

OTHER WORLDS AND OTHER UNIVERSES

RICHARD A. PROCTOR

“ If anyone shall gravely tell me that I have spent my time idly in a vain and fruitless inquiry after what I can never become sure of, the answer is that at this rate he would put down all natural philosophy, as far as it concerns itself in searching into the nature of such things. In such noble and sublime studies as these, ‘tis a glory to arrive at probability; and the search itself rewards the pains. But there are many degrees of probable, some nearer to the truth than others, in the determining of which lies the chief exercise of our judgment. And besides the nobleness and pleasure of the studies, may we not be so bold as to say that they are no small help to the advancement of wisdom and morality?”

— HUYGHENS, CONJECTURES CONCERNING THE PLANETARY WORLDS

The interest with which astronomy is studied by many who care little or nothing for other sciences is due chiefly to the thoughts which the celestial bodies suggest respecting life in other worlds than ours. There is no feeling more deeply seated in the human heart—not the belief in higher than human powers, not the hope of immortality, not even the fear of death—than the faith in realms of life where other conditions are experienced than those we are acquainted with here. It is not vulgar curiosity or idle fancy that suggests the possibilities of life in other worlds. It has been the conviction of the profoundest thinkers, of men of highest imagination. The mystery of the star-depths has had its charm for the mathematician as well as for the poet; for the exact observer as for the most fruitful theoriser; nay, for the man of business as for him whose life is passed in communing with nature.

If we analyse the interest with which the generality of men inquire into astronomical matters apparently not connected with the question of life in other worlds, we find in every case that it has been out of this question alone or chiefly that that interest has sprung. The great discoveries made during the last few years respecting the sun for example, might seem remote from the subject of life in other worlds. It is true that Sir William Herschel thought the sun might be the abode of living creatures; and Sir John Herschel even suggested the possibility that the vast streaks of light called the solar willow-leaves, objects varying

from two hundred to a thousand miles in length, might be living creatures whose intense lustre was the measure of their intense vitality.

But modern discoveries had rendered all such theories untenable. The sun is presented to us as a mighty furnace, in whose fires the most stubborn elements are not merely melted but vapourised. The material of the sun has been analysed, the motions and changes taking place on his surface examined, the laws of his being determined. How, it might be asked, is the question of life in other worlds involved in these researches? The faith of Sir David Brewster in the sun as the abode of life being dispelled, how could discoveries respecting

specting the sun would be regarded as so much dry detail were they not brought directly into relation with our earth and its wants, and therefore with the wants of the other earths which circle round the sun; but when thus dealt with they immediately excite attention and interest. I do not speak at random in asserting this, but describe the result of widely ranging observation. I have addressed hundreds of audiences in Great Britain and America on the subject of recent solar discoveries, and I have conversed with many hundreds of persons of various capacity and education, from men almost uncultured to men of the highest intellectual power; and my invariable experience has been that solar research derives

“THE GREAT DISCOVERIES
MADE DURING THE LAST FEW
YEARS RESPECTING THE SUN
FOR EXAMPLE, MIGHT SEEM
REMOTE FROM THE SUBJECT
OF LIFE IN OTHER WORLDS.”

the sun interest those who care about the subject of the plurality of worlds? The answer to these questions is easily found. The real interest which solar researchers have possessed for those who are not astronomers has resided in the evidence afforded respecting the sun’s position as the fire, light, and life of the system of worlds whereof our world is one. The mere facts discovered re-

its chief interest when viewed in relation to the sun’s position as the mighty ruler, the steadfast sustainer, the beneficent almoner of the system of worlds to which our earth belongs. It is the same with other astronomical subjects. Few care for the record of lunar observations, save in relation to the question whether the moon is or has been the abode of living creatures.

The movements of comets and meteors, and the discoveries recently made respecting their condition, have no interest except in relation to the position of these bodies in the economy of solar systems, or to the possible part which they may at one time have performed in building up worlds and suns. None save astronomers, and few only of these, care for researches into the star-depths, except in connection with the thought that every star is a sun and therefore probably the light and fire of a system of worlds like those which circle around our own sun.

It is singular how variously this question of life in other worlds has been viewed at various stages of astronomical progress. From the time of Pythagoras, who first, so far as is known, propounded the general theory of the plurality of worlds, down to our own time, when Brewster and Chalmers on the one hand, and Whewell on the other, have advocated rival theories probably to be both set aside for a theory at once intermediate to and more widely ranging in time and space than either, the aspect of the subject has constantly varied, as new lights have been thrown upon it from different directions. It may be interesting briefly to consider what has been thought in the past on this strangely attractive question, and then to indicate the view towards which modern discoveries seem manifestly to point—a view not likely to undergo other change than that resulting from clearer vision and closer approach. In other words, I shall endeavour to show that the theory to which we are now led by all the known facts is correct in general, though, as fresh knowledge is obtained, it may undergo modification in details. We now see

the subject from the right point of view, though as science progresses we may come to see it more clearly and definedly.

When men believed the earth to be a flat surface above which the heavens were arched as a tent or canopy, they were not likely to entertain the belief in other worlds than ours. During the earlier ages of mankind ideas such as these prevailed. The earth had been fashioned into its present form and

condition, the heavens had been spread over it, the sun, and moon, and stars had been set in the heavens for its use and adornment, and there was no thought of any other world.

But while this was the general belief, there was already a school of philosophy where another doctrine had been taught. Pythagoras had adopted the belief of Apollonius Pergaeus that the sun is the centre of the planetary paths, the earth



“Solar System Montage” courtesy of NASA

one among the planets—a belief inseparable from the doctrine of the plurality of worlds. Much argument has been advanced to show that this belief never was adopted before the time of Copernicus, and unquestionably it must be admitted that the theory was not presented in the clear and simple form to which we have become accustomed.

But it is not necessary to weigh the conflicting arguments for and against the opinion that Pythagoras and others regarded the earth as not the fixed centre of the universe. The certain fact that the doctrine of the plurality of worlds was entertained (I do not say adopted) by them, proves sufficiently that they cannot have believed the earth to be fixed and central. The idea of other worlds like our earth is manifestly inconsistent with the belief that the earth is the central body around which the whole universe revolves. ☺

“WHEN MEN BELIEVED THE EARTH TO BE A FLAT SURFACE ABOVE WHICH THE HEAVENS WERE ARCHED AS A TENT OR CANOPY, THEY WERE NOT LIKELY TO ENTERTAIN THE BELIEF IN OTHER WORLDS THAN OURS.”

