

The problems of "psychic research".

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was incorrect, although, on the other hand, by the most delicate micrometric measurements Struve has been unable to detect any change in an interval of thirty years of this century.

We may call to mind that Maxwell showed that a spreading of the rings both outward and inward was a theoretical result of the inevitable impacts between the constituent meteorites, which he used to describe as a shower of brickbats. Thus, whether or not the immense changes suspected since 1659 are true, it remains almost certain that changes of this kind are in progress.

I venture, then, to hazard a few words of speculation as to the future of the rings. The outward spreading will in time carry many meteorites beyond Roche's limit; here there will no longer be an obstacle to aggregation into a celestial body, such

aggregation will probably ensue, and a ninth satellite will be formed. The inward spreading will in time carry the meteorites to the limits of Saturn's atmosphere, where, heated by friction as they rush through the air, they will disintegrate and fall on to the planet as dust. After a time, of which no estimate can be formed, the ring will have vanished, leaving the ninth satellite as its descendant. But it must be admitted that all this is highly speculative, and we can only hope that further investigations will give us firmer grounds for a forecast.

It has only been possible to touch briefly on these vast fields for inquiry, but enough has been said to show how much we have yet to learn, and I trust that I may have enabled my readers to realize to some extent the mystery and charm of Saturn's rings.

THE PROBLEMS OF "PSYCHIC RESEARCH."

BY JOSEPH JASTROW, PH D.

"I have no other 'theory' to support than that of the constancy of the well-ascertained laws of nature; and my contention is that where apparent departures from them take place through human instrumentality we are justified in assuming in the first instance either *fraudulent* deception, or unintentional *self-deception*, or both combined, until the absence of either shall have been proved by every conceivable test that the sagacity of sceptical experts can devise."—*William B. Carpenter.*

AN interesting commentary to the history of civilization can be read in the records of the strivings and pretensions of that ever-present body of enthusiasts who by occult and ambitious flights aim to short-circuit the route to knowledge and immortality. The advance of science by slow and careful steps naturally seems tame and tedious to these illuminati, loudly proclaiming the success of their wonderful discoveries, and at times succeeding by their din in momentarily drowning the still small voice of truth. When this occurs the historian adds another page to the record of error, already replete with the horrors of witchcraft, the follies of alchemists, astrologers, and their kind, the wide-spread misery of psychic epidemics, and the bestial self-tortures of crazed ascetics. Such deviations from the normal progress of knowledge appear to the evolutionist as reversions to a more rudimentary state of thought. The savage, like the child, constantly meets with the unexpected; every experience lying the least outside his narrow domain strikes him with a shock, and often fills him with

fear—the handmaid of ignorance. Nature is pictured as a fearful monster, and the world peopled with tyrannical beings. Step by step the region of the known expands, and suggests the nature of the unknown; men expect, they foresee, they predict. The apparent chaos of mutually inimical forces gives way to the profound harmony of unifying law. So gradual is this development of rational expectancy that one seems justified in reserving its full realization for the expert man of science. "The received spiritualistic theory," says Mr. Tylor, "belongs to the philosophy of savages. . . . Suppose a wild North American Indian looking on at a spirit séance in London. As to the presence of disembodied spirits, manifesting themselves by raps, noises, voices, and other physical actions, the savage would be perfectly at home in the proceedings; for such things are part and parcel of his recognized system of Nature." Until the participation by intelligent persons in such proceedings and in the beliefs which such an adherence implies shall be looked upon as we now look upon

they may move through each other irregularly. In the first case the destruction of the system will be very slow; in the second case it will be more rapid, but there may be a tendency toward an arrangement in narrow rings, which may retard the process.

"We are not able to ascertain by observation the constitution of the two outer divisions of the system of rings, but the inner ring is certainly transparent, for the limb (*i. e.*, edge) of Saturn has been observed through it. It is also certain that though the space occupied by the ring is transparent, it is not through the material particles of it that Saturn was seen, for his limb was observed without distortion, which shows that there was no refraction, and therefore that the rays did not pass through a medium at all, but between the solid or liquid particles of which the ring is composed. Here, then, we have an optical argument in favor of the theory of independent particles as the material of the rings. The two outer rings may be of the same nature, but not so exceedingly rare that a ray of light can pass through their whole thickness without encountering one of the particles."

It has thus been shown by several lines of investigation that Saturn's rings consist of independent meteorites, moving, each in its orbit, about the planet, and this conclusion may be safely accepted as correct. But every field of thought is now seething with the evolutionary ferment, and as we cannot rest satisfied with any conclusion as a finality, we here merely find ourselves at the starting-point of new speculations.

What, then, is the history of these rings, and what their future fate? They are clearly intimately related to the planet, and their history would be complete if we could with the mind's eye watch their birth from the planet and follow their subsequent changes. Now although the details of such a history are obscure, yet at least a shadowy outline of it may be confidently accepted as known.

In the remote past all the matter which now forms the Saturnian system of planet, satellites, and rings was far more diffused than at present. There was probably a nucleus of denser matter round which slowly revolved a mass of rarefied gases and meteorites. The central portion was intensely hot, with heat derived by condensation from a state of still greater dispersion.

As this nebula cooled it contracted, and therefore revolved more quickly. If you watch the water emptying itself from a common wash-hand basin when the plug at the bottom is removed, you will see an example of such quickened rotation. When the basin is full, the water is commonly revolving slowly in one or the other direction, but as the level falls and the water approaches the hole, it spins more quickly, and the last drops are seen to whirl round with violence.

The revolving nebula is flattened at the poles like an orange, and the amount of flattening increases as it contracts and spins quicker. At a certain stage it can no longer subsist in a continuous mass, and an annular portion is detached from the equator, leaving the central ball to continue its contraction.

We are pretty safe in saying that the rings of Saturn took their origin in some such mode as this. But it cannot be maintained that we understand it all, for we have not more than a vague picture of the primitive nebula, and the mode in which the matter aggregated itself into a ring and detached itself is obscure. M. Roche has done perhaps more than any one else to impart mathematical precision to these ideas, but even he has not been wholly successful.

This theory, commonly called the nebular hypothesis, was advanced independently both by the philosopher Kant and by Laplace. Various modifications have been suggested by others, but the theory, in whatever form, is replete with difficulties, and must at present be only regarded as an approximation to the truth.*

If the past history of the ring is not wholly clear, it is at least more ascertainable than its future development. It is nearly certain that the ring now presents a markedly different appearance from that which was seen by its discoverers. Indeed the only doubt lies in the uncertainty as to the amount of allowance which must be made for differences of observers and of instruments. Huygens described the interval between the bright ring and the planet as rather exceeding the width of the ring, but we need only look at Fig. 1 or 2 to see that this is now flagrantly incorrect. It is improbable that Huygens

* I have recently presented a paper to the Royal Society of London (November, 1888), in which I have tried to throw light on the mechanical processes involved in the nebular hypothesis.

the approval of witch-burning by pious worthies of two centuries ago, until it shall be generally recognized that all this company of "supernaturalists" are simply repeating in new costumes and with improved scenic effects the tragic comedy of former times, the moral mission of science will not be accomplished.

The border-land of science of to day, though thus closely akin to that of former days, presents one hopeful difference: enough of the spirit of true science has oozed over the boundary to substitute, to some extent, definiteness of statement and adherence to fact for extravagant speculation and obscuring irrelevancy. In the main, the problems of "psychic research" are capable of a scientific statement, and in many cases of a scientific proof or refutation. It is often forgotten that the term "psychic research" is simply a convenient and somewhat arbitrary mode of referring to a group of phenomena now under investigation; the term does not refer to a single kind of phenomenon to be proved or refuted by a single kind of evidence, as is often supposed, but includes several different problems, each of which is to be worked out on its own detailed evidence. For the present purpose these problems may be considered under three heads, which, though connected in several respects, are logically distinct: (I.) the study of the milder forms of abnormal mental states in normal or not markedly abnormal persons, including hypnotism with all its varieties; (II.) the examination of alleged physical manifestations of supernatural agencies, such as are concerned in apparitions, haunted houses, "mediumistic phenomena," theosophy, etc.; (III.) the examination of the evidence for the existence of new psychic agencies or new modes of working of known forces: here belong such questions as thought transference, "odic force," faith-cure, and the like.

I.—Here we are in comparatively known regions; the experiences of dream life, the mental effects of drugs and gases, natural and diseased forms of mental idiosyncrasy, have impressed mankind from remote times, and have been influential in shaping the beliefs and thought-habits of early man. After these states came to be regarded as a proper subject for scientific study, the discovery of a new method of inducing

them was not in itself an improbable occurrence. The reasons why the processes of hypnotism, though announced a century ago, were not scientifically accepted until within about the last decade, are to be found in the quackish methods of its first professors. Mesmer came forth with an extravagant "magnetic" theory, and offered bottles of "magnetized water" to the credulous and excitable Parisians as a universal panacea, while his followers elaborated ridiculously minute directions for applying the planetic and telluric fluid, and the rest of their self-invented paraphernalia.* In 1842 Braid divested the subject of much of its mystery by showing that any violent stimulus was sufficient to induce the hypnotic state, that the personality of the operator was the most insignificant factor in the process, and that a most important factor was the expectancy of the subject. Shortly after 1872, the study of the phenomena as minor forms of nervous affections was taken up by professional neurologists in France, and since then a most valuable technical literature in French, German, Italian, and English has been contributed. Of the many important and remarkable facts thus brought to light it will be possible to mention here only a few of the most essential.

The state is induced by any sudden and unusual strain—staring at a bright button held close to the eyes, strongly rubbing the space between the eyebrows, and so on; it all depends upon the susceptibility of the subject, who can be trained to pass into the hypnotic state by almost any manipulation. After the subject has been often hypnotized the expectation of the condition is sufficient to realize it; a mere command, or even the impression that a command has been given (when really nothing has been done), will at times be sufficient. Anybody can hypnotize a good subject, and the personality of the operator is simply effective in the first inductions of the state; this means nothing more than that a determined, impressive

* Deleuze, a follower of Mesmer, says: "One may magnetize a pitcher of water in two or three minutes, a glass of water in one minute," if done "with attention and a determinate will." He also tells us that "the magnetizer who uses a wand ought to have one of his own, and not lend it to any person, lest it should be charged with different fluids—a precaution more important than it is commonly thought to be." Mesmer himself claimed to have magnetized the sun.

manner, aided by a powerful physique and prestige, is naturally more apt to influence a susceptible temperament than a feeble, hesitating manner lacking such evidences of will power. A sudden stimulus, such as a blow or a shout, reawakens the sleeper. The proportion of persons susceptible to hypnotization is very variously estimated by different observers, and depends upon the nationality, class, temperament, and so on, of the individuals observed. It is probably a fair statement that about ten to twenty per cent. make acceptable subjects.

To what extent such susceptibility is evidence of nervous impairment is a question upon which all writers are not agreed; but it is generally admitted that the prevalence of a neurotic temperament amongst hypnotic subjects is far greater than amongst the population at large, that this trait is most marked amongst the most susceptible and "interesting" subjects, and that the most delicate phenomena are usually presented by hysterical patients. It is thus affiliated with the milder but common and (to the physician) tantalizing forms of nervous disease, shading by imperceptible degrees to normal health.

As to the nature of the state, we have little sure knowledge. Some speak of it as an "attention-cramp"; some describe it as an inhibition of the higher psychic brain-centres, a shutting off of all that most delicately constituted portion of the brain associated with voluntary control. In daily life we attend to only a small fraction of the thoughts that find a momentary resting-place in our minds; to think rationally we constantly and systematically exclude (inhibit) a host of suggestions from the chamber of consciousness, allowing an audience only to such as are germane to the end in view. In dreaming we dismiss the guard from the door, and the most extravagant conglomeration of fanciful notions throngs into the chamber. In hypnotism there is a spring on the door which the operator pushes open, letting in one suggestion at a time, to which the subject must give audience, with his attention, usually divided amongst a crowd of suitors, intensely concentrated upon a single claimant. The subject becomes an automaton played upon by the irresistible suggestions of the operator.

The further consideration of hypnotism would bring us at once to what is now the crucial point at issue between the two

"schools" of hypnotism, known as the school of Paris, of which Dr. Charcot is the acknowledged head, and the school of Nancy, presided over by Dr. Bernheim.* The latter regards the infinitely variable and protean phenomena that hypnotized patients exhibit as one and all due to the effects of suggestion, conscious or unconscious. With them the state is psychical in character. The former distinguishes three different stages of hypnotism, the passage from one of which to the other is by physical means—closing or opening the eyes, pressure at definite points. Of these three stages the cataleptic is distinguished by an unnatural immobility, enabling the subject to assume and retain most trying bodily positions; the lethargic, by an especial excitability of nerve and muscle; and the somnambule, which is most akin to the general state discussed by the "suggestionists," by the automatic character of the subject's mental operations. This is psychologically the most interesting phase, and it is here that all the delicate forms of suggestion have freest play; here that marked sensibility to one kind of stimulus is effected which in turn gives rise to tales of clairvoyance; it is this state that presents the striking adoption of foreign personalities, and makes the travelling mesmerist's show so popularly attractive.

Referring for detailed description of these interesting conditions to the more extended accounts, it remains to notice briefly a few points of special interest here: (1) the genuineness, (2) the border-land, and (3) the dangerous aspect of this study. The first is easily disposed of: the rigid extension of the arm for nearly half an hour without any of the waverings accompanying such an attempt in a normal person, the assumption of rôles and actions utterly impossible in the normal state (*e. g.*, an illiterate factory girl perfectly imitated an elaborate exercise which Jenny Lind extemporized as a test), the

* It should be added that the position of the school of Nancy is rapidly becoming acknowledged as the correct one. German and Swiss critics who have carefully examined the phenomena almost as a unit side with Dr. Bernheim and against Dr. Charcot. They believe the latter to have been misled by the idiosyncrasies and unexpected (and probably unconscious) shrewdness of his hysterical patients. In English one may refer to *Animal Magnetism* by Binet and Feré, pupils of Charcot, and to the forthcoming translation of Dr. Bernheim's classic work, for the views of the two schools.

quickening of the perceptive processes as measured by the reaction-time to sensory stimuli and to mental associations, and a variety of similar tests place the genuineness of the phenomena beyond question, and every new study strengthens the evidence thus accumulated.

Under the second head we have to discuss the connection between hypnotism and thought transference, magnetism, clairvoyance, and so on.* It is often stated that in the deepest hypnotic states the subject becomes clairvoyant, predicts future events, reads the numbers on bank-notes known only to the holder, and performs many similar and more wonderful feats. It is safe to say that the evidence for none of these miracles is satisfactory. In 1837 a prize of 3000 francs was offered to any one reading without the aid of eyesight, and remained unredeemed, though several applicants were successfully exposed; the usual trick consisted in the power to see a great deal through a very small opening in the skilfully manœuvred bandage. It is well known that the hypnotic state favors just this kind of sensibility, and the examples already on record of the exalted sensibilities of such subjects especially, when combined with the exquisite shrewdness and passionate love of deceit of a hysterical temperament, make the attributing of apparently incredible occurrences to more remote causes a very questionable proceeding. The most important source of error

in all such experiments is the *unconscious* suggestion of the expected result. The tone of the question, the look of satisfaction when the desired result takes place, the impressive silence at a critical moment, and a host of less obvious indications are all seized upon and shrewdly interpreted. Whether they fully explain all that scientific observers have recorded may be doubted, but they show the necessity of the most minute cautions, which in the absence of such knowledge would be no less than foolish.*

Finally, it cannot be too strongly insisted upon that the practical consideration by the public of these topics has a dangerous aspect. Public exhibitions of hypnotism have been legally prohibited in several European countries; criminal complications in which the subject pleaded hypnotic suggestion† as a defence for crime have been introduced, and our courts must soon decide the question of responsibility in such cases. Hypnotism is not a parlor amusement nor a toy for dilettanti. It belongs to specialists, and it is they alone who can conduct the experiments so as to benefit mankind, and draw the conclusions that validly follow from the observations. The public is always over-anxious for an immediately practical result, and does not appreciate the moral value of scientific reserve. Because a refractory boy who while hypnotized was impressed with the necessity of his reform really seemed to improve, "hyp-

* Amongst the phenomena now under investigation, two deserve to be mentioned. 1. French observers record that when a subject has responded to the suggestion that one arm is paralyzed, the application of a magnet to the other arm causes the paralysis to vanish from the side first affected and be "transferred" to the other side. Several observers in repeating the experiment find that the "transfer" succeeds equally well when the patient *believes* the magnet to be there; and in one case a subject who failed to exhibit the usual result was allowed to witness it in another subject, and herself repeated the performance the next day. This illustrates the difficulty of excluding suggestion from these experiments. 2. Messrs. Bourru and Burot affirm that with certain subjects the mere approach of a hermetically sealed vial containing a drug (the nature of which may be unknown both to subject and operator) produces all the characteristic effects of strong doses of the substance. This incredible observation when thoroughly studied may prove to be a case of hyperæsthesia of smell, together with a shrewd appreciation of suggestions; it requires the sharpest and most prolonged observation to establish such a fact as evidence for a new psychic sense. The most recent studies strengthen the explanation of these facts as cases of extremely delicate unconscious suggestions.

* It should not be overlooked that the discovery of these extraordinary susceptibilities is itself a valuable result. They make evident the marvellous control of the psychic over the physical mechanism of perception, and in those cases in which swellings are produced and taken away, insensibility brought on, or pain made to vanish, they show a mental control of such normally involuntary processes as secretion, nutrition, and circulation. We here touch the scientific basis of the "mind-cure," and it is to be hoped that reputable physicians will rescue this natural aid from the evil surroundings in which it is now found.

† This refers to a "post-hypnotic" suggestion. It is found that if a hypnotized subject be told that on waking, or at a certain time after waking, he will do such and such an action, even if it is a discourteous, or foolish, or criminal one, he actually does it. I once told a subject that on the following day at noon he would write me a postal-card. Though he had never written to me before, I received the postal as suggested. It should be added that the effect of the hypnotization is claimed to be as often beneficial as harmful; yet enough cases are on record in which more or less transient deleterious after-effects resulted to serve as a caution for the inexperienced.

notic moralization" is proposed as a patent mode of education, in disregard of all the dangers attending such a practice, of the insecurity of our knowledge in the matter, and of its analogy with such normal experience as that of an impressive accident rearranging the moral disposition of a susceptible youth. Remember that this hasty practical application of newly discovered facts (?) is often the mark of charlatanism. It was Mesmer who, on discovering "animal magnetism," immediately had it ready for sale, to be applied for the cure of all diseases; it is the phrenologist who, glimpsing the fact that different areas of the brain serve different purposes, rushes to open a shop where, under the inspiration of a fee, cranial bumps can be converted into "combativeness" and "amiability."

II.—In passing to the consideration of alleged physical manifestations of supernatural agencies it is necessary to accent more emphatically the logical aspect of the question. The problem is a twofold one: 1. Does the evidence justify the conclusion; and if not, what is the most rational explanation? 2. How is it that those who sincerely accept the "spiritualistic" theory come to do so? Recent experiences enable me to dispose of both these questions in a summary manner. It would certainly require a lively imagination to picture the amount and kind of evidence necessary to even presumptively establish any such fact as is here referred to. To admit its possibility for the sake of argument is much like supposing a world where two and two make five. The collective experience, and much more the collective experimentation, of civilized centuries stand as a unit opposed to such a supposition. But apart from such considerations there is great interest and value in understanding how such apparent deviations from natural law are brought about. The chief movements that to-day make claims to be placed in this category are spiritualism and theosophy. Omitting all reference to the (often ennobling) theoretical beliefs attached to the physical phenomena, it is sufficient to refer to Mr. Hodgson's conclusive exposure of the immoral and systematic trickery by which "theosophic" marvels were announced to the world; to the varied and often amusing experiences of the Seybert commission for investigating spir-

itualism, substituting at every step "de-frauding trickster" for medium, and laying bare a score of contemptible devices* by which the credulity of simple-minded folk is preyed upon; to the experiences of certain members of the English Society for Psychic Research endorsing this conclusion; and to the host of public and private exposures, including almost every known medium.† Our knowledge of legerdemain is more than ample to account for anything that was ever really exhibited by "mediums," and thus enables me to simply refer to the light in which these practices now stand, without burdening these pages with a detailed account of them.

The reason why so many are deceived is, I believe, due more than to anything else to the failure to perceive that the power and the right of forming an opinion as to the *modus operandi* of this kind of performance is a strictly technical acquirement. Imagine that much used but seldom accessible being, the average man, to witness for the first time the performance of a good prestidigitateur, and without knowing that a natural explanation was possible, to explain what he sees as best he can: he would be utterly dumfounded. Accustomed to implicitly trust the evidence of his senses, because the ordinary affairs of life are so regulated as to make such a confidence generally valid and useful, he suddenly finds them testifying to occurrences startling to his common-sense. He is ready to accept any hypothesis that is impressively urged. Before the "medium" he is in exactly the same position; and to this must be added that the "spiritualistic" hypothesis appeals to the emotions, and is pleasant to believe; that the phenomena occurring without a medium are precisely so arranged as to give the best possible conditions for *self-deception* (and with this all reason is often shattered); and that it has been experimentally proven that the amount and kind of mal-observation and mal-description of me-

* One of the greatest strongholds of spiritualists is the so-called "slate-writing," in which messages appear on a clean slate, held so as to apparently give the medium no chance to write upon it. The trick has been explained and repeated by several professional conjurers, and to cap the climax a noted medium actually bought of such a conjurer a new slate-writing trick with the avowed intention of using it in his séances.

† For a general account of these, see an article in the *Popular Science Monthly*, April, 1889.

diumistic phenomena are amply sufficient to account for the divergence between the clever trick that was really done and the incredible miracle described by the confiding believer or the baffled observer. The study of these phenomena has thus contributed an interesting chapter to the natural history of error, showing how readily the emotions carry away the reason, and what a child the layman is before the professional expert in sense-deception.

III.—The possibility of the transference of thought apart from the recognized channels of sensation is of a remote kind. The evidence necessary to make such a fact probable must at least outweigh the long-accumulated counter-evidence against it, and is not to be expected in the lifetime of any one now living. The objection to this position on the ground that had it been held with regard to the announcements of Galileo and Columbus the dark ages would have been prolonged is unwarranted, because then the conflict was between the method of scientific demonstration and the method of authority, while the questions here considered are by both parties admitted to be soluble by the scientific method only. It is the policy of science to leave such questions open, and to examine any reputable mass of evidence in favor of the existence of a new force or a new mode of working of a known force, demanding for the admittance of the new view an amount of evidence proportional to its opposition to the received body of truth. The citation at the head of this article admirably expresses the view here taken. And from this point of view the question is whether or not such facts as have been collected can be satisfactorily explained by extending the significance of "the recognized channels of sensation," without recourse to an unphysiological hypothesis.* The answer to this question will depend on one's estimate of the inherent improbability of the telepathic hypothesis, as well as of the reliability and significance of the most strik-

ing experiments. The principle of these experiments consists in having one person guess a number, name a card, draw a diagram, etc., of which another person is attentively thinking, without any communication between the two, and with the number of successes due to chance foretold. The English Society claim that the number of successes with certain subjects so largely exceeds the number that chance would account for as to establish the direct transference of ideas from mind to mind, and this they term "telepathy." On this basis they explain such wonderful occurrences as death-bed coincidences, a typical instance of which is the oft-repeated tale in which an irresistible impression (or even a spectral apparition*) of a distant friend is found to coincide with the time of death or other serious misfortune of that friend. Even with the mildest estimate of the inherent improbability of this hypothesis, and with the most liberal estimate of the reliability of the accumulated evidence, one cannot but consider this announcement, and especially the violent use thus made of it, as entirely premature. To my mind not only is the amount of evidence hopelessly insufficient, but the value of it extremely questionable.

The precautions taken against deception (or at least the account of them) are far from complete; there was not even an attempt made to find out whether the nature of the failures did not suggest the *modus operandi* of the successes; whether the eye or the ear, for example, was indicated as the more active in the process; or, again, whether the conditions of greatest success do not shed such light.† It is all a technical question of stringency of conditions; and had the entire energies of the able committees of the English Society been spent simply upon the discovery of

* The evidence for such apparitions, for haunted houses, etc., is so beset with unreliable and inaccurate details that it seems impossible to give it a scientific shape. The most hopeful method is the recording of such instances by scientific men with a knowledge of the sources of error in such tales. This, like other problems of psychic research, has an anthropological interest apart from its eventual solution.

† Another important consideration is the erroneous calculation of the chances of a certain degree of success by neglect of the natural community and similarity of men's thoughts. In the Proceedings of the American Society for Psychic Research will be found most striking instances of the extreme limitations of natural mental products, and the bearings of these on the telepathic arguments. See especially Dr. Minot's articles in numbers 3 and 4.

* I say "unphysiological" because we have every reason to believe that the only method of impressing the brain-centres so as to arouse an impression having objective reality is through the conduction of nerves connected with special sense organs, each reacting to its own kind of stimulus, and conducting the disturbance thus imparted in absolute isolation, even to the isolation of every microscopic nerve fibre from its neighbor.

the sources of error in such experiments, I am confident that their results would have covered far fewer pages, but with a compensating value per page. Our knowledge of the endless methods of unconsciously suggesting an expected result, of the exalted sensibilities in special directions with which some persons are gifted or which they have cultivated, as well as of the incredibly clever means of deception (and the fondness for exercising them), is already so advanced and so constantly increasing as to make the proposition of an unscientific explanation, without the most crucial examination of the clues furnished by such knowledge, more than ever unwarranted.

This hasty action of the English Society is sure to set a precedent pernicious to the mental health of the community. Already a writer has announced that this society has shown the historical miracles to be no longer mysterious, and has found that the low morality exhibited by planchette writing is due to telepathy, that prayer is thought transference, and in short has set up a religious faith that is threatened to change by every new num-

ber of the proceedings of a Psychic Research Society. Men and women of good mental calibre become intensely interested in these topics, and seem to lose their characteristic reserve. All this is largely due to the ignoring of the technical aspect of these problems. The acceptance and application, by the laity, of ideas that are to be only provisionally and theoretically entertained by specialists is mischievous to the extreme. It shakes the foundations upon which are built the approaches to the higher intellectual life, and paves the way for superstition and charlatanry. Let the scientific students of this study record their observations and draw their conclusions with all the caution and deliberation characteristic of solid scientific advance. Let them give to the public only what is definitely established, and mindful of the special liability to abuse inherent in this study, let them accompany their statements with a caution in this regard. In this way will they at once promote the true progress of knowledge and secure the maintenance of that mental and moral health that makes for civilization and intellectual freedom.

LITAIRENE.

DEATH, come to me!
Take this pain and striving
Out of my brain.
Take this gnawing misery
Out from my heart.
With your pale cold fingers
Lay straight these bones
That are weary!

Shut from my sight
The azure and the green
And the opaline splendor of nature,
Ensnaring the soul with hope
And visions of a life as splendid!

Benumb my ears that they hear not
The wail of the thousands
Who labor with bleeding hands
Yet may not reap.
Stop the ebb and the flow of life
That brings force only for defeat,
And quickens the heart only
That it may bear its anguish.
At least bring silence and peace,
O tender and beautiful Death!