else, the infusion of common-sense which saved him from over-confidence. Each must judge for himself what suits him was his maxim.

In his own case he carried it very far. His life was almost ascetic. Tobacco was perhaps his one indulgence. A great part of the work by which the world knows him was done after dinner, and after a hard day's work in the lecture-room and laboratory. He never spared himself. Often and often have I known him leave the circle of family and friends, of which he was the life, very early in the evening, and betake himself to his library; a room of which the only luxury was books. If remonstrated with, or appealed to for another half-hour, he would only shake his head. There was something to be done. And it would be midnight, or one or two o'clock, before it was done, and then he was up at seven in the morning. I sometimes thought he had no higher happiness than work; perhaps nobody has. He would dine on a little soup and a bit of fish; more than that was a clog on his mind. "The great secret," he said, "is to preserve the power of working continuously sixteen hours a day if need be. If you cannot do that you may be caught out any time."—GEORGE W. SMALLEY.

HUXLEY'S PAINSTAKINGNESS AS A WRITER

An infinite capacity for taking pains—that, I think, he valued himself on. His literary work shows it in a degree not less than his scientific. He must be placed very high among contemporary writers. Contrast his style with that of the ordinary writer on science, who has no style, or with a very extraordinary man's, Darwin, who had a very bad style. Tyndall wrote admirably, with perhaps an exuberance of rhetoric, inevitable to an Irishman. But Huxley dealt in the simplest, most lucid, most effective manner with the most difficult subjects. You were never at a loss for his meaning; if you were, it was your fault, not his. He had a sobriety of ornament which was more to his taste and more to his readers' than the Corinthian style. He had vigor and that imaginative use of language without which the full value of words is never brought out. He hated writing and forced himself to write, and also taught himself. Somewhere he tells how, on his return, I think from the *Rattlesnake* * voyage, he had all his material ready, which had cost him ten times more labor than the writing it out would require. But he could not bring himself to write. He early conquered that repugnance, though I doubt whether he ever wrote fluently or easily. I once asked him. "Oh, I can write fast enough if that is all," was his answer, "but if it is anything important, I take as much time as I need." A letter of his had just appeared in *The Times,* an important one on a controverted topic. I asked how much trouble he had taken with it. "Why, I wrote that over three times." The quality he valued most in style was, perhaps, precision. That and perfect clearness and perfect sincerity.—GEORGE W. SMALLEY.

HUXLEY AS A DEBATER

I saw a good deal of Professor Huxley during the years when his great gifts and energies were at their meridian, especially between the years 1870 and 1877; for in 1869 we both took part in the formation of a society of which he

* Huxley when a young man had been on a four years' scientific voyage in a government ship called the *Rattlesnake.*

was one of the most brilliant members—the Metaphysical Society; and in 1876 we sat side by side on a Commission in which he happened to represent diametrically opposite points of view,—the Commission to inquire into the character of painful experiments on living animals, and the desirability of imposing, on those who make them, such limitations as might prevent the infliction of the kind of torture of which there are in Europe, and even in England, too many instances. In both cases I had many opportunities not only of observing him closely, but of entering with him into those more conversational discussions which were not limited by the conventional rules of even semi-public debate. And my own impression certainly was that an abler and more accomplished debater, was not to be found even in the House of Commons, and that he was never more effective than when he diverged from the narrower field of the specialist into the wider fields of popular interest. He made extraordinarily effective use also of his very wide and accurate reading in his own special studies, a kind of use which often puzzled the so-called metaphysicians, and reduced them to bewildered silence. For example, I shall never forget the dismay with which many of us heard his paper on the question, "Has the frog a soul, and of what nature is that soul, supposing it to exist?"—RICHARD HOLT HUTTON, *in "The Forum."*

HUXLEY'S MOTHER-WIT IN ARGUMENT

It need hardly be said that Huxley, a scientific fighter, if there ever was one, was in his element in resisting any attempt to overbear the new Anthropology by philosophical declamation or claim of authority. Many who were present

still remember with amusement a scene at the British Association meeting at Exeter in 1869, when Anthropology, then represented by a sub-section of biology, drew dense crowds assembled to hear the anthropologists have it out with the parsons. A theologico-metaphysical attempt to sweep away the development-theory before a gale of declamatory appeal to orthodoxy, backed by the irrefutable combination of intuition and the evidence of sensation, brought up Huxley. With calm seriousness he performed the familiar experiment of touching the tip of his nose with his crossed fingers, inviting his delighted audience thus to satisfy themselves that each of them had two noses, unless indeed they were willing to admit that the systematic comparison of observations, which is called science, had something to do with the formation of a reasonable judgment.—PROFESSOR E. B. TYLOR (*of Oxford*), *in "The Nineteenth Century."*

HUXLEY AS A LECTURER

At the outset of Huxley's public career lecturing was as distasteful to him as in earlier years the trouble of writing was detestable. But mother wit and "needs must" trained him in a short time to win the ear of an audience. One evening in 1852 he made his début at the Royal Institution, and the next day he received a letter charging him with every possible fault that a lecturer could commit—ungraceful stoop, awkwardness in use of hands, mumbling of words, or dropping them down the shirt front. The lesson was timely, and its effect salutary. Huxley was fond of telling this story, and it is worth recording—if but as encouragement to stammerers who have something to say

—at what price he "bought this freedom" which held an audience spell-bound. How he thus held it in later years they will remember who in the packed theater of the Royal Institution listened on the evening of Friday, 9th of April, 1880, to his lecture *"On the Coming Age of the Origin of Species."*—EDWARD CLODD, *in "Pioneers of Evolution from Thales to Huxley."*

HUXLEY'S MEMORABLE ADDRESS ON "THE COMING OF AGE OF DARWINISM"

On the platform Mr. Huxley was a commanding figure. He had in him the gift of oratory, had he cared to cultivate it. Of course he was at home in the lecture-room; he had spent half his life in it. Some of his appearances there will be forever memorable. There have been few evenings in the well-like auditorium of the Royal Institution in Albemarle Street comparable to that when Huxley delivered his discourse on *"The Coming of Age of Darwinism."* Many a brilliant audience has that hall seen—it is the meeting-ground of Science and Society—perhaps never one which surpassed this. It was known that he had chosen this subject; it was inferred that he would review the controversy in which he had been a foremost champion, and there was an expectation, not to be disappointed, that he would fight some of his many battles o'er again. So Society, ever on the alert for a fresh sensation, thronged to the scene.

At the Royal Institution more than almost any where else, the lecturer, on whom the concentric circles of spectators in their steep amphitheater look down, focuses the gaze. Huzley never seemed aware that anybody was looking at him. From self-consciousness he was, here as elsewhere, singularly free, as from self-assertion. He walked in through the door on the left, as if he were entering his own laboratory. In these days he bore scarcely a mark of age. He was in the full vigor of mature manhood, and looked the man he was. Faultlessly dressed,—the rule in the Royal Institution is evening costume—with a firm step and easy-bearing, he took his place apparently without a thought of the people who were cheering him. To him it was an anniversary. He looked, and he probably was, the master. Surrounded as he was by the celebrities of science, and the ornaments of London drawing-rooms, there was none who had quite the same kind of intellectual ascendancy which belonged to him. The square forehead, the square jaw, the tense lines of the mouth, the deep, flashing dark eyes, the impression of something more than strength he gave you, an impression of sincerity, of solid force, of immovability, yet of the gentleness arising from the serene consciousness of his strength—all this belonged to Huxley and to him alone. The first glance magnetized his audience. The eyes were those of one accustomed to command, and of one having authority, and not fearing on occasion to use it. The hair swept carelessly away from the broad forehead and grew rather long behind, yet the length did not suggest as it often does, effeminacy. He was masculine in everything—look, gesture, speech. Sparing of gesture, sparing of emphasis, careless of merely rhetorical or oratorical art, he had nevertheless the secret of the highest art of all, whether in oratory or whatever else—he had simplicity. The force was in the thought and the diction, and he needed no other. The voice was rather deep, low, but quite audible, at times sonorous, and always

full. He used the chest-notes. His manner here, in the presence of this select and rather limited audience—for the theater of the Royal Institution holds, I think, less than a thousand people—was exactly the same as before a great company whom he addressed at Bristol, as President of the British Association for the Advancement of Science. I remember going late to that, and having to sit far back, yet hearing every word easily; and there, too, the feeling was the same, that he had mastered his audience, taken possession of them, and held them to the end in an unrelaxing grip, as a great actor at his best does. There was nothing of the actor about him, except that he knew how to stand still, but masterful he ever was.—GEORGE W. SMALLEY.

READERS' AND STUDENTS' NOTES

1. The account of Huxley's life, like that of Tyndall's, is to be sought for principally in biographical notices in periodicals and magazines. But of Huxley there is also a very interesting autobiography. In that curiously entertaining book of Mr. Louis Engel's, entitled "*From Handel to Hallé,*" a book for the most part made up of biographical accounts of musicians, there is a chapter contributed by Professor Huxley relating to himself. He has prefixed to it these characteristic words: "You put before me the alternative of issuing something that may be all wrong, unless I furnish you with something authoritative. I do not say 'all right,' because autobiographies are essentially works of fiction, whatever biographies may be. So I yield, and send you what follows, in the hope that those who find it to be mere egotistical gossip will blame you and not me." (New York: Scribner & Welford.)

2. In "*Scribner's Magazine*" for October, 1895, is a sketch of Huxley by Mr. G. W. Smalley. This sketch is certainly as interesting and instructive as to its subject as it is possible for a

short sketch to be. It takes up Mr. Huxley's personality and characteristics in many phases; and every phase is illustrated by personal reminiscences.

3. Other sketches of Huxley's personality and estimates of his work are to be found as follows: (1) in "*The Forum*" for September, 1895, by the well-known writer, Richard Holt Hutton; and (2) in "*The Fortnightly Review*" for August, 1895, by the Hon. G. C. Brodrick, Warden of Merton College, Oxford, Professor E. B. Tylor, the anthropologist, and W. L. Courtney, the editor of "*The Fortnightly Review.*"

4. A slight biographical sketch of Huxley, together with an extensive examination of Huxley's work as "a pioneer of evolution" (66 pages), is to be found in Edward Clodd's "*Pioneers of Evolution from Thales to Huxley,*" previously mentioned (New York: D. Appleton & Co. $1.50).

THE END