

Natural Theology being the subject for which this essay obtained a prize, some of its dogmas are shortly discussed. In answer to the statement that the hypothesis of a soul is objectionable "on the ground that it is not known to exist in nature, and cannot, therefore, be known to be capable of producing the effects ascribed to it," it is shown "that when the effects are such that they cannot be produced by any known cause, they must result from an unknown cause or causes capable of producing the effects ascribed to them." However, in an earlier part of the work it is remarked that Mr. Darwin has done injustice to his theory by comparing it to the undulatory theory of light, because the latter assumes the existence of an ether, which is an unknown agent. It is therefore to be inferred that the Darwinian hypothesis is on a better basis than that of the existence of a soul, from the perusal of an Actonian Prize essay!

*Light Science for Leisure Hours.* Second Series. Familiar Essays on Scientific Subjects, Natural Phenomena, &c., with a Sketch of the Life of Mary Somerville. By Richard A. Proctor, B.A. Camb., Honorary Secretary of the Royal Astronomical Society, author of "The Sun," "Other Worlds," "Saturn," "Essays on Astronomy," "The Orbs around Us," &c. (Longmans, 1873.)

THE essays in this volume have already appeared in various journals. Besides the life of Mrs. Somerville, the volume contains the following:—"The coming Transit of Venus, and British Preparations for observing it;" "The Ever-widening World of the Stars;" "Movements in the Star-depths;" "The great Nebula in Orion;" "The Sun's True Atmosphere;" "Something Wrong with the Sun;" an article occasioned by the intense heat of July last year; "News from Herschel's Planet;" "The two Comets of the Year 1868;" "Comets of Short Period;" "The Gulf Stream;" "Oceanic Circulation;" "Addendum in Reply to Dr. Carpenter;" "Climate of Great Britain;" "Low Barometer of the Antarctic Temperate Zone."

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

##### The Pay of Scientific Men

It is unfortunately too true, as stated in your last week's leading article, that whether the claims of men of Science in serving their country are generally acknowledged in the future must to a large extent depend upon the men of Science themselves. I say unfortunately because, as a general rule, such claims, at least as far as pecuniary rewards go, could not be left in worse hands. I know so well how utterly repugnant it is to the feelings of all true and earnest workers in Science even to speak of such matters, however much they may be compelled to feel them sometimes, that they will be the last to force public attention to the question. Though this may be a natural and honourable feeling as far as each individual is concerned, I cannot help thinking that it is one which for the sake of the Science they love, it is a duty to place, for the time at least, in abeyance.

Very much has been said and written of late about the "Endowment of Scientific Research." I, for one, hold what you would probably consider rather heretical views on the subject, believing that the "protesters" against the report of the Committee on the Organisation of Academical Study, as well as the writer of your recent articles on the subject, are rather running the risk of losing a very substantial and comparatively easily attainable method of reaching the end we all have in view, whilst so keenly pursuing a very shadowy ideal. I think that Scientific Research can be endowed *indirectly*, so effectually and at comparatively so little trouble in overcoming old prejudices, and all the various obstacles to radical changes of organisation which I need not specify, that this should be the first object of all

who have its promotion at heart. The far more difficult question of *direct* endowment will follow more appropriately and be carried out more efficiently when the body of educated scientific men in the country is larger than it is now, and the public generally, especially those in high places, have more appreciation of the claims of Science for its own sake.

The educated men of Science in this country are still but a handful; we want more, and there is but one way of obtaining them. Pay them better for their work, that it may be worth while for parents to allow their sons of promise to take up a scientific calling. What our Universities and to a certain extent our Government are now beginning to do to encourage scientific education, viz. offering prizes, scholarships, and even fellowships is a delusion and a snare, unless followed up by something more substantial.

There will never be wanting young minds ardent enough to commence the pursuit of Science for its own attractions, but it is positive cruelty to lure them on by bribes further in a path which will only lead them to the edge of a precipice or into a morass of hopeless difficulties. To be supported in a scientific pursuit when young, is of very doubtful advantage, if you are to find yourself landed in middle or old age, encompassed by all the stern realities of life and all the needs engendered by our complicated social system, with only the miserable and precarious pittance now accorded even to some of the most able veterans of Science. It is this which naturally and rightly discourages scientific research in this country; and it is this which could to a large extent be so easily remedied.

The urgent want is better paid appointments which can be held by men of high scientific attainments, more especially professorships at the Universities. I must confess that I am not one of those who think that a moderate amount of teaching work or even official duties of a scientific nature is any hindrance to a life of healthy and genuine advancement of Science by original research. On the contrary, they may be (if not overdone, as usually is the case in this country) rather an assistance; but that is a long question which I need not discuss on the present occasion.

As such appointments would probably only be given to those who had already shown evidence of their ability by their contributions to knowledge (and this will be more and more the case as the number of available candidates increases, and public opinion forms itself in such matters) the prospect of attaining one would be the greatest possible stimulus to scientific research in young men. Scholarships and Fellowships are valuable adjuncts to the training of such men, but nothing more. What I contend for is that if Science, as a profession, is to compete in its attraction with other callings, as law, medicine, the civil services, to say nothing of trade, we must provide far more liberally than at present for the endowment of the latter half of the lives of those that follow it. That a man should be able to grow wealthy by Science is not asked for, probably not to be desired. The advantages and pleasures of a life devoted to scientific pursuits are such that for myself (and probably most others would say the same) I would prefer them with a simple competency—by which I mean sufficient to join freely in intellectual society and to give one's children a good education—to the wealth of a millionaire acquired in any other way.

But in the present condition of things Science does not even do this, at least for the branches with which I am best acquainted. Some pursuits, such as chemistry, which bear more directly on the arts and commerce, stand on a different footing; but in biological Science I do not know of a position in the kingdom to which a man, however distinguished he may be in his subject, can aspire, in which he can live as I have described, unless aided by independent means.

To remedy this we want no new organisations; nothing, in fact, but the simplest and most intelligible change in the present