"yellow colour, and on being plucked out, it is said, grow again of "the same colour without any fresh operation."

Bechstein[41] does not entertain any doubt that seclusion from light affects, at least temporarily, the colours of cage-birds.

It is well known that the shells of land-mollusca are affected by the abundance of lime in different districts. Isidore Geoffroy Saint-Hilaire[42] gives the case of *Helix lactea*, which has recently been carried from Spain to the South of France and to the Rio Plata, and in both countries now presents a distinct appearance, but whether this has resulted from food or climate is not known. With respect to the common oyster, Mr. F. Buckland informs me that he can generally distinguish the shells from different districts; young oysters brought from Wales and laid down in beds where "*natives*" are indigenous, in the short space of two months begin to assume the "native" character. M. Costa[43] has recorded a much more remarkable case of the same nature, namely, that young shells taken from the shores of England and placed in the Mediterranean, at once altered their manner of growth and formed prominent diverging rays, like those on the shells of the proper Mediterranean oyster. The same individual shell, showing both forms of growth, was exhibited before a society in Paris. Lastly, it is well known that caterpillars fed on different food sometimes either themselves acquire a different colour or produce moths differing in colour.[44]

It would be travelling beyond my proper limits here to discuss how far organic beings in a state of nature are definitely modified by changed conditions. In my 'Origin of Species' I have given a brief abstract of the facts bearing on this point, and have shown the influence of light on the colours of birds, and of residence near the sea on the lurid tints of insects, and on the succulency of plants. Mr. Herbert Spencer[45] has recently discussed with much ability this whole subject on general grounds. He argues, for instance, that with all animals the external and internal tissues are differently acted on by the surrounding conditions, and they invariably differ in intimate structure. So again the upper and lower surfaces of true leaves, as well as of stems and petioles, when these assume

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[41] 'Naturgeschichte der Stubenvögel,' 1840, s. 262, 308.

[42] 'Hist. Nat Gén.,' tom. iii. p. 402.

[43] 'Bull. de la Soc. Imp. d'Acclimat.,' tom. viii. p. 351.

[44] *See* an account of Mr. Gregson's experiments on the *Abraxus grossulariata*, 'Proc. Entomolog. Soc.,' Jan. 6th, 1862: these experiments have been confirmed by Mr. Greening, in 'Proc. of the Northern Entomolog. Soc.,' July 28th, 1862. For the effects of food on caterpillars, *see* a curious account by M. Michely, in 'Bull. de la Soc. Imp. d'Acclimat.,' tom. viii. p. 563. For analogous facts from Dahlbom on Hymenoptera, *see* Westwood's 'Modern Class. of Insects,' vol. ii. p. 98. *See* also Dr. L. Moller, 'Die Abhängigkeit der Insecten,' 1867, s. 70.

[45] 'The Principles of Biology,' vol. ii., 1866. The present chapters were written before I had read Mr. Herbert Spencer's work, so that I have not been able to make so much use of it as I should otherwise probably have done.