

certain competent men from whom an editor might be chosen, preference being given to Sir Charles (then Mr. Lyell, at whose advice Darwin began to write out his views on a scale three or four times as extensive as that in which they appeared in the *Origin of Species*. Their publication in an abstract form was hastened by the receipt, in June, 1858, of a paper, containing "exactly the same theory," from Mr. Alfred Russel Wallace at Ternate in the Moluccas. This reference to that distinguished explorer, will, before the story of the coincident discovery is further told, fitly introduce a sketch of his career.

ALFRED RUSSEL WALLACE was born at Usk, in Monmouthshire, on the 8th of January, 1823. He was educated at Hereford Grammar School, and in his fourteenth year began the study of land-surveying and architecture under an elder brother. Quick-witted and observing, he studied a great deal more on his own account in his journeyings over England and Wales, the results of which abide in the wide range of subjects—scientific, political, and social—engaging his active pen from early manhood to the present day.

About 1844 he exchanged the theodolite for the ferule, and became English master in the Collegiate School at Leicester, in which town he found a congenial friend in the person of his future fellow-traveller, Henry Walter Bates. Bates was then employed in his father's hosiery warehouse, from which he

escaped, as often as the long working hours then prevailing allowed, into the fields with his collecting-box. Both schoolmaster and shopman were ardent naturalists, Mr. Wallace, as he tells us, being at that time "chiefly interested in botany," but he afterward took up his friend's favourite pursuit of entomology. The writer, when preparing his memoir of Bates (which prefaces a reprint of the first edition of the delightful *Naturalist on the Amazons*), learned from Mr. Wallace that in early life he did not keep letters from Bates and other correspondents. But, fortunately, among Bates's papers, there was a bundle of interesting letters from Wallace written between June, 1845, and October, 1847, from Neath, in South Wales, to which town he had removed. In one of these, dated the 9th of November, 1845, Wallace asks Bates if he had read the *Vestiges of the Natural History of Creation*, and a subsequent letter indicates that Bates had not formed a favourable opinion of the book. A later letter is interesting as conveying an estimate of Darwin. "I first," Wallace says, "read Darwin's *Journal* three or four years back, and have lately re-read it. As the journal of a scientific traveller, it is second only to Humboldt's *Personal Narrative*; as a work of general interest, perhaps superior to it. He is an ardent admirer and most able supporter of Mr. Lyell's views. His style of writing I very much admire, so free from all labour, affectation, or egotism, yet so full of interest and original thought."

But, of still greater moment, is a letter in which Wallace tells Bates that he begins "to feel dissatisfied with a mere local collection. I should like to take some one family to study thoroughly, principally with a view to the theory of the origin of species." The two friends had often discussed schemes for going abroad to explore some virgin region, nor could their scanty means prevent the fulfilment of a scheme which has enriched both science and the literature of travel. The choice of country to explore was settled by Wallace's perusal of a little book entitled *A Voyage up the River Amazons, including a Residence in Pará*, by W. H. Edwards, an American tourist, published in Murray's Family Library, in 1847. In the autumn of that year Wallace proposed a joint expedition to the river Amazons for the purpose of exploring the Natural History of its banks; the plan being to make a collection of objects, dispose of the duplicates in London to pay expenses, and gather facts, as Mr. Wallace expressed it in one of his letters, "towards solving the problem of the origin of species."

The choice was a happy one, for, except by the German zoologist Von Spix, and the botanist Von Martius in 1817-20, and subsequently by Count de Castelnau, no exploration of a region so rich and interesting to the biologist had been attempted. Early in 1848 Bates and Wallace met in London to study South American animals and plants in the

principal collections, and afterward went to Chatsworth to gain information about orchids, which they proposed to collect in the moist tropical forests and send home.

On 26th of April, 1848, they embarked at Liverpool in a barque of only 192 tons burden, one of the few ships then trading to Pará, to which seaport of the Amazons region a swift passage, "straight as an arrow," brought them on 28th of May.

The travellers soon settled in a *rocinha*, or country-house, a mile and half from Pará, and close to the forest, which came down to their doors. Like other towns along the Amazons, Pará stands on ground cleared from the forest that stretches, a well-nigh pathless jungle of luxuriant primeval vegetation, two thousand miles inland. In that paradise of the naturalist, the collectors gathered consignments which met with ready sale in London, and thus spent a couple of years in pursuits moderately remunerative and wholly pleasurable, till, on reaching Barra, at the mouth of the Rio Negro, one thousand miles from Pará, in March, 1850, Bates and Wallace, who was accompanied by his younger brother, parted company, "finding it more convenient to explore separate districts and collect independently." Wallace took the northern parts and tributaries of the Amazons, and Bates kept to the main stream, which, from the direction it seems to take at the fork of the Rio Negro, is called the Upper Amazons or the Solimoens. Different in character

and climatic conditions from the Lower Amazons, it flows through a " vast plain about a thousand miles in length, and five hundred or six hundred miles in breadth covered with one uniform, lofty, impervious, and humid forest." Bates stayed in the country till June, 1859, but Wallace left in 1852, and in the following year published an account of his journey under the title of *Travels on the Amazon and Rio Negro*. That book was written under the serious disadvantage of the destruction of the greater part of the notes and specimens by the burning of the ship in which Mr. Wallace took passage on his homeward voyage. That it remains one of the select company of works of travel for which demand is continuous is evidenced in a reprint which appeared in 1891. If it affords few hints of the author's bent of mind toward the question of the origin of species, it shows what interest was being aroused within him over the allied subject of the geographical distribution of plants and animals which Mr. Wallace was to make so markedly his own.

In 1854 he sailed for the Malay Archipelago, where nearly eight years were spent in exploring the region from Sumatra to New Guinea. The large and varied outcome of that labour was embodied in numerous papers communicated to learned societies and scientific journals, and in a series of delightful books from *The Malay Archipelago*, first published in 1869, to *Island Life*, published in 1880. Among the minor results of his extensive travels—for all

else that Wallace did pales before the great discovery which links his name with Darwin's—was the establishment of a line, known as "Wallace's," which divides the Malay Archipelago into two main groups, "Indo-Malaysia and Austro-Malaysia, marked by distinct species and groups of animals." That line runs through a deep channel separating the islands of Bali and Lombok; the plants and animals on which, although but fifteen miles of water separate them, differ from each other even more than do the islands of Great Britain and Japan. "A similar line, but somewhat farther east, divides on the whole the Malay from the Papuan races of man."

Among the more fugitive contributions which mark Mr. Wallace's approach to a solution of the problem in quest of which he and Bates went to the Amazons is a paper *On the Law which has Regulated the Introduction of New Species*, published in the *Annals and Magazine of Natural History*, 1855. In this he shows that some form of evolution of one species from another is needed to explain the geological and geographical facts of which examples are given.

In the interesting preface to the reprint of the famous paper *On the Tendencies of Varieties to depart Indefinitely from the Original Type*, Mr. Wallace recites the several researches which he made in quest of that "form" till, when lying ill with fever at Ternate, in February, 1858, something led him to think of the "positive checks" described by Malthus

in his *Essay on Population*, a book which he had read some years before. Oddly enough, therefore, the honours lie with the maligned Haileybury Reverend Professor of Political Economy in furnishing both Darwin and Wallace with the clue. The "positive checks"—war, disease, famine—Wallace felt must act even more effectively on the lower animals than on man, because of their more rapid rate of multiplication. And he tells us, in the prefatory note to a reprint of his paper, "there suddenly flashed on me the *idea* of the survival of the fittest, and in the two hours that elapsed before my ague fit was over I had thought out the whole of the theory, and in the two succeeding evenings wrote it out in full and sent it by the next post to Mr. Darwin," asking him, if he thought well of the essay, to send it to Lyell. This Darwin did with the following remarks: "Your words have come true with a vengeance—that I should be forestalled. . . . I never saw a more striking coincidence; if Wallace had my MS. sketch written out in 1842, he could not have made a better short abstract! Even his terms now stand as heads of my chapters. Please return me the MS., which he does not say he wishes me to publish; but I shall, of course, at once write and offer to send to any journal. So all my originality, whatever it may amount to, will be smashed, though my book, if it will ever have any value, will not be deteriorated, as all the labour consists in the application of the theory." Darwin came out well in this business.

For to have hit upon a theory which interprets so large a question as the origin and causes of modification of life-forms; to keep on turning it over and over again in the mind for twenty long years; to spend the working hours of every day in collection and verification of facts for and against it; and then to have another man launching a "bolt from the blue" in the shape of a paper with exactly the same theory, might well disturb even a philosopher of Darwin's serenity.

However, both Hooker and Lyell had read his sketch a dozen years before, and it was arranged by them, not as considering claims of priority, which have too often been occasion of unworthy wrangling, but in the "interests of science generally," that an abstract of Darwin's manuscript should be read with Wallace's paper at a meeting of the Linnæan Society on the 1st of July, 1858. The full title of the joint communication was *On the Tendency of Species to form Varieties, and on the Perpetuation of Varieties and Species by Natural Selection*. Sir Joseph Hooker, describing the gathering, says that "the interest excited was intense, but the subject was too novel and too ominous for the old school to enter the lists before armouring. After the meeting it was talked over with bated breath. Lyell's approval, and perhaps, in a small way mine, as his lieutenant in the affair, rather overawed the Fellows, who would otherwise have flown out against the doctrine. We had, too, the vantage ground of being familiar with

the authors and their theme." Nothing can deprive Mr. Wallace of the honour due to him as the co-originator of the theory, which, regarded in its application to the origin, history, and destiny of man, involves the most momentous changes in belief, and there may be fitly quoted here his own modest and, doubtless, correct, assessment of limitations which in no wise invalidate his high claims. In the Preface to his Contributions to the Theory of Natural Selection (1870), Mr. Wallace says the book will prove that he both saw at the time the value and scope of the law which he had discovered, and has since been able to apply to some purpose in a few original lines of investigation. "But," he adds, "here my claims cease. I have felt all my life, and I still feel, the most sincere satisfaction that Mr. Darwin had been at work long before me, and that it was not left for me to attempt to write the Origin of Species. I have long since measured my own strength, and know full well that it would be quite unequal to that task. Far abler men than myself may confess that they have not that untiring patience in accumulating, and that wonderful skill in using, large masses of facts of the most varied kind—that wide and accurate physiological knowledge—that acuteness in devising and skill in carrying out experiments, and that admirable style of composition at once clear, persuasive, and judicial—qualities which, in their harmonious combination, mark out Mr. Darwin as the man, perhaps of all men now living, best fitted

for the great work he has undertaken and accomplished."

In a letter to Wallace dated 20th April, 1870, Darwin says, "There has never been passed on me, or, indeed, on any one, a higher eulogium than yours. I wish that I fully deserved it. Your modesty and candour are very far from new to me. I hope it is a satisfaction to you to reflect—and very few things in my life have been more satisfactory to me—that we have never felt any jealousy towards each other, though in one sense rivals. I believe I can say this of myself with truth, and I am absolutely sure it is true of you."

But on one question, and that round which discussion still rages, the friends were poles asunder. There had been correspondence between them as to the bearing of the theory of natural selection on man, and in April, 1869, Darwin wrote, "As you expected, I differ grievously from you, and I am very sorry for it. I can see no necessity for calling in an additional and proximate cause in regard to man." In the fifteenth chapter of his comprehensive book on Darwinism, Wallace admits the action of natural selection in man's physical structure. This structure classes him among the vertebrates; the mode of human suckling classes him among the mammals; his blood, his muscles, and his nerves, the structure of his heart with its veins and arteries, his lungs and his whole respiratory and circulatory

systems, all closely correspond to those of other mammals, and are often almost identical with them. He possesses the same number of limbs, terminating in the same number of digits, as belong fundamentally to the mammals. His senses are identical with theirs, and his organs of sense are the same in number and occupy the same relative position. Every detail of structure which is common to the mammalia as a class is found also in man, while he differs from them only in such ways and degrees as the various species or groups of mammals differ from each other. He is, like them, begotten by sexual conjugation; like them, developed from a fertilized egg, and in his embryonic condition passes through stages recapitulating the variety of enormously remote ancestors of whom he is the perfected descendant. Full-grown, he appears as most nearly allied to the anthropoid or man-like apes; so much does his skeleton resemble theirs that, comparing him with the chimpanzee, we find, with very few exceptions, bone for bone, differing only in size, arrangement, and proportion.

Mr. Wallace, therefore, rejected the idea of man's special creation "as being entirely unsupported by facts, as well as in the highest degree improbable." *But he would not allow that natural selection explains the origin of man's spiritual and intellectual nature.* These, he argues, "must have had another origin, and for this origin we can only find an adequate cause in the unseen universe of Spirit." More de-

tailed treatment of this argument will be given further on; here reference is made to it as furnishing the explanation why Mr. Wallace kept not his "first estate," and dropped out of the ranks of Pioneers of Evolution. Many subjects, as hinted above, have occupied his facile pen—land nationalization, causes of depression in trade, labourers' allotments, vaccination, *et hoc genus omne*; showing, at least, the prominence which all social matters occupy in the minds of the leading exponents of the theory of Evolution. For of this, as will be seen, both Herbert Spencer and Huxley supply cogent examples in their application of that theory to human interests. But it is as a defender, although on lines of his own not wholly orthodox, of supernaturalism, with attendant beliefs in miracles and the grosser forms of spiritualism, that Mr. Wallace appears in the character of opponent to the inclusion of man's psychical nature as a product of Evolution.

The arresting influence of these views when backed by honest, sincere, and eminent men of the type of Mr. Wallace, and when also supported by several prominent men of science, renders it desirable to show that modern psychism is but savage animism "writ large," and wholly explicable on the theory of continuity. In his book on Miracles and Modern Spiritualism, of which a revised edition, with chapters on Apparitions and Phantasms, was issued in 1895, Mr. Wallace contends that "Spiritualism, if true, furnishes such proofs of the existence of ethereal

beings and of their power to act upon matter, as must revolutionise philosophy. It demonstrates the actuality of forms of matter and modes of being before inconceivable; it demonstrates mind without brain, and intelligence disconnected from what we know as the material body; and it thus cuts away all presumption against our continued existence after the physical body is disorganised and dissolved. Yet more, it demonstrates, as completely as the fact can be demonstrated, that the so-called dead are still alive; that our friends are still with us, though unseen, and guide and strengthen us when, owing to absence of proper conditions, they cannot make their presence known. It thus furnishes a *proof* of a future life which so many crave, and for want of which so many live and die in anxious doubt, so many in positive disbelief. It substitutes a definite, real, and practical conviction for a vague, theoretical, and unsatisfying faith. It furnishes actual knowledge on a matter of vital importance to all men, and as to which the wisest men and most advanced thinkers have held, and still hold, that no knowledge was attainable."

This claim, this tremendous claim, on behalf of the phenomena of spiritualism to supply an answer to "the question of questions; the ascertainment of man's relation to the universe of things; whence our race has come; to what goal we are tending," rests on the assumption with which Mr. Wallace starts, "Spiritualism, *if true.*"

The essay from which the above passages are quoted is preceded by references in detail to a considerable number of cases of "the appearance of preterhuman or spiritual beings," the evidence of which "is as good and definite as it is possible for any evidence of any fact to be." These ghost-stories, contrasted with the full-flavoured eerie tales of old, are feebly monotonous. The apparatus of the medium is limited: the phenomena are largely of the "horse-play" order. Through the whole series we vainly seek for some ennobling and exalting conception of a life beyond, some glimpses "behind the veil," only to find that the shades are but diluted or vulgarized parodies of ourselves; or that "the filthy are filthy still," like the departed bargee whose "communicating intelligence" (we quote from a recent book on spiritualism entitled *The Great Secret*) was as coarse-mouthed as when in the flesh. In considering, if it be deemed worth while, the evidence of genuineness of the occurrences, we are thrown, not on the honesty, but on the competency of the witnesses. The most eminent among these show themselves persons of undisciplined emotions. The distinguished physicist, Professor Oliver Lodge, who has been described to the writer by an intimate friend of the Professor as "longing to believe something," argues that in dealing with psychical phenomena, a hazy, muzzy state of mind is better than a mind "keenly awake" and "on the spot" (see *Address to the Society for Psychical Research, Pro-*

ceedings, part xxvi, pp. 14, 15). With this may be compared a Mohammedan receipt for summoning spirits given in Klunzinger's Upper Egypt (p. 386): "Fast seven days in a lonely place, and take incense with you. Read a chapter 1001 times from the Koran. That is the secret, and you will see indescribable wonders; drums will be beaten beside you, and flags hoisted over your head, and you will see spirits." Thus have the dreamy Oriental Moslem and the self-hypnotized Western professor met together to elicit truth from trance.

Concerning the competence of Mr. Wallace himself to weigh, unbiassed, the evidence which comes before him, it suffices to cite the case of Eusapia Paladino, a Neapolitan "medium," who, in the words of one of her most ardent dupes, became "the unexpected instrument of driving conviction as to the reality of psychical manifestations by the invisible into the minds of many scientists." A number of distinguished savants testified to the genuineness of the woman's performances in Professor Richet's cottage on the Ile Roubant in the autumn of 1893. It was the serious and complete conviction of all of them (Lodge, Richet, Ochorowicz, and others) that "on no single occasion during the occurrence of an event recorded by them was a hand of Eusapia's free to execute any trick whatever." Mr. Maskelyne, such testimony notwithstanding, declared that the whole business was "the sorriest of trickeries," and, to the credit of the Society for Psychical Research, it under-

took the expense of bringing Eusapia to England for the purpose of testing the genuineness of her doings. She was taken to a house in Cambridge, and detected as a vulgar impostor. Yet Mr. Wallace, in the new edition of his *Miracles and Modern Spiritualism*, describes all the phenomena occurring at Professor Richet's house as "not explicable as the result of any known physical causes," and, in a subsequent explanatory letter to the *Daily Chronicle* of 24th of January, 1896, expresses the opinion that "the Cambridge experiments, so far as they are recorded, only prove that Eusapia *might* have deceived, not that she actually and *consciously* did so." The integrity of Mr. Wallace is not to be doubted, but what becomes of his competence to judge when prejudice blinds itself to facts? Spiritualism, *if true*, demonstrates this and that about the unseen; but spiritualism, *proved to be untrue*, lacks half the dexterity of an astute conjurer, and the whole of his honesty. Every scientific man recognises the doctrine of the Conservation of Energy as a fundamental canon. But with those who regard the phenomena of Spiritualism as "not explicable" except by supernatural causes, it would seem that that doctrine, as also the not unimportant conditions of Time and Space, count for nothing. When we read their reports of the behaviour of mediums who project (of course, in the dark) "abnormal temporary prolongations" like pseudopodia, we should feel alike depressed and confounded were there not abundant

proofs what wholly untrustworthy observers scientific specialists can be outside their own domain. As the writer has remarked elsewhere, minds of this type must be built in water-tight compartments. They show how, even in the higher culture, the force of a dominant idea may suspend or narcotize the reason and judgment, and contribute to the rise and spread of another of the epidemic delusions of which history supplies warning examples.

They also show that man's senses have been his arch-deceivers, and his preconceptions their abettors, throughout human history; that advance has been possible only as he has escaped through the discipline of the intellect from the illusive impressions about phenomena which the senses convey. Upon this matter the words of the late Dr. Carpenter may be quoted, words the more weighty because they are the utterance of a man whose philosophy was influenced by deep religious convictions: "With every disposition to accept facts when I could once clearly satisfy myself that they were facts, I have had to come to the conclusion that whenever I have been permitted to employ such tests as I should employ in any scientific investigation, there was either intentional deception on the part of interested persons, or else self-deception on the part of persons who were very sober-minded and rational upon all ordinary affairs of life." He adds further: "It has been my business lately to inquire into the mental condition of some of the individuals who have reported the

most remarkable occurrences. I cannot—it would not be fair—say all I could with regard to that mental condition; but I can only say this, that it all fits in perfectly well with the result of my previous studies upon the subject, viz., that there is nothing too strange to be believed by those who have once surrendered their judgment to the extent of accepting as credible things which common sense tells us are entirely incredible.”

The fact abides that the great mass of supernatural beliefs which have persisted from the lower culture till now, and which are still held by an overwhelming majority of civilized mankind, are referable to causes concomitant with man's mental development: causes operative throughout his history. The low intellectual environment of his barbaric past was constant for thousands of years, and his adaptation thereto was complete. The intrusion of the scientific method in its application to man disturbed that equilibrium. But this, as yet, only superficially. Like the foraminifera that persist in the ocean depths, the great majority of mankind have remained, but slightly, if at all, modified; thus illustrating the truth of the doctrine of evolution in their psychical history. (For that doctrine does not imply all-round continuous advance. “Let us never forget,” Mr. Spencer says in *Social Statics*, “that the law is—adaptation to circumstances, be they what they may.”) Therefore the superstitions that still dominate the life of man, even in so-called civilized

centres, are no stumbling-blocks to us. They are supports along the path of inquiry, because we account for their persistence. Thought and feeling have a common base, because man is a unit, not a duality. But the exercise of the one has been active from the beginnings of his history—indeed we know not at what point backward we can classify it as human or quasi-human—while the other, speaking comparatively, has but recently been called into play. So far as its influence on the modern world goes, may we not say that it began at least in the domain of scientific naturalism with the Ionian philosophers? Emotionally, we are hundreds of thousands of years old; rationally, we are embryos.

In other words, man wondered countless ages before he reasoned; because feeling travels along the line of least resistance, while thought, or the challenge by inquiry—therefore the assumption that there may be two sides to a question—must pursue a path obstructed by the dominance of custom, the force of imitation, and the strength of prejudice and fear. It is here that anthropology, notably that psychical branch of it comprehended under folk-lore, takes up the cue from the momentous doctrine of heredity; explains the persistence of the primitive; and the causes of man's tardy escape from the illusions of the senses, and the general conservatism of human nature. "Born into life! in vain, Opinions, those or these, unalter'd to retain the obstinate mind decrees," as in the striking illustration cited in

Heine's Travel-Pictures. "A few years ago Bullock dug up an ancient stone idol in Mexico, and the next day he found that it had been crowned during the night with flowers. And yet the Spaniard had exterminated the old Mexican religion with fire and sword, and for three centuries had been engaged in ploughing and harrowing their minds and implanting the seed of Christianity." The causes of error and delusion, and of the spiritual nightmares of olden time, being made clear, there is begotten a generous sympathy with that which empirical notions of human nature attributed to wilfulness or to man's fall from a high estate. Superstitions which are the outcome of ignorance can only awaken pity. Where the corrective of knowledge is absent, we see that it could not be otherwise. Where that corrective is present, but either perverted or not exercised, pity is supplanted by blame. In either case, we learn that the art of life largely consists in that control of the emotions and that diversion of them into wholesome channels, which the intellect, braced with the latest knowledge, can alone effect.

Therefore, discarding theories of revelation, spiritual illumination, and other assumed supra-mundane sources of knowledge, sufficing causes of abnormal mental phenomena are found in abnormal working of the mental apparatus. The investigation of hallucinations (Lat. *alucinor*, to wander in mind) leaves no doubt that they are the effect of a morbid condition of that intricate, delicately poised

structure, the nervous system, under which objects are seen and sensations felt when no corresponding impression has been made through the medium of the senses. When the nervous system is out of gear, voices, whether divine or of the dead, may be heard; and actual figures may be seen. A mental image becomes a visual image; an imagined pain a real pain, as the great physiologist, John Hunter, testified when he said, "I am confident that I can fix my attention to any part until I have a sensation in that part." Shakespere portrays the like condition when Macbeth attempts to clutch the dagger wherewith to stab Duncan:

There's no such thing ;
It is the bloody business which informs
Thus to mine eyes.

This abnormal state, which sees things having no existence outside the "mind's eye," is no respecter of persons; the savage and the civilized are alike its victims. It may be organic or functional. Organic, when disease is present; functional, through excessive fatigue, lack of food or sleep, or derangement of the digestive system, causing the patient, as Hood says, "to think he's pious when he's only bilious." Under such conditions, hallucinations of all sorts possess the mind; hallucinations from which the true peptic, who, as Carlyle says, "has no system," is delivered. Only the mentally anæmic, the emotionally overwrought, the unbalanced, and the epileptic, are the victims, whether of the lofty illu-

sions of august visions such as carried Saint Paul, Saint Theresa, and Joan of Arc, into the presence of the holiest; or hallucination of drowned cat, thin and "dripping with water," born of the disordered nerves of Mrs. Gordon Jones. To quote from Dr. Gower's Bowman Lecture (Nature, 4th July, 1895) on Subjective Visual Sensations, such as accompany fits, when, e. g., sensations of sight occur without the retina being stimulated:

The spectra perceived before epileptic fits vary widely. They may be stars or sparks, spherical luminous bodies, or mere flashes of light, white or coloured, still or in movement. Often they are more elaborate, distinct visions of faces, persons, objects, places. They may be combined with sensations from the other special senses, as with hearing and smell. In one case a warning, constant for years, began with thumping in the chest ascending to the head, where it became a beating sound. Then two lights appeared, advancing nearer with a pulsating motion. Suddenly these disappeared and were replaced by the figure of an old woman in a red cloak, always the same, who offered the patient something that had the smell of Tonquin beans, and then he lost consciousness. Such warnings may be called psychovisual sensations. The psychological element may be very strong, as in one woman whose fits were preceded by a sudden distinct vision of London in ruins, the river Thames emptied to receive the rubbish, and she the only survivor of the inhabitants.

Had a man of lesser renown and mental calibre than Mr. Wallace thrown the weight of his testimony into the scales in favour of spiritualism, there would have been neither necessity nor excuse for this digression. But both these pleas prevail when we find the co-formulator of the Darwinian theory

among mediums and their dupes. The respectful attention which his words command: the tremendous claims which he makes on behalf of the phenomena at *séances* as proving the existence of soul apart from body after death, and as revealing the conditions under which it lives, have made incumbent the foregoing attempt to indicate what other explanation is given of those phenomena, showing how these fall in with all we know of man's tendencies to imperfect observation and self-deception, and with all that history tells of the persistence of animistic ideas.

A salutary lesson on the use and misuse of the imagination is thus taught. That which, under wholesome restraint, is the initiative and incentive of inquiry, of enterprise, and of noble ideas; unrestricted, leads the dreamer and the enthusiast into ingulfing quicksands of illusions and delusions. Hence the necessity of curbing a faculty so that in unison with reason, it works toward definite ends within the domain, marking man's limits of service. As Dr. Maudsley reminds us in his sane and sober book on *Natural Causes and Supernatural Seeming*, "not by standing out of Nature in the ecstasy of a rapt and over-strained idealism of any sort, but by large and close and faithful converse with Nature and human nature in all their moods, aspects, and relations, is the solid basis of fruitful ideas and the soundest mental development laid. The endeavour to stimulate and strain any mental function to an

activity beyond the reach and need of a physical correlate in external nature, and to give it an independent value, is certainly an endeavour to go directly contrary to the sober and salutary method by which solid human development has taken place in the past, and is taking place in the present."