

The epidermis on our hands is easily thickened, as every one knows, by hard work. In a district of Ceylon the sheep have "horny callosities that defend their knees, and which arise from their habit of kneeling down to crop the short herbage, and this distinguishes the Jaffna flocks from those of other portions of the island;" but it is not stated whether this peculiarity is inherited.<sup>31</sup>

The mucous membrane which lines the stomach is continuous with the external skin of the body; therefore it is not surprising that its texture should be affected by the nature of the food consumed, but other and more interesting changes likewise follow. Hunter long ago observed that the muscular coat of the stomach of a gull (*Larus tridactylus*) which had been fed for a year chiefly on grain was thickened; and, according to Dr. Edmondston, a similar change periodically occurs in the Shetland Islands in the stomach of the *Larus argentatus*, which in the spring frequents the corn-fields and feeds on the seed. The same careful observer has noticed a great change in the stomach of a raven which had been long fed on vegetable food. In the case of an owl (*Strix grallaria*), similarly treated, Menetries states that the form of the stomach was changed, the inner coat became leathery, and the liver increased in size. Whether these modifications in the digestive organs would in the course of generations become inherited is not known.<sup>32</sup>

The increased or diminished length of the intestines, which apparently results from changed diet, is a more remarkable case, because it is characteristic of certain animals in their domesticated condition, and therefore must be inherited. The complex absorbent system, the blood-vessels, nerves, and muscles, are necessarily all modified together with the intestines. According to Daubenton, the intestines of the domestic cat are one-third longer than those of the wild cat of Europe; and although this species is not the parent-stock of the domestic animal, yet, as Isidore Geoffroy has remarked,

<sup>31</sup> 'Ceylon,' by Sir J. E. Tennent, 1859, vol. ii. p. 531.

<sup>32</sup> For the foregoing statements, see Hunter's 'Essays and Observations,' 1861, vol. ii. p. 329; Dr. Edmondston,

as quoted in Macgillivray's 'British Birds,' vol. v. p. 550; Menetries, as quoted in Bronn's 'Geschichte der Natur,' B. ii. s. 110.