THE

PHILOSOPHICAL MAGAZINE:

COMPREHENDING

THE VARIOUS BRANCHES OF SCIENCE,

THE LIBERAL AND FINE ARTS,

AGRICULTURE, MANUFACTURES,

AND

COMMERCE.

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"Nec aranearum ſane textus ideo melior, quia ex ſe fila gignunt. Nec noſter vilior quia ex alienis libamus ut apes." JUST. LIPS. *Monit. Polit.* lib. i. cap. 1.

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CONTENTS

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FOURTH VOLUME.

On

THE

PHILOSOPHICAL MAGAZINE.

JUNE 1799.

I. *On the Poſſibility of Caſual Mutilations in the Bodies of Animals becoming in the Courſe of Time hereditary Marks of Diſtinction.* By *Profeſſor* BLUMENBACH *.

THAT it is poſſible for mutilations produced in the bodies of animals, either by accident or by artificial means, eſpecially when repeated through a whole ſeries of generations, to degenerate in the courſe of time into hereditary marks of diſtinction, ſeems *à priori* to be incontrovertible. At any rate, I ſhould be glad to ſee the phyſiologiſt who can aſſign a reaſon why this ſhould not be as poſſible as the tranſmiſſion of hereditary organic diſeaſes, or hereditary monſtroſities †, or

* From *Magazin fur das Neueſte aus der Phyſik.* Vol. VI.

† Of the numerous and partly well known inſtances of this kind I ſhall quote only a recent one, mentioned by M. Schulz in his *Obſervations on a monſtrous canary bird*, p. 17. "A Spaniſh bitch," ſays he, "which had been in my poſſeſſion for ſeveral years, was not only brought forth without a tail, but at various times produced puppies ſome of whom were deſtitute of tails alſo. As often as this bitch brought forth more than one puppy, one of them perhaps was quite perfect; the greater part, however, had half tails or tails ſtill ſhorter, and one at leaſt had no tail at all. The moſt ſingular thing was, that the young almoſt always had a reſemblance

or the moſt individual traits in family likeneſſes, ſuch as a thick under lip, ſtrong eye-brows, and ſo on, which certainly did not all deſcend from Adam; but which have firſt appeared at a certain generation, and ſince that period have been continued, with more or leſs conſtancy, by hereditary tranſmiſſion.

I. *Inſtances among Animals.*

We are told by Sir Kenelm Digby*, that the tail of a cat having been cut off when young, ſome of the kittens, which ſhe afterwards brought forth, were always without tails. Nath. Highmore †, who in explaining the nature of generation differs ſo much from Sir Kenelm, ſays that he ſaw a bitch which wanted almoſt the whole tail from the rump, and that the half of her young were brought into the world with tails, and the other half without. Buffon ‡ aſſerts that he ſaw dogs, the ears and tails of which had been cropped for many generations, and which transferred this mutilation, either totally or in part, to their poſterity.

M. R. Maſch, of New Strelitz, gives an account, in the *Naturforſcher* §, of a butcher's dog, the tail of which, according to cuſtom, had been cut off, and which having copulated with a ſhe-wolf, that had been caught, the latter produced three baſtards. Among theſe was a male, half grey like the father, and born with a cropped tail; ſo that the caſual mutilation of the dog, as the author ſays, was tranſferred to this baſtard.

We are told by D. Forſter ‖, that it has been remarked in

to the father, whether grey-hound, ſpaniel, &c. in regard to colour and bodily conformation; and derived nothing more from their mother, the Spaniſh bitch, than the ſingularity of having only the third part of a tail, or no tail at all."

* On the Nature of Bodies, p. 214.

† Hiſtory of Generation, p. 31.

‡ Hiſtoire Naturelle, vol. xiv.

§ Part xv.

‖ Beyträge zur Volker-und Lander-Kunde, Part 1.

England,

England, that when horſes are continually docked, and both ſtallions and mares kept ſo for many generations, the foals, at laſt, come into the world with ſome articulations fewer in the tail. Buffon * has enlarged pretty fully on this ſubject, and endeavoured to prove, by the help of anatomy, that the calloſities on the breaſt-bone and knees of the camel are merely the conſequence of their ſubjection, and the force by which theſe animals of burden, as is well known, are obliged to kneel down; and as the young camels, when brought forth, have calloſities of the like kind, he gives this as a proof of the hereditary tranſmiſſion of ſuch variations produced by art.

II. *Inſtances among the Human Species.*

Cardan † ſpeaks of the well known ancient cuſtom of the Peruvians of *Puerto Viego*, who preſſed between boards the heads of their new-born children. This cuſtom, however, became afterwards like a ſecond nature; ſo that, in the courſe of time, children were brought into the world with heads formed in that ſingular manner: and Cardan expreſsly ſays, that this flatneſs of the head was originally the work of art, and not of nature. *Conſtat igitur*, to uſe his own expreſſions, *humanam formam multis modis variari, tum arte, tum diuturna ſucceſſione.* Hippocrates, in his work upon air, water and climate, mentions ſomething of the like kind in regard to the *Macrocephali*, a people on the borders of the Black Sea, who preſſed the heads of their new-born children; and this practice repeated, through many generations, produced at length an hereditary diſtinction; ſo that the children were born with heads of a particular form. "At firſt," ſays he ‡, "the practice of the country ſeems to have been the cauſe of this conformation; but cuſtom afterwards be-

* Hiſtoire Naturelle, vol. xi.

† Vol. iii. p. 162 of Spon's edition of his works.

‡ This paſſage is tranſlated from the original in Chartieri's edition, vol. vi. p. 206.

came nature. Thoſe who had the largeſt heads were conſidered as the nobleſt; and for this reaſon the *Macrocephali* preſſed the yet pliable tender heads of their children with their hands, and forced them to extend in length by bandages and other means. This artificial proceſs gave occaſion to the ſubſequent increaſe of ſize in the head among theſe people, ſo that artificial means were no longer requiſite for that purpoſe." Hippocrates, however, adds in a ſhort ſection: "That in his time their heads had no longer that ſingular form completely, becauſe they had entirely neglected the above artificial means of formation." But that this very little contradicts his preceding account and opinion is ſhewn by the intermediate paſſages, where he endeavours to explain the phenomenon from his well known theory of generation. "The generative matter," ſays he, "is collected from all parts of the body. From ſound bodies it comes ſound, and from diſeaſed bodies diſeaſed. Now, as bald heads, blue eyes, and overgrown bodies are tranſmitted in families, and the like rule takes place in other circumſtances of conformation, why ſhould not children with great heads be produced by great headed parents?" Hippocrates, therefore, evidently meant only that in the courſe of time Nature ſometimes abandons forms ſhe has aſſumed, and returns again to the original.

Ariſtotle, in his work on the generation of animals, ſpeaking of the grounds on which the theory of Hippocrates reſpecting generation is founded, ſays: "It is very probable for this reaſon, beſides others, that children not only reſemble their parents in internal and innate properties, but even in external marks which are merely caſual; for there are inſtances of moles being tranſmitted from parents to their children, and on the very ſame parts of the body. He himſelf quotes a Chaldean, who, having a mole on his arm, tranſmitted it to his ſon, though in the latter it was not ſo apparent as in the father. Pliny alſo, where he treats of marks, moles, and the like, being ſometimes inherited by children, adds,

adds, by way of example: *Quarto partu Dacorum originis nota in brachio redditur.* In my opinion, this paſſage alludes to the hereditary tranſmiſſion of moles among the Dacians, Illyrians, &c. who, according to the teſtimony of many of the Ancients, were diſtinguiſhed by this ſingularity.

The late M. Oſann once came to me, full of aſtoniſhment, and told me that he had met with a ſimilar inſtance in the family of a ſtaff-officer, who lived in the neighbourhood. The father in his younger days had received a wound in the little finger of his right hand, which had been rendered crooked during the cure; and his ſon and daughter were born each with the little finger of the ſame hand crooked. I have ſince ſeen both the father and daughter, and have been convinced, by inſpecting their hands, of the truth of the above information.

A literary man of very great acuteneſs, when converſing with me on this ſubject, ſtarted the following objection: "If artificial mutilations can become hereditary, children born of circumciſed parents muſt often be born without the foreſkin, which does not appear to be the caſe." At that time I was acquainted with only one inſtance of this kind in Steph. Gerlach's Journal; but one example did not appear to me to be of any peculiar weight. I, however, once happened to aſk a Jew of this place, a man not deſtitute of learning, and well acquainted with the ritual of his nation reſpecting this circumſtance, and was told that it frequently happened that the children of the Jews were brought into the world with ſo ſhort a foreſkin that it required an experienced and careful hand to circumciſe them. This innate deficiency is diſtinguiſhed by a particular Hebrew appellation, *nauld mohl*, or born circumciſed. His own father, who had circumciſed above 700 boys, and who was celebrated on account of his expertneſs in this caſe, not at all uncommon, often ſpoke of the difficulty of performing the operation under ſuch circumſtances. In a word, what had appeared to me an argument againſt the hereditary tranſmiſ-

ſion of artificial mutilations, became unexpectedly an important argument in its favour. I will, however, readily acknowledge, that all the caſes above mentioned may not be of equal authenticity, and equally incontrovertible; but even though the leaſt improbable ſhould be rejected, there will ſtill remain, to ſupport the probability of the thing, as many as could be deſired for a propoſition which cannot well be proved by direct experiments made for the purpoſe.

II. *Report on the Travels of* C. Olivier *and* C. Bruguiere, *undertaken by order of the French Government, through the Ottoman Empire, Egypt and Perſia, during the Years* 1792, 93, 94, 95, 96 *and* 97 *.

[Concluded from the laſt Volume, p. 347.]

THIS journey was extremely intereſting; for, beſides the great number of objects which we collected, and the obſervations we had occaſion to make, we were ſurpriſed to ſee a country exceedingly fertile, yet almoſt a deſert, and often volcanic, exhibiting, at every ſtep, veſtiges of ancient cities. We croſſed the Euphrates and the Tigris on wretched wooden boats; and two rivers, which flow from the mountains of Curdiſtan, on boats formed of a number of inflated ſkins joined together. I ſhall deſcribe, with ſome minuteneſs, this ſimple method of croſſing rivers, becauſe it might be employed with advantage in Europe, on account of the facility and trifling expence of tranſporting a great number of ſkins; of inflating them in a moment, and uniting them firmly together by means of the branches of trees; and of conveying, in this manner, over the largeſt rivers, a whole army without any danger.

When we arrived at Bagdad, the pacha was ſo ill that two Perſian phyſicians, who attended him, had given over all

* Read in the Sitting of the National Inſtitute, February 14th. By C. Olivier.

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