## Shackled Omnipotence.

MAN'S PLACE IN THE UNIVERSE. By Alfred Russel Wallace, F.R.S., &c. (Chapman and Hall. 12s. 6d. net.)

ONE can do no less than congratulate the octogenarian author of this laborious work upon the extraordinary mental and physical energy which must have gone to the production, within a few months, of a volume of 330 pages, on a highly abstruse subject practically new to the author, and demanding a great deal of research and the output of much thought. Hobbes was working hard when paralysis struck him down in his ninety-second year, and there are other instances, but there can scarcely be many parallels to the manner and circumstances of production of this book.

Readers of THE ACADEMY are familiar with Dr. Wallace's contention, to which the great weight of the author's name has made it necessary to devote two articles within recent months, but even Dr. Wallace himself appears scarcely to realise the overwhelming incredibility of his position. No allusion can be found in this book to the disproportion between the material universe and its object man-the latest of the ephermera-save in a single passage where the author seeks to explain the disproportion in space, by the analogy of the complex machinery necessary to produce a pin. As to the disproportion in time the author makes no reference. For what is it that he asks us to believe, and has written this most paralogistic of books in the attempt to prove? It is that, at some distant period—and Dr. Wallace makes much of its distance, as an argument in his favour-this universe was called into existence, by the will of a Creator, for a specific purpose, the production of man. Assuming the initial fact, we must agree with Dr. Wallace in assigning hundreds of millions of years to the age of the Universe. Then there arrived man. He has been here for a few hundreds of thousands of years. He has still a few-a very fewmillions of years to run. It is true that in one place Dr. Wallace speaks of him as "permanent," but elsewhere he repeatedly admits that there must come—and that comparatively soon—a period to man's existence. But he has apparently never asked himself, "What then?" We We have know that matter and energy are indestructible. every reason to believe that the Universe will exist for ever, and Dr. Wallace suggests no alternative. Yet he believes that the hundreds of millions of stars were called into existence aeons ago and will continue to exist for a quite indefinite period to come, in order that man might live upon the earth for a few millions of years-a fraction of a second in an eternity. Let him give us an analogy for this disproportion.

Take an instance of the pass to which our author is come in defence of his astounding thesis. Having proved, to his own satisfaction, that never before in the history of things, and never in time to come, nowhere in the solar system nor otherwhere, has been, is or will be anything comparable to man, he has, of course, to explain the existence of the stars. Now had I been attempting to prove his thesis, I should assuredly have suggested that the stars were created to produce in man a sense of the Creator's power, to aid in the development of his intellect and to cultivate in him the spirit of reverence and humility. Such an argument—of course it is not new—might, I think, have been at least defensible. But our author is reduced to estimating the exceedingly trivial amount of starlight that reaches us and to suggesting that there may be rays—as of course there may—that favourably influence living matter : all to lead up to his conclusion that—

in order to produce a world that should be precisely adapted in every detail for the orderly development of organic life culminating in man, such a vast and complex universe as that which we know exists around us may have been absolutely required.

We may let pass the curious inversion of biological truth which would have the world adapted to life, rather than life to its environment. In other words, the power that produced the Universe found it "absolutely required" to create some fifty thousand stars in the Pleiades, millions of stars and nebulae and other bodies elsewhere, and to wait for millions of years, in order to produce man. What a ludicrous conception of Omnipotence! The mind that had conceived man and that created the Universe out of nothing was absolutely compelled to do it thus! How does this compare with the ancient Jewish conception which declares that God desired something "and it was so"?

If, after thinking about it, one is prepared to accept this conception of the First Cause of the Universe, one may go on to consider the arguments by which Dr. Wallace seeks to prove his case. Such a statement as that gravitation would probably act irregularly near the confines of the Universe-assuming that there are confines-Dr. Wallace has had to drop, though he preserves it in another form. The fact that the sun and his satellites are in motion at the rate of about twelve miles a second, so that if we were in the centre of the Universe yesterday we are not so to-day, and so that in a few thousand years we should cross the entire Universe as conceived by Dr. Wallace, from boundary to boundary, was pointed out to him. Had he been aware of it, it is incredible that he should have omitted all mention of it in his original paper. His way out of the difficulty is now to assert that the sun is not at the centre, but is revolving around it. Anyone can assert anything. The existence of the dark nebulae was also pointed out to him, and it was shown that the presence of one of these accounted for a dark patch in the Milky Way through which he had supposed, in trying to prove the Universe finite, that we saw into empty space. Yet Dr. Wallace quotes and italicises the words of Sir John Herschel, who was not aware of this fact, to the effect that, in such places, one can see right through the Milky Way into emptiness. As far as I can discover there is only one casual reference to the existence of these dark nebulae. But nebulae are a weak point in Dr. Wallace's knowledge, for he asserts that more than ten thousand are now known, whereas the actual number, according to Sir Robert Ball, is at least a hundred and twenty thousand, and he rejects the nebular hypothesis, which he cannot square with his thesis, though it is now generally admitted that every proof which could be asked for in support of any belief we now possess in relation to the nebular hypothesis. In one place Dr. Wallace tells us that nebulae develop into systems-accepting the hypothesis-but elsewhere he rejects it and tells us that another theory (which has only one supporter of any note) is steadily gaining ground. I have marked nearly forty other important points on which to traverse the argument, but, after all, that has been done by professional astronomers C. W. SALEEBY. already.