

**FREEDOM IN
SCIENCE
AND TEACHING**

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Freedom in Science and Teaching by Ernst Haeckel & T. H. Huxley

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ERNST HAECKEL & T. H. HUXLEY

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FREEDOM
IN
SCIENCE AND TEACHING.

FROM THE GERMAN OF
ERNST HAECKEL.

WITH A PREFATORY NOTE
BY T. H. HUXLEY, F. R. S.

DES TECHNOLOG.
"Welche Verehrung verdient der Weltenschöpfer, der gütig.
Als er den Korkbaum schuf, gleich auch die Stöpfel erfand."
XENIEN.

NEW YORK:
D. APPLETON AND COMPANY,
549 AND 551 BROADWAY.
1879.

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1991



PREFATORY NOTE.

IN complying with the wish of the publishers of Professor Haeckel's reply to Professor Virchow, that I should furnish a prefatory note expressing my own opinion in respect of the subject-matter of the controversy, Gay's homely lines, prophetic of the fate of those "who in quarrels interpose," emerge from some brain-cupboard in which they have been hidden since my childish days. In fact, the hard-hitting with which both the attack and the defence abound, makes me think with a shudder upon the probable sufferings of the unhappy man whose intervention should lead two such gladiators to turn their weapons from one another upon him. In my youth, I once attempted to stop a street fight, and I have never forgotten the brief but impressive lesson on the value of the policy of non-intervention which I then received.

But there is, happily, no need for me to place myself in a position which, besides being fraught with danger, would savour of presumption. Careful study

of both the attack and the reply leaves me without the inclination to become either a partisan or a peacemaker: not a partisan, for there is a great deal with which I fully agree said on both sides; not a peacemaker, because I think it is highly desirable that the important questions which underlie the discussion, apart from the more personal phases of the dispute, should be thoroughly discussed. And if it were possible to have controversy without bitterness in human affairs, I should be disposed, for the general good, to use to both of the eminent antagonists the famous phrase of a late President of the French Chamber—“*Tape dessus.*”

No profound acquaintance with the history of science is needed to produce the conviction, that the advancement of natural knowledge has been effected by the successive or concurrent efforts of men, whose minds are characterised by tendencies so opposite that they are forced into conflict with one another. The one intellect is imaginative and synthetic; its chief aim is to arrive at a broad and coherent conception of the relations of phenomena; the other is positive, critical, analytic, and sets the highest value upon the exact determination and statement of the phenomena themselves.

If the man of the critical school takes the pithy aphorism “*Melius autem est naturam secare quam*

abstrahere"¹ for his motto, the champion of free speculation may retort with another from the same hand, "Citius enim emergit veritas e falsitate quam e confusione;"² and each may adduce abundant historical proof that his method has contributed as much to the progress of knowledge as that of his rival. Every science has been largely indebted to bold, nay, even to wild hypotheses, for the power of ordering and grasping the endless details of natural fact which they confer; for the moral stimulus which arises out of the desire to confirm or to confute them; and last, but not least, for the suggestion of paths of fruitful inquiry, which, without them, would never have been followed. From the days of Columbus and Kepler to those of Oken, Lamarck, and Boucher de Perthes, Saul, who, seeking his father's asses, found a kingdom, is the prototype of many a renowned discoverer who has lighted upon verities while following illusions, which, had they deluded lesser men, might possibly have been considered more or less asinine.

On the other hand, there is no branch of science which does not owe at least an equal obligation to those cool heads, which are not to be seduced into the acceptance of symmetrical formulæ and bold generalisations for solid truths because of their brilliancy

¹ *Novum Organon*, li.

² *Partis instaurationis secundæ delineatio*.