

'Fitness' in this case does not mean fitness to live, but rather a particular condition which happens to fit into the new circumstances.

Adaptation and variation are simultaneous : they are fundamentally the same. If there were no adaptability and no variability, those simplest of organisms which we suppose to have sprung into existence in the pre-Cambrian period would long ago have ceased to exist.

It is the physiological momentum which models the organism, and, by causing its adaptations, has produced its organs by change of function. Gegenbaur illustrates this most important fundamental truth by an excellent example. Suppose that, in an absolutely simple organism, all the parts of its exterior are under the same functional conditions, so that each part of the surface can take in food, and that this is digested, assimilated, in the interior. There is, in this condition, not yet any definite organ. If this organism sinks to the bottom and