion devised by artists and anatomists, all founded on the belief that some one part of the body was a standard of measurement for all its other dimensions. The Egyptians first developed a canon of proportion as early as the thirty-fifth century B.C., which was twice subsequently changed. Their last canon adopted the length of the middle finger as the standard, reckoning it precisely one-nineteenth of the entire stature. But in the 'canon of Polykleitos,' the famous sculptor who flourished about 450 B.C., was embodied the highest rule of Greek art in its most flourishing period. This has fortunately been preserved in a well-known passage of Vitruvius, and is illustrated by a recently discovered drawing by Lionardo da Vinci. The restless spirit of modern life has not remained content with this, as more than a hundred different attempts bear witness by men of all nations, including the celebrated English sculptor Gibson and our own Story. All these methods have been based upon the theory that there is a fixed relation between some one portion of the body and all its other dimensions; and their number proves the fallacy of the idea. Anthropometry, on the other hand, measures

with the strictest scientific accuracy the living man, and from an immense mass of measurements obtains the mean of the human form, and thus arrives at the perfect human type. The father of this science is the Belgian Quelet, and the enormous number of measurements rendered necessary by the draft during our civil war have greatly advanced it. By its tests many a time-honored dogma bearing upon human proportion has been exploded. Thus it has been proved that the length of the outstretched arms is somewhat greater than, and not exactly equal to, the height of the body; that not eight, but seven and a half heads make up the entire stature; and that only in the negro skeleton can be found the length of humerus bestowed upon the Apollo Belvedere.

All these matters the author has illustrated with great learning and in a clear and animated style. We have noticed, however, that his knowledge of archeology is sometimes at fault,—as where he calls the '*crux ansata*' in the hand of the Egyptian standard figure 'a key,' which is really a cross with a loop or handle attached to it, and is the symbol of eternity; or suggests that the 'golden fleece' was in reality 'the secret of Egyptian art;' or states that the Doryphoros of Polykleitos was 'a beautiful youth in the act of throwing a spear,' instead of its being one of the 'spear-bearers,' the body-guard of the Persian king. The most marvellous statement, however, is, that "prior to the time of Phidias, the face, hands, feet, or other exposed parts of the body were carved in marble, and fastened to a wooden block, which was covered with real drapery." This is a complete misunderstanding of the nature of the archaic *éōava*, or wooden statues, which in Greece preceded those made of stone or metal.

WARE'S MODERN PERSPECTIVE.

Modern perspective: a treatise upon the principles and practice of plane and cylindrical perspective.

By WILLIAM R. WARE, Professor of architecture in the School of mines, Columbia college. Boston, James R. Osgood & Co., 1883. 321 p. 12°.

PROFESSOR WARE'S *Modern perspective* is in substance a series of papers printed two or three years ago in the *American architect*, but with additions which extend its range, and give it more the scope of a scientific treatise. Scientific it is, both in its idea and its methods; though its treatment is naturally freer than would be given it for scientific uses alone,—freer, perhaps, than the author would have given if it had originally been written as a formal