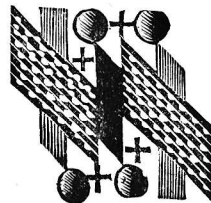


THOMAS HENRY HUXLEY, born at Ealing in 1825. Medical apprentice at thirteen; entered Charing Cross Hospital, 1842; assistant-surgeon on H.M.S. *Rattlesnake*, 1846-50; F.R.S., 1850; President of the Royal Society, 1883; retired from public work, 1885. Died in 1895.

LECTURES AND LAY SERMONS



THOMAS HUXLEY

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have passed it over in silence had it not appeared to afford some clue to M. Flourens' unhesitating, *à priori*, repudiation of all forms of the doctrine of progressive modification of living beings. He whose mind remains uninfluenced by an acquaintance with the phenomena of development, must indeed lack one of the chief motives towards the endeavour to trace a genetic relation between the different existing forms of life. Those who are ignorant of Geology, find no difficulty in believing that the world was made as it is; and the shepherd, untutored in history, sees no reason to regard the green mounds which indicate the site of a Roman camp, as aught but part and parcel of the primæval hill-side. So, M. Flourens, who believes that embryos are formed "tout d'un coup," naturally finds no difficulty in conceiving that species came into existence in the same way.

EMANCIPATION—BLACK AND WHITE

[1865]

QUASHIE'S plaintive inquiry, "Am I not a man and a brother?" seems at last to have received its final reply—the recent decision of the fierce trial by battle on the other side of the Atlantic fully concurring with that long since delivered here in a more peaceful way.

The question is settled; but even those who are most thoroughly convinced that the doom is just, must see good grounds for repudiating half the arguments which have been employed by the winning side; and for doubting whether its ultimate results will embody the hopes of the victors, though they may more than realise the fears of the vanquished. It may be quite true that some negroes are better than some white men; but no rational man, cognisant of the facts, believes that the average negro is the equal, still less the superior, of the average white man. And, if this be true, it is simply incredible that, when all his disabilities are removed, and our prognathous relative has a fair field and no favour, as well as no oppressor, he will be able to compete successfully with his bigger-brained and smaller-jawed rival, in a contest which is to be carried on by thoughts and not by bites. The highest places in the hierarchy of civilisation will assuredly not be within the reach of our dusky cousins, though it is by no means necessary that they should be restricted to the lowest.

But whatever the position of stable equilibrium into which the laws of social gravitation may bring the negro, all responsibility for the result will henceforward lie between nature and him. The white man may wash his hands of it, and the Caucasian conscience be void of reproach for evermore. And this, if we look to the bottom of the matter, is the real justification for the abolition policy.

The doctrine of equal natural rights may be an illogical delusion; emancipation may convert the slave from a well-fed animal into a pauperised man; mankind may even have to do without cotton-shirts; but all these evils must be faced if the

moral law, that no human being can arbitrarily dominate over another without grievous damage to his own nature, be, as many think, as readily demonstrable by experiment as any physical truth. If this be true, no slavery can be abolished without a double emancipation, and the master will benefit by freedom more than the freed-man.

The like considerations apply to all the other questions of emancipation which are at present stirring the world—the multifarious demands that classes of mankind shall be relieved from restrictions imposed by the artifice of man, and not by the necessities of nature. One of the most important, if not the most important, of all these, is that which daily threatens to become the “irrepressible” woman question. What social and political rights have women? What ought they to be allowed, or not allowed, to do, be, and suffer? And, as involved in and underlying all these questions, how ought they to be educated?

There are philogynists as fanatical as any “miscegenists” who, reversing our antiquated notions, bid the man look upon the woman as the higher type of humanity; who ask us to regard the female intellect as the clearer and the quicker, if not the stronger; who desire us to look up to the feminine moral sense as the purer and the nobler; and bid man abdicate his usurped sovereignty over nature in favour of the female line.

On the other hand, there are persons not to be outdone in all loyalty and just respect for womankind, but by nature hard of head and haters of delusion, however charming, who not only repudiate the new woman-worship which so many sentimentalists and some philosophers are desirous of setting up, but, carrying their audacity further, deny even the natural equality of the sexes. They assert, on the contrary, that in every excellent character, whether mental or physical, the average woman is inferior to the average man, in the sense of having that character less in quantity and lower in quality.

Tell these persons of the rapid perceptions and the instinctive intellectual insight of women, and they reply that the feminine mental peculiarities which pass under these names are merely the outcome of a greater impressibility to the superficial aspects of things, and of the absence of that restraint upon expression which, in men, is imposed by reflection and a sense of responsibility. Talk of the passive endurance of the weaker sex, and opponents of this kind remind you that Job was a man, and

that, until quite recent times, patience and long-suffering were not counted among the specially feminine virtues. Claim passionate tenderness as especially feminine, and the inquiry is made whether all the best love-poetry in existence (except, perhaps, the “Sonnets from the Portuguese”) has not been written by men; whether the song which embodies the ideal of pure and tender passion—“Adelaida”—was written by *Frau* Beethoven; whether it was the Fornarina, or Raphael, who painted the Sistine Madonna. Nay, we have known one such heretic go so far as to lay his hands upon the ark itself, so to speak and to defend the startling paradox that, even in physical beauty, man is the superior. He admitted, indeed, that there was a brief period of early youth when it might be hard to say whether the prize should be awarded to the graceful undulations of the female figure, or the perfect balance and supple vigour of the male frame. But while our new Paris might hesitate between the youthful Bacchus and the Venus emerging from the foam, he averred that, when Venus and Bacchus had reached thirty, the point no longer admitted of a doubt; the male form having then attained its greatest nobility, while the female is far gone in decadence; and that, at this epoch, womanly beauty, so far as it is independent of grace or expression, is a question of drapery and accessories.

Supposing, however, that all these arguments have a certain foundation; admitting, for a moment, that they are comparable to those by which the inferiority of the negro to the white man may be demonstrated, are they of any value as against woman-emancipation? Do they afford us the smallest ground for refusing to educate women as well as men—to give women the same civil and political rights as men? No mistake is so commonly made by clever people as that of assuming a cause to be bad because the arguments of its supporters are, to a great extent, nonsensical. And we conceive that those who may laugh at the arguments of the extreme philogynists, may yet feel bound to work heart and soul towards the attainment of their practical ends.

As regards education, for example. Granting the alleged defects of women, is it not somewhat absurd to sanction and maintain a system of education which would seem to have been specially contrived to exaggerate all these defects?

Naturally not so firmly strung, nor so well balanced as boys, girls are in great measure debarred from the sports and physical

exercises which are justly thought absolutely necessary for the full development of the vigour of the more favoured sex. Women are by nature more excitable than men—prone to be swept by tides of emotion, proceeding from hidden and inward, as well as from obvious and external causes; and female education does its best to weaken every physical counterpoise to this nervous mobility—tends in all ways to stimulate the emotional part of the mind and stunt the rest. We find girls naturally timid, prone to dependence, born conservatives; and we teach them that independence is unladylike; that blind faith is the right frame of mind; and that whatever we may be permitted, and indeed encouraged, to do to our brother, our sister is to be left to the tyranny of authority and tradition.

With few insignificant exceptions, girls have been educated either to be drudges, or toys, beneath man, or a sort of angels above him; the highest ideal aimed at oscillating between Clärchen and Beatrice. The possibility that the ideal of womanhood lies neither in the fair saint, nor in the fair sinner; that the female type of character is neither better nor worse than the male, but only weaker; that women are meant neither to be men's guides nor their playthings, but their comrades, their fellows and their equals, so far as nature puts no bar to that equality, does not seem to have entered into the minds of those who have had the conduct of the education of girls.

If the present system of female education stands self-condemned, as inherently absurd; and if that which we have just indicated is the true position of woman, what is the first step towards a better state of things? We reply, emancipate girls. Recognise the fact that they share the senses, perceptions, feelings, reasoning powers, emotions, of boys, and that the mind of the average girl is less different from that of the average boy, than the mind of one boy is from that of another; so that whatever argument justifies a given education for all boys justifies its application to girls as well.

So far from imposing artificial restrictions upon the acquirement of knowledge by women, throw every facility in their way. Let our Faustinas, if they will, toil through the whole round of

“Juristerei und Medizin,
Und leider! auch Philosophie.”

Let us have “sweet girl graduates” by all means. They will be none the less sweet for a little wisdom; and the “golden

hair” will not curl less gracefully outside the head by reason of there being brains within. Nay, if obvious practical difficulties can be overcome, let those women who feel inclined to do so, descend into the gladiatorial arena of life, not merely in the guise of *retarii*, as heretofore, but as bold *sicarii*, breasting the open fray. Let them, if they so please, become merchants, barristers, politicians. Let them have a fair field, but let them understand, as the necessary correlative, that they are to have no favour. Let nature alone sit high above the lists, “rain influence and judge the prize.”

And the result? For our parts, though loth to prophecy, we believe it will be that of other emancipations. Women will find their place, and it will neither be that in which they have been held, nor that to which some of them aspire. Nature's old salique law will not be repealed, and no change of dynasty will be effected. The big chests, the massive brains, the vigorous muscles and stout frames of the best men will carry the day, whenever it is worth their while to contest the prizes of life with the best women. And the hardship of it is, that the very improvement of the women will lessen their chances. Better mothers will bring forth better sons, and the impetus gained by the one sex will be transmitted, in the next generation, to the other. The most Darwinian of theorists will not venture to propound the doctrine, that the physical disabilities under which women have hitherto laboured in the struggle for existence with men, are likely to be removed by even the most skilfully conducted process of educational selection.

We are, indeed, fully prepared to believe that the bearing of children may, and ought, to become as free from danger and long disability to the civilised woman as it is to the savage; nor is it improbable that, as society advances towards its right organisation, motherhood will occupy a less space of woman's life than it has hitherto done. But still, unless the human species is to come to an end altogether—a consummation which can hardly be desired by even the most ardent advocate of “women's rights”—somebody must be good enough to take the trouble and responsibility of annually adding to the world exactly as many people as die out of it.

In consequence of some domestic difficulties, Sydney Smith is said to have suggested that it would have been good for the human race had the model offered by the hive been followed, and had all the working part of the female community been

neuters. Failing any thorough-going reform of this kind, we see nothing for it but the old division of humanity into men potentially, or actually, fathers, and women potentially, if not actually, mothers. And we fear that so long as this potential motherhood is her lot, woman will be found to be fearfully weighted in the race of life.

The duty of man is to see that not a grain is piled upon that load beyond what nature imposes; that injustice is not added to inequality.

LECTURES ON THE STRUCTURE OF THE SKULL

I. THE STRUCTURE OF THE HUMAN SKULL

THE human skull is by no means one of the simplest examples of a vertebrate cranium which can be studied, nor is the comprehension of its structure easy; but, as all vertebrate anatomy has started from the investigation of human organisation, and the terms osteologists use are derived from those which were originally applied to definite parts of the organism of man, a careful investigation of the fundamental structure of man's skull, becomes an indispensable preliminary to the establishment of anything like a sound comparative nomenclature, or general theory, of the Vertebrate Skull.

Viewed from without (Fig. 1), the human cranium exhibits a multiplicity of bones, united together, partly by sutures, partly by ankylosis, partly by movable joints, and partly by ligaments; and the study of the boundaries and connections of these bones, apart from any reference to the plan discoverable in the whole construction, is the subject of the topographical anatomist, to whom one constantly observed fact of structure is as valuable as another. The morphologist, on the other hand, without casting the slightest slur upon the valuable labours of the topographer, endeavours to seek out those connections and arrangements of the bony elements of the complex whole which are fundamental, and underlie all the rest; and which are to the craniologist that which physical geography is to the student of geographical science.

Perhaps no method of investigating the structure of the skull conduces so much towards the attainment of a clear understanding of this sort of architectural anatomy, as the study of sections, made along planes which have a definite relation to the principal axes of the skull.

If a vertical and transverse section be taken through the cranium, in such a manner that the plane of the section shall traverse both external auditory meatuses, the skull will be