

# SCIENCE.

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## LABORATORY TEACHING OF LARGE CLASSES.\*

TEACHING may be subdivided into two kinds : First, that which cultivates the fac-

\* Annual discussion before the meeting of the American Society of Naturalists, Baltimore, December 27, 1894. The continuation of this discussion by Professors Bumpus and Ganong will be published in the next issue of SCIENCE.

ulties of the individual, increasing his ability to work for himself and enabling him to use his intellectual powers with confidence in the acquisition of knowledge. Second, that which disregards or takes for granted that he has these powers at his command and strives to increase his store of information. The first process is the improvement and building up of the intellectual forces by any means that will enable them to do their work thoroughly and correctly, and the second is practically, except in so far as it can be used in carrying on the first process, a load carried by the brain. Similar in fact, though not in kind, to the extra fats and extra growths, of all sorts carried by the body, it may sometimes be of advantage, and sometimes, when in unnatural proportion, a serious and perhaps even an injurious burden.

The cultivation of the original powers of the individual, of his whole mind, with, of course, proper regard for moral and physical well-being, which are, in my opinion, equally important and essential, is akin to the treatment by which a good teacher of athletics strives to improve the native strength of a pupil and give the muscles endurance and force, and which the young gymnast himself is taught how to use to the greatest advantage. This athletic training must go hand in hand with judicious feeding, and in the parallel processes of education similar objective training must go hand

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