V. MR. A. R. WALLACE, F.R.S., ON THE RELATIONS BETWEEN SPIRITUALISM AND SCIENCE.

By R. M. N.

T is no longer possible to ignore the phenomena known collectively under the name of Spiritualism. Unwelcome as these facts may be to many of us, serious as are the conclusions to which they seem to lead, there is nothing to be gained—and possibly there may be much to be lost—by persisting in an attitude of blank sweeping denial. At all events let us know the worst. If the new revelations, as it seems to me,

> "Cast on all things surest, brightest, best, Doubt, insecurity, astonishment,"

we must still seek what basis, if any, is left for law and order. It is therefore that I took up with eagerness Mr. Wallace's paper ("Light") which I am about to examine. Surely, I thought, he, more than perhaps any living man, will be able to show a harmony between Science and Spiritualism.

My hopes have been but very partially fulfilled. To me Mr. Wallace seems to pass over the points which underlie the repugnance with which men of Science regard Spiritualism and its advocates. Mr. Wallace writes :--

"It is a common, but I believe a mistaken, notion, that the conclusions of Science are antagonistic to the alleged phenomena of modern Spiritualism. The majority of our teachers and students of Science are, no doubt, antagonistic, but their opinions and prejudices are not Science. Every discoverer who has promulgated new and startling truths, even in the domain of Physics, has been denounced or ignored by those who represented the Science of the day, as witness the long line of great teachers from Galileo in the dark ages to Boucher de Perthes in our own times. But the opponents of Spiritualism have the additional advantage of being able to brand the new belief as a degrading superstition, and to accuse those who accept its facts and its teachings of being the victims of delusion or imposture,— of being, in fact, either half-insane enthusiasts or credulous fools. Such denunciations, however, affect us little. The fact that Spiritualism has firmly established itself in our sceptical and materialistic age, that it has continuously grown and developed for nearly forty years, that by mere weight of evidence, and in spite of the most powerful prepossessions, it has compelled recognition by an everincreasing body of men in all classes of society, and has gained adherents in the highest ranks of science and philosophy, and finally that, despite abuse and misrepresentation, the folly of enthusiasts, and the knavery of impostors, it has rarely failed to convince those who have made a thorough and painstaking investigation, and has never lost a convert thus made; all this affords a conclusive answer to the objections so commonly urged against it. Let us, then, simply ignore the scorn and incredulity of those who really know nothing of the matter, and consider, briefly, what are the actual relations of Science and Spiritualism, and to what extent the latter supplements and illumines the former.

"Science may be defined as knowledge of the universe in which we live,-full and systematised knowledge leading to the discovery of laws and the comprehension of causes. The true student of Science neglects nothing and despises nothing that may widen and deepen his knowledge of Nature, and if he is wise as well as learned he will hesitate before he applies the term ' impossible ' to any facts which are widely believed and have been repeatedly observed by men as intelligent and honest as himself. Now, modern Spiritualism rests solely on the observation and comparison of facts in a domain of Nature which has been hitherto little explored, and it is a contradiction in terms to say that such an investigation is opposed to Science. Equally absurd is the allegation that some of the phenomena of Spiritualism ' contradict the laws of Nature,' since there is no law of Nature yet known to us but may be apparently contravened by the action of more recondite laws or forces. Spiritualists observe facts and record experiments, and then construct hypotheses which will best explain and co-ordinate the facts, and in so doing they are pursuing a truly scientific course. They have now collected an enormous body of observations tested and verified in every possible way, and they have determined many of the conditions necessary for the production of the phenomena. They have also arrived at certain general conclusions as to the causes of these phenomena, and they simply refuse to recognise the

competence of those who have no acquaintance whatever with the facts to determine the value or correctness of those conclusions."

I must now proceed to examine these contentions. That, like any utterances of Mr. A. R. Wallace, they merit a careful—and even a deferential—consideration it does not need to be urged.

The fundamental initial difficulty which Mr. Wallace, so far as I can see, does not attempt to remove is this :--Science is based upon what we, for want of a better name, term law. Spiritualism rests upon will. Science-and not merely our present science, but any possible science, so far as I can conceive it-takes its stand upon the causal nexus, upon the regular sequence of cause and effect. Iron always sinks in mercury, and always dissolves in hydrochloric acid; oils and fats, if heated to a sufficient temperature, always burn. No matter in what age, in what corner of the world, or in what climate the experiment is made the result comes out the same. Hence we are able to foretell phenomena. We know that under the same conditions the same results will follow. There are, of course, numbers of cases in which the causes and conditions of phenomena have not been traced out. Here prediction is impossible; but we were gradually going on solving these difficulties, and meantime the power of prevision was recognised as the great distinguishing mark between Science-i.e., organised knowledge -and mere desultory empirical knowledge.

Not only Science, but practical Art, all the doings of daily life, rest upon this same observed invariability. There is, in short, as we have always imagined, law and order in the universe.

Now will—finite will at least—is, I submit, the very antithesis of law. Where will—arbitrium—comes in, we have of necessity the arbitrary. The most of us, indeed ("humbugs" as we might be called for our pains by "advanced thinkers"), have all along recognised one infinite unvarying Will as the ultimate cause of all phenomena. But such Will, being unchangeable and entering at all times equally into all phenomena, occasioned no difficulty. Nor has it been possible to deny that the wills of men and the lower animals—I do not feel certain whether it is safe to add "and of plants also"—were capable of interfering to a limited extent and in certain directions with the order of Nature. But, according to what was considered established in the earlier half of the present century, men and animals could act upon anything outside themselves only where they were personally present, or where there was material physical connection between the agent and the object acted upon. The limits, too, of human or other animal power were supposed to be approximately known.

With the advent of Spiritualism all this beautiful simplicity has been swept away. If Spiritualists are not mistaken there are around us numbers of finite invisible beings, of unknown powers and of unknown intentions, capable of interfering with the order of Nature. They can raise bodies in the air against the force of gravitation. They can kindle fires at pleasure, or deprive fire of the power of destroying organised beings or of occasioning pain. They can hurl stones, break furniture to fragments, convey living persons from a distance, even through walls; they can kill human beings without any visible agency. To me it seems that if these contentions are true, if there exist beings around us capable of exerting such powers, there are introduced, so to speak, into every equation a number of unknown quantities, rendering it for ever insoluble. We can only say "such results will follow under such conditions, if no spirits think proper to interfere." It seems to me that before any harmony can be shown between Spiritualism and Science it must be ascertained what are the limits of the powers of these "spirits," and under what conditions can they be exerted? In that manner only can a basis for Science be saved. If no limits to interference exist, or if none can be traced, then yesterday's experience or observation is no guide for to-day or to-morrow. We are, in short, put to intellectual shame and confusion.

This question has its moral aspect. It will be remembered how Oersted congratulates the modern world on its deliverance from the bondage of the Middle Ages, from the everhaunting dread of the interference of spirits. He shows how unfavourable was the ethical influence of this system of belief, and how it repressed mental development. He was, it seems, premature : if the "mediums" of the present are merely the witches and sorcerers of the past, and if the "controls" are a modern form of familiar spirits, we are again returning to a "betooverte Wereld"—to a world dominated and overshadowed by the "supernatural." I submit, with all deference, that the refutation of Materialism and Agnosticism is too dear at such a price.

To harmonise Science with Spiritualism it will then be, in the first place, necessary to discover the limits of the power of spirits, under what conditions it is exerted, and how it may be combatted when and where it is undesirable.

The second difficulty is what is inaccurately called the "passage of matter through matter." What is meant is the passage of one solid through another solid without the permanent disintegration of either. Phenomena of this kind are described as happening from time to time at Spiritualist séances, the case of the iron ring round a man's wrist being the latest and best known. We fear that many persons who repeat this incident scarcely realise all that it involves. The temporary disintegration, either of a human hand or of an iron ring,-in the former case without loss of blood, without pain, or even consciousness,-followed by the replacement of every molecule as it was before, is a miracle probably surpassing anything recorded in ancient traditions. Had I seen it done I do not hesitate to say that I should have considered that I was suffering from madness, and that in this state I saw what had no objective existence.

We next come to a much more difficult point. It has always been considered that the creation or destruction of energy is, if possible at all, the prerogative of one only Being. But, unless I fail to understand Spiritualist teachings, the "spirits" seem to have the creation of energy in their power. Suppose that a heavy weight is raised up by human instrumentality : if men push it up from below or lift it from above, with the aid of screw-jacks, pulleys, or the like, the motive power is derived from the consumption of certain forms of matter in the bodies of the men who work the machinery, and these forms of matter are again traceable to the heat and light of the sun. Or, if a steamengine supplies the motive power, we find the source of such power stored up in the coal, and being again merely a result of the sun's action. We have been accustomed to say that no energy can be exerted except at the cost of the transformation of some kind of matter.

But what matter is transformed or converted, in order to yield the energy which is brought into play, when a "spirit" -i.e., an unextended being—raises a massive dining-table up to the ceiling or pulls away the chair from underneath a man? By what agency is the conversion effected? If the ordinary axiom still hold good, that action and reaction are equal and opposite, where is the fulcrum or the point from which the force is exerted? These are questions to which scientific men, "students or teachers," will naturally seek for precise answers before they can accept the Spiritualist theories. They will seek to know whe:her—and, if so, in what manner—the doctrine of the conservation of energy can be saved or not, and if not, what then? That this last question touches practice no less than theory does not need to be demonstrated. To establish a harmony between Spiritualism and Science it will be necessary, I submit, to show the origin of the energy which is at the disposal of spirits.

I do not see clearly whether or no Spiritualists claim the creation of matter as one of the prerogatives of spirits, and hence on this point I can say nothing.

The great fundamental law of Evolution is accepted by Mr. Wallace in the paper before me, and indeed nothing else could be supposed. Possibly—though I speak with great diffidence—the biologist may find fewer and slighter difficulties in accepting the teachings of Spiritualism than do the physicist and the chemist.

I have still to ask how the principle of continuity fares at the hands of Spiritualism? It seems to me that between man and spirits, of whatever grade, there is a gap not bridged over. The difficulty is greatest if we admit with the Occultists (?), and I believe with some of the Spiritualists, that there exist spirits inferior to man. Whether these are the disembodied spirits of some of the lower animals it does not appear, though I may remark that—both in "Light" and in the "Psychological Review"—I have met with cases of the reappearance of certain domestic animals. For the return of these beings to earth-life the evidence seems of the same kind as that in case of departed human beings.

Mr. Wallace continues :---

"We who have satisfied ourselves of the reality of the phenomena of modern Spiritualism, in all their widereaching extent and endless variety, are enabled to look upon the records of the past with new interest and fuller appreciation. It is surely something to be relieved from the necessity of classing Socrates and St. Augustine, Luther and Swedenborg, as the credulous victims of delusion or imposture. The so-called miracles and supernatural events which pervade the sacred books and historical records of all nations find their place among natural phenomena, and need no longer be laboriously explained away. The witchcraft mania of Europe and America affords the materials for an important study, since we are now able to detect the basis of fact on which it rested, and to separate from it the Satanic interpretation which invested it with horror, and appeared to justify the cruel punishments by which it was attempted to be suppressed. Local folk-lore and superstitions acquire a living interest, since they are often based on phenomena which we can reproduce under proper conditions, and the same may be said of much of the sorcery and magic of the Middle Ages. In these and many other ways history and anthropology are illuminated by Spiritualism.

"Science will equally benefit, since it will have opened to it a new domain of surpassing interest. Just as there is behind the visible world of Nature an 'unseen universe' of forces, the study of which continually opens up fresh worlds of knowledge often intimately connected with the true comprehension of the most familiar phenomena of Nature, so the world of mind will be illuminated by the new facts and principles which the study of Spiritualism makes known to us. Modern science utterly fails to realise the nature of mind or to account for its presence in the universe, except by the mere verbal and unthinkable dogma that it is 'the product of organisation.' Spiritualism, on the other hand, recognises in mind the cause of organisation, and perhaps even of matter itself, and it has added greatly to our knowledge of man's nature by demonstrating the existence of individual minds indistinguishable from those of human beings, yet separate from any human body. It has made us acquainted with forms of matter of which materialistic science has no cognisance, and with an ethereal chemistry whose transformations are far more marvellous than any of those with which Science deals. It thus gives us proof that there are possibilities of organised existence beyond those of the material world, and in so doing removes the greatest stumbling-block in the way of belief in a future state of existence-the possibility so often felt by the student of material science of separating the conscious mind from its partnership with the brain and nervous system.

"On the spiritual [Spiritualist] theory man consists essentially of a spiritual nature and mind intimately associated with a spiritual body or soul, both of which are developed in and by means of a material organism. Thus the whole raison d'être of the material universe—with all its marvellous changes and adaptations, the infinite complexity of matter and of the ethereal forces which pervade and vivify it, the vast wealth of Nature in the animal and vegetable kingdoms—is to serve the grand purpose of developing human spirits in human bodies."

This last passage calls for a few remarks. My estimate

of the visions of Swedenborg is founded on the fact that whilst he could furnish descriptions of planets known in his time, such as Jupiter or Saturn, he gives no hint of the existence of Uranus and Neptune, which were then unknown to astronomers. Had he done so his visions would have been completely freed from the stain of delusion or imposture.

Upon witchcraft Spiritualism has thrown a new and unexpected light. If it was, as was generally held in the first half of this century, a mere delusion, then the punishments by which it was suppressed were gratuitous atrocities; but if the witches had really the powers attributed to them in the fifteenth, sixteenth, and seventeenth centuries,—if they could really blight corn, afflict man and beast with disease, pestilence, and death, or if they served as "mediums" for malignant spirits,—then their extirpation was not merely a duty, but a necessity, though the painful task unfortunately was carried out with needless cruelty.