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Dr E. Boirac
Recteur de l'Université de Dijon

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OUR HIDDEN FORCES

("LA PSYCHOLOGIE INCONNUE")

AN EXPERIMENTAL STUDY OF THE PSYCHIC SCIENCES

BY

ÉMILE BOIRAC

RECTOR OF THE ACADEMY AT DIJON

TRANSLATED AND EDITED WITH AN INTRODUCTION BY

W. DE KERLOR

ILLUSTRATED



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Gift
Mrs H.H. Higbee
12/30/53

TO

THE MEMORY OF THE MUCH REGRETTED

DR. DUMONTPALLIER

MEMBER OF THE ACADEMY OF MEDICINE

PRESIDENT OF THE SOCIETY OF HYPNOLOGY AND PSYCHOLOGY

THIS BOOK IS DEDICATED

AS A TOKEN OF GRATEFULNESS AND RESPECT

TRANSLATOR'S NOTE

While making a series of investigations into the psychological libraries attached to the psychological departments of various universities in the United States, I was able to realize how fully German mechanical efficiency has gained a footing on this side of the water. Out of an average of 500 books, one third of those I examined were written in German, one third were translated from the German, and the remaining third were from the pen of German-Americans or were written by Americans trained in the German schools of thought. Only a very small—infinitely small—proportion were French, English, or Italian works (translated or in the original).

Why have not France, England, and Italy as systematically introduced their philosophical and psychological productions? Why have not the Bergsons, the William Crookes, Gustave Le Bon, Pierre Janet, Richet, Ribot, Payot, Grasset, Le Dantec, Bernard, Binet, Fouillee, Finot, Sir Oliver Lodge, Lombroso, Schiaparelli, Morselli, Varisco, Salvadori, etc., etc., found their way to the shelves of psychological laboratory libraries in the United States?

Why is it that in spite of the friendly attitude of the majority of American university professors toward France and French learning, German concepts and Ger-

man teachings have gained such a hold on the intellectual life of American youth? What of the finer, subtler, more refined, life- and happiness-giving French psychology? Hardly anything of it is known in America or taught to the students here in medicine, applied psychology, or art.

It is, therefore, time that the more advanced strides taken by French psychologists be brought to the knowledge of the virile-thinking youth of America.

Already there have been held in Paris, in the years 1910 and 1913, two International Congresses of Experimental Psychology, over each of which presided M. Émile Boirac, the author of this remarkable book.

Professor Boirac, Rector of the Academy of Dijon, had already, years before the appearance of this volume, achieved fame and fortune as a professor of philosophy and psychology. And when the *Académie des Sciences* of Paris decided to award him the prize endowment "Fanny Emden" it was but the crowning of a career spent in devotion to the quest of more knowledge regarding the problems of Life and Death, and the Hidden Forces in Man.

These problems, of mighty import at all times, are particularly so now.

"What has become of the souls of the millions of men killed on the battlefields of Europe since 1914?" said Professor Morselli, of the University of Genoa, Italy, when I was on a visit to him in March, 1915.

This problem should be solved now!

Psychical research as contrasted with psycho-physiological experimentation has languished in America not-

withstanding the efforts of William James, Royce, and Hyslop to give it a hearing, in an endeavor to keep pace with the researchers of England, France, and Italy in their laudable attempt to give humankind a scientific basis for religion and spiritual life.

For it is undeniable that as psychology enables us to solve the problems concerning the mechanism of *mind,* so psychical research will lead us to the discovery of the functions of the soul in its relation to *mind and matter.*

When Science shall have solved these vital questions she will then turn to transcendental metaphysics for the purpose of giving mankind a solution to the problems concerning the knowledge of God—God in all His manifestations: spiritual, psychic, mental, and physical, *in* and *without* man.

To-day the science concerning the knowledge of man is in its infancy only. It has just been born. Hitherto it has been kept relegated to medieval and ancient authors or to the non-scientific. But to-day scientists the world over are slowly waking to its importance in human affairs. They recognize that society, and youth and industry, demand a different treatment from that which they have received hitherto; and that this treatment must depend upon the *soul-understanding of the individual unit:* Man.

At the very source of America's life and efficiency lie her psychological laboratories and libraries pertaining to the study of man's mind and soul. These libraries are filled with books of German origin or German influence. Yet German thought has been bent

solely upon problems of mechanical and material efficiency, while France has devoted herself to the study of soul-understanding.

When the *Académie des Sciences* decided to award two thousand francs as encouragement to Professor Émile Boirac it did so in the full consciousness of what that meant to the outside world and in particular to the general public.

It gave psychical research its passport to travel freely on the road to Scientific Progress.

The moral shock I received when first landing on these shores—a shock caused by the attitude of a scoffing press, the indifferent attitude of prejudiced college professors, and the hysterical, non-scientific attitude of a public always preyed upon by charlatans and humbugs—led me to the translation of this important work, *La Psychologie Inconnue.*

For having made the translation possible, I tender my sincerest thanks to the publishers for the kind and sympathetic hearing they gave me in August, 1916.

From the many signs of interest which I already have seen in the American public, during various public activities in the presentation of this new method of experimental psychology, I do not hesitate a moment to predict for Our Hidden Forces a most hearty and welcome reception.

In anticipation of this, I extend my heartfelt thanks to the American public, the press, and the academical bodies; for I know that only through their coöperation and through perfect harmony can success be achieved and the progress of human knowledge be advanced.

In the process of translation I have thought it advisable to condense certain portions of the work which contain repetitions due to the exact reproduction in the French version of material that had been independently published in several French periodicals.

This translation is offered in the hope that we may see in America a new impetus to the scientific study and solution of such important problems as those offered by the presence of Hidden Forces *in* man, *around* man, *above* and *below* man.

W. DE KERLOR.

681 Fifth Avenue,
New York City,
April, 1917.

PREFACE TO THE SECOND EDITION

The report presented to the *Académie des Sciences de Paris* by the Commission Board of the prize endowment "Fanny Emden" is given here in full. This biennial prize of three thousand francs was founded by Mademoiselle Juliette de Reinach in memory of her mother, née Fanny Emden, its object being to reward "the best work on suggestion, hypnotism, and physiological actions likely to be exerted from a distance upon the human organism in general."

The Commission Board, composed of MM. Bouchard, Guyon, Perrier, d'Arsonval, Lannelongue, Laveran, Dastre, and Delage acting as secretary, reported as follows:

"From among the numerous contributions presented to the examining commission board for competition, two only were selected as meeting the requirements and therefore elected to receive the reward.

"The commission allots the sum of two thousand francs to M. Émile Boirac and one thousand francs, as consolation prize, *"à titre d'encouragement,"* to M. Ochorowicz.

"In his work, *La Suggestion Mentale*,[1] M. Ochorowicz

[1] *La Suggestion mentale*, Dr. Ochorowicz: Paris, 1887.

explains that after having absolutely denied this form of suggestion, on account of the insufficiency of the arguments and of the experiments conducted to demonstrate its existence, he finally reached the stage, following a series of personal observations and experiments of a most demonstrative order, when disbelief was no longer possible.

"These numerous experiments are often replete with interest; but it has not appeared to us that the control was of a sufficiently rigorous order thoroughly to convince, in spite of the evident sincerity and worthy efforts of the author to eliminate all sources of error. However, although his theories are not free from confusion and other defects, his work remains *une œuvre magistrale,* a masterpiece, which coming generations engaged on similar lines of study will do well to consult.

"M. Émile Boirac,in his *La Psychologie inconnue,* has made a laudable attempt, in the greater part crowned with success, to classify systematically and in their respective order the phenomena of the unknown in psychology, which he divides into hypnoidal, magnetoidal and spiritoidal phenomena. Unfortunately, in that part of his work are to be felt the habits of thought of the professional philosopher, who is inclined to solve these problems by purely logical arguments rather than by experimental control.

"In the experimental portion of his work, the author displays a conscientious desire to employ only those methods that are above reproach. He does his very best

to prevent the dictation to his subjects of replies which may be conveyed to him by involuntary suggestion. But, to our thinking, that is not sufficient. It is not enough to have experimented successfully, alone, with one's usual *entourage,* or even in the presence of people who are only too willing to be convinced of the reality of phenomena whose physical and physiological conditions are contrary to the natural scientific order of things. It is absolutely necessary, if it be desired that these be definitely accepted by Science, to have the experiments controlled by scientists, savants (physiologists, medical men), who, by profession, are acquainted with the exacting conditions under which such experiments should be conducted; that any conditions which it pleases them to impose upon the experimenters should be accepted; and that all their objections should in some way be met.

"We will give two examples of M. Boirac's experiments:

"*First experiment. From a distance of eight or ten yards:* If the finger-tips of the outstretched hand are placed before the subject, whose eyes are blindfolded and around whom reigns the most complete silence, it will be found that, in the case of the right hand, movements of attraction toward the hand will be obtained; in the case of the left hand, a tingling or pricking sensation will be produced.

"*Second experiment:* Operator and subject have each held a glass filled with water. The two glasses are

placed side by side, but the operator and the subject are separated, standing at the opposite extremities of the same room. The subject, it is understood, is blindfolded, and the most rigorous silence is imposed upon the assistants. If, now, the *operator* is pricked, pinched, or hit, the subject will remain unconscious of such action upon the operator. If, however, the two glasses are made to communicate with each other by means of a metallic wire having an end plunged into each glass, the blindfolded subject will at once resent the various pains inflicted upon the operator.

"The natural conclusion drawn from this is that each of the two glasses retained the exteriorized or dissociated sensitiveness, or nerve force, derived from operator and subject alike while being held in their hands.

"Had M. Boirac succeeded in rendering such experiments incontestable to the most skeptical of scientists, he would have deserved much greater things than the prize itself, part of which we award him by way of encouragement.

"The *Académie* adopts the conclusions of this report."

The fact that the *Académie des Sciences* accepted a prize endowment to reward—and thereby encourage—research pertaining to hypnotism, suggestion, and "physiological actions likely to be exerted from a distance upon the human organism" is extremely important for the future of Psychical Research. Too well known



THE CONDUCTIBILITY OF PSYCHIC FORCE

The glass of water near the subject has received the exteriorized sensitiveness of the operator; that near the operator has received the sensitiveness of the subject. The two glasses are connected by a copper wire. When the operator pinches the air-zone above the glass nearest him, or plunges his finger or pencil into it, the subject immediately reacts. This reaction dissappears if the connection between the glasses is removed.

indeed is the professed skepticism of the great majority of scientists in regard to psychical phenomena. At most, they consent to recognize the reality of hypnotism, the importance of which seems to them singularly exaggerated by those who first of all studied its phenomena. The *Académie des Sciences,* therefore, has shown real courage and broadmindedness in accepting the Fanny Emden prize endowment and thus giving its consent—if indirectly so—to the study of a certain order of facts which, side by side with hypnotism and suggestion, may be recognized under a new formula as the ancient theories of Mesmer and Puységur. This is all the more remarkable in view of the fact that the savants of the Eighteenth and Nineteenth Centuries believed they had irretrievably buried it, conjointly with the "fourth dimension" and "perpetual motion."

In any case, the author is deeply grateful to the *Académie* and to the secretary of the Commission Board for the favorable judgment which they have been willing to pass upon his work, *La Psychologie inconnue.*

The author wishes to take this opportunity, also, to express his gratitude to the founder of the prize, whose enlightened initiative, let us hope, may conduce to higher achievements and contribute to the progress of the New Science.

It may be regretted that the Commission was not bold enough to take a more decisive position. It seems as if it feared that if it were to bestow the full prize, it

might be suspected of admitting the reality of psychic phenomena, while at the same time appearing to give a premature official sanction to the research having these phenomena as its objective.

It could not be expected that such savants, who had not been acquainted with the phenomena except by hearsay, and whose competence in such matters is on a par with that of the ordinary layman, could scatter at a blow the traditional skepticism concerning them. It is no doubt for this reason that the *Académie* remained prudently content to choose from the thirteen competitive works [2] those in which were to be traced something of the spirit and methods of the positive sciences.

I will admit frankly that I do not believe that I deserved the reproach made by the secretary of the Commission when he stated that in my work were "to be felt the habits of thought of the professional philosopher,

[2] Herewith is a list of the contributions sent by competitors for the Fanny Emden prize. Judging by their titles and scope, they should not remain without interest and value.

Le rôle des infiniment petits dans l'univers, Charnay; *La suggestion mentale et l'action à distance des substances* and *La suggestion mentale et les variations de la personalité*, Bourru and Burot; *Hypnose et hypnotisme* and *La machine humaine*, Vial; *Hypnotisme et magnetisme*, Filiâtre; *La psychologie inconnue*, Boirac; *La genèse des miracles*, F. Regnault; *Hypnotisme et mesmérisme* (*dans le dictionnaire de Ch. Richet*) and *La suggestion mentale*, Ochorowicz; *De l'autosuggestion*, Croué; *Essai sur l'étiologie de l'hypnose*, Gaston Durville; *Contribution à l'étude des sciences psychiques*, Th. Darel; *L'électricité dans les actes physiologiques*, Mme. M. Bertrand de Yrondeau; *Des actions physiologiques qui pourraient être exercées à distance sur l'organisme animal*, J. Gaubert; *El Ktab*, Desjardins de Régla.

who is inclined to solve these problems by purely logical arguments rather than by experimental control."

This criticism appears to have been directed to the first part of my book, the theoretical portion in which I treat of the principles, method, and classification of the psychical sciences—in a word, of that which treats of the philosophy of these sciences; for he recognizes that "in the experimental portion of his work the author displays a conscientious desire to employ only those methods that are above reproach."

In view of this, is it, after all, justifiable to condemn the use of the *philosophical spirit* in a philosophical discussion, provided that the scientific spirit preside over the experimental investigation?

Neither in the first nor in the second part of the book do I pretend to have solved any problem. My sole aim has been to show that: There are many problems awaiting solution; these problems consist of irrefutable facts; these facts cannot be evaded by "a priori" arguments; the problems should be solved by having recourse constantly to the facts themselves.

On the contrary, it would seem that the thought recurring on almost every page is that, in this order of research—as in every other field of natural and physical science—theories, hypotheses, and other purely logical inferences are of no value. They owe their validity to a twofold condition: first, of being suggested by the facts themselves; second and more important, of rendering experiments possible and of serving to discover

new facts which control them. Even in this latter case their value is always conditional; in other words, it is subject to being modified or nullified by the appearance of new facts.

It would, then, be very difficult to see in such a doctrine "habits of thought of the professional philosopher, who is inclined to solve problems by purely logical arguments rather than by experimental control."

As to the second objection, I can but plead attenuating circumstances. It is true that I have not taken the precaution to have my experiments controlled by a commission formed of professional scientists especially assembled for that purpose, and that I have experimented mostly either alone or in the company of three or four assistants, or else in the presence of a limited number of persons; but it would have been impossible to say of what these persons expected to be persuaded, for none of our experimental sittings was ever preceded or followed by any explanation of the phenomena.

A few of the sittings were certainly conducted in the presence of a professor of physics in a preparatory college of Paris and of a Bachelor of Science. But this, of course, is not sufficient to give experimental sittings the indubitable scientific character. However, one must take into consideration the fact that it is not easy to find savants willing to trouble themselves to come to our sittings for the purpose of controlling certain phenomena, the very nature of which they do not understand. This has been our experience: A certain man

who was a great master in the science of hypnotism, a professor and a medical practitioner, when implored to come and control our experiments bearing upon the action of the hand at a distance, replied: ". . . absolutely refuse to experiment in any place but a laboratory or a clinic . . . any other way cannot be of scientific value. . . ." ! ! ! (Our experiments were being conducted in a private house.)

To our mind, it seems that as long as such a strange and unwarrantable attitude of mind persists, progress in the realms of psychic science will be seriously handicapped.

If, as stated by the Commission reporter, Psychical Science be ". . . strewn with an enormous amount of experiments which would be of capital value were they demonstrated but which, failing this, lend themselves to the most serious objections . . ." the principal cause rests, without a doubt, in this lack of organization, which permits those scientists to hold themselves aloof from every effective attempt at research. They systematically refuse to enter into relation with extra-scientific researchers; or, when they do consent, they oppose them with objections often conceived a priori, therefore sterile because without rapport with the crucial experiments. Furthermore, if the experiment happens to be negative, they remain firmly skeptical; when it is positive, it disconcerts and astonishes them, without, however, either convincing them or triumphing over their prejudiced attitude of abstention.

It should be understood, once and for all, that if the psychic phenomena be real, they are neither miracles nor accidents. They form an integral part of the ensemble of nature and constitute a coherent whole, subject to their own proper laws while at the same time being subject to the general laws regulating every other natural phenomenon. They should, therefore, be considered as belonging to one or more series in which each of them finds its own place and its own signification. And all the efforts of the scientist who studies them should bear upon the analysis of the series, so that he may be in a position to discover the various terms and the various rapports which unite them, one to the other.

Instead of proclaiming upon the housetops of prejudiced ignorance: "Never have psychic phenomena been capable of scientific verification!" [8] the true solution could be found in the establishment of numerous centers of research throughout the civilized world—institutes and laboratories where researchers who are specially trained into scientific and philosophical discipline, and accorded the same respect by other scientists as is given to physicians, chemists, and physiologists, could devote themselves exclusively to the exploration of the psychical field in its widest sense, and where they could check each other constantly.

Nevertheless, if one may consider the report of the *Académie des Sciences* as constituting a tacit agree-

[8] From Dr. Husson's report of the experiments of control of William Crookes in the case of D. D. Home's phenomena, etc., etc.

ment on its part to lend itself in the future to the regular and impartial examination of all the facts under this head, can we not see therein the first step toward the consecration and the scientific organization which, alone, will make possible the sure and gradual conquest of these unknown regions, vast and obscure, into which Science still hesitates to venture?

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OUR HIDDEN FORCES

OUR HIDDEN FORCES

Introduction

All the chapters of this book have been compiled during the period extending from 1893 to 1903. Certain parts here and there which already had appeared in various periodicals [1] dealing with these subjects have been reëdited and completed.

It is thanks to the suggestions of the late Dr. Dumontpallier, who always expressed the desire to see the various published and scattered reports of our work bound under one single cover, that we owe the existence of the present volume in its finished state.

And to his undying memory we respectfully dedicate it.

The question which we have endeavored to answer in these pages is this: "Is it possible to study scientifically the ensemble of those phenomena which are so inappropriately called psychic phenomena?" The motive force which imbued our pen with the courage to brave public ridicule and academic criticisms has been found in the more encouraging, less prejudiced attitude

[1] *Revue philosophique, Revue scientifique, Revue de l'hypnotisme, Annales des sciences psychiques, Nouvelle revue,* etc.

of scientists, in contradistinction to their confrères of the past century.

However profuse and extensive may be the evidence for psychic phenomena, the conditions in which the pursuit of this study has to be conducted still remain to be defined. The right method has yet to be devised. Psychic phenomena, independently of their mysterious character and appearance, are most complicated and varied in nature. They are as a labyrinth wherein one may enter through a thousand different gates and be lost in a very short time, unless the right path has been followed, not part of the time but all of the time.

Therefore, the first problem to solve is that of the *order* in which the study of these phenomena has to be conducted. For that reason, having once defined and characterized them, we have given them the present classification.

It will be seen that the classification of these phenomena follows a progressive gradation, according to their complexity and increasing importance. In this manner the knowledge of the first becomes the indispensable condition and efficacious instrument in the study of the second. In the scale of Psychic Phenomena we find three principal stages of gradation:

1. *Hypnoidal phenomena,* which as yet do not imply the hypothesis of an agent still unknown, nor of causes quite distinct from those already known to Science, although being capable of explanation through agents al-

ready known, causes already admitted, and operating solely in conditions still new or imperfectly defined.

To this first group belong the phenomena of hypnotism and suggestion.

Let us say, here, that the scientists of the Eighteenth Century denied their existence; those of the Nineteenth gradually came to study them; and those of the Twentieth Century consider them as absolutely scientific.

In a word, these phenomena belong to what Dr. Grasset defines in his book as "the occultism of yesterday." [2]

2. *Magnetoidal phenomena.* These seem to imply the hypothesis of causes *still unknown,* not yet classified, *though still physical* in nature. They are analogous to forces known in physics, as light, heat, electricity, magnetism, etc.

In this stage are included all the phenomena of *animal magnetism* and of *telepathy;* at least, as far as they remain distinct from the phenomena of hypnotism and suggestion.

3. *Spiritoidal phenomena,* which seem to imply the hypothesis of agents still unknown, but, this time, *of a psychological nature.* They are those phenomena more or less analogous in nature to that of human intelligences; perhaps situated outside the realm of our everyday world and on a plane of reality outside that in which we have our being. Under this heading are included all the so-called phenomena of spiritualism as

[2] *L'Occultisme d'hier et d'aujourd'hui,* Dr. Grasset, Paris, 1907.

far as they themselves remain distinct from the above-mentioned classifications.

It is well to repeat that Science has, to-day, fully mastered the problems presented in the first classification, and should in a measure be ready to grapple with the other two; for, as most of the phenomena of the first are to be found again in the second and third, the great difficulty lies in determining precisely the proportion of the former to the latter.

One of the main causes responsible for the slow progress made in this order of things by "official science" is that among the men who have approached the subject, some limited their efforts to the theoretical study of the phenomena of the first group, neglecting personal experimentation and ignoring the phenomena of the other groups; other men, deprived of scientific knowledge and of scientific discipline, who were no doubt in the possession of a multitude of data belonging to the second and third category—which they had personally obtained through experimentation—failed to accord to these the right proportion of phenomena belonging to the first class. No collaboration existed between the scientist proper and the *spiritualist, mesmerist, occultist.*

Happily the attention of certain scientists has been called to the various phenomena of telepathy and spiritism, and, in a more general way, the scientific world begins to admit that there is some serious ground for research in the study of these phenomena. The time is,

therefore, quite near when official Science shall take full possession of this field, hitherto forbidden her, and when her methods will be applied to it with the maximum efficiency.

Unfortunately, it seems to us that the first steps taken in that direction are not properly oriented. The main problem is that of studying those phenomena tending to baffle the imagination, while mystifying it. On the one hand are the spiritoidal phenomena in their various forms, as described by Sir William Crookes, de Rochas, Dr. Richet, etc.; on the other hand, the magnetoidal phenomena, the mechanism of which is more obscure, more complex, as instanced by telepathy presented in its various forms by the reports of the Psychical Societies of both continents.

As these phenomena present the common characteristic of being "spontaneous," they may well be observed when opportunity presents itself; but they cannot be provoked at will, nor modified to any extent, and thereby they evade experimentation.

In the face of this, we would compare the position of "scientists" to that of savages with a certain amount of intelligence and in the presence of our most complicated instruments: telegraphic, telephonic, electro-magnetic, etc., attempting to grasp the nature of their mechanical functions through the sole observation of their effects, while in the darkest ignorance of the first laws of magnetism and electricity.

It would, therefore, appear to be wiser not to attempt

a solution of the spiritoidal phenomena, until the Causes and Laws regulating magnetoidal phenomena are fully determined. This does not mean that the notation and observation of these phenomena should be neglected; rather should the notations and observations be looked upon as of *preliminary investigation,* in no way pretending to a rational explanation of this order of facts.

For the time being it should be toward the magnetoidal phenomena that all efforts of students and researchers should be directed. Actually it is not so. Even those most favorably disposed toward so-called psychism ignore completely the presence of this most patent intermediary between hypnotism and spiritism. Such an attitude of mind toward it may be traced to the arbitrary influence of the Schools of Paris and Nancy, which repudiated its existence; which maintain, as an axiom, that the Braidian Hypnotism and the Suggestion of Liébeault have forever ruined the hypothesis of Animal Magnetism. There is nothing farther removed from truth than such an axiom, as we attempt to prove in the following chapters.

Experiments to disprove the existence of animal magnetism have each time had the effect, on the contrary, to show that it possessed absolutely real and proper qualities for results, where hypnotism and suggestion had been rigidly excluded.

It may be true that a series of magnetoidal phenomena has been the object of numerous researches. But the telepathic phenomena taken by themselves (ab-

straction made of the "rapports" which unites them to animal magnetism) elude all scientific investigation, in the sense that they may be collected *ad infinitum* but remain impossible of experimentation; and it is impossible to find means to submit them to experimentation.

Therefore, first and last, the task imposed is the complete, absolute, impartial revision of the case for animal magnetism. In this alone are to be found the solutions to the problems of telepathy, mental suggestion, exteriorization of the sensibility and motricity, and the physical phenomena of spiritism.

How should such revision take place?

By experimentation and not by theoretical discussions.

The study of these phenomena is necessarily subjected to special conditions. Certain precautions have to be taken; these will be found described in full in a later chapter of this book.

In the first place, the influence of suggestion has to be eliminated, at least when experimenting with human subjects. The conditions presiding over these experiments, in other words, should be *anti-suggestive.* They are very different conditions from those observed by the hypnotists of the School of Paris or the *suggestionneurs* of the School of Nancy. The latter consciously or unconsciously use suggestion as their principal element in experimentation. In our case we not only *do not use* suggestion, but we endeavor to close every possible inlet

to the influence of suggestion, in whatever form it may present itself.

In the second place, the principal characteristic of the method of experimentation suggested in these pages is the regular and continuous use of experimental hypothesis and experimental discourse. Until now, all the so-called experiments conducted by scientists, as well as those by mesmerists, have been in reality but *observations* in which were lacking the essential element of true experimentation: the coördination of observations thus provoked in view of the immediate verification of an hypothesis.

That which differentiates the *experimental* method from the *empirical,* with which it is too often confused, is not the personal intervention of the seeker in the phenomena which he observes, rather *the presence of a preconceived idea in the mind of the seeker,* which should be controlled in conditions sufficiently precise that the facts obtained may answer in the positive or in the negative to all questions asked. Such a method, while giving *reflection* and *deduction* as important a part as *observation,* will, however, always refer to observation for the final decision.

For instance, the hypothesis which we propose to control is that of animal magnetism. Of course we do not at all understand this hypothesis as did its "partisans," from the time of Mesmer to the present. For them, such hypothesis is a *theory,* constructed more or less a priori, more or less completely systematized, in which

they seek the explanation of a number of facts already slightly known. From our point of view, it constitutes a general, indeterminate, directing idea, useful solely to help us in the devising of new experiments, to anticipate, as it were, the advent of facts as yet unknown. We do not, therefore, attempt, as do other official scientists, to prevent its progress, in even the minutest details; we leave to experimentation and application proper the task of "progressive determination."

The following supposition is that which is suggested by the experiments themselves:

"The human organism is susceptible of exerting from a distance an action analogous to the physical, radiating forces known as heat, light, electricity, and magnetism, upon other human organisms—and even upon material bodies."

Such an hypothesis might be more logically defined through the scientific knowledge we already possess of the radiating properties of physical forces, analogous to animal magnetism. But, if this method may have some usefulness, it will be found to exist subsidiarily, as experimentation progresses, and in the form of new suggestions developed through processes of reasoning, which would give rise to new experiments.

In fact, the hypothesis of animal magnetism, to be truly experimental, should be decomposed in a multitude of other, more particular hypotheses, so that each, in turn, may be subjected to the control of an appropriate experiment. They are those special hypotheses inter-

esting to the scientific mind solely because of their being capable of verification. Their elaboration would then proceed from the coördination of two factors: the facts and the laws as already known in physics and physiology. Through analogy, then, one may arrive at certain deductions, giving rise to certain hypothetical applications, but at least suggestive of new experiments and thereby controllable.

In this matter the scientist should never lose from sight the following great truism: "A fact can be of scientific value only so long as it suggests an hypothesis or controls it. Reciprocally, an hypothesis is of scientific value only when suggested by facts and controlled by them."

From the ensemble of facts gathered in the course of our numerous experiments we have reached a less conjectural conception of animal magnetism, and this has given us confidence to solicit the attention of scientists and the public generally.

The following are two *capital experiments*. The first goes far to prove the existence of animal magnetism. The second proves the *conductibility* of the magnetic or psychic force.

Experiment No. 1. A sensitive subject is blindfolded and asked to describe—without being questioned—every exterior sensation he may feel. The operator, in perfect silence, places his outstretched hand from 5 to 10 centimeters distant from any part of the subject's body.

A third person, wand in hand, taps in silence the subject's body, in any and every part, including the spot aimed at with the hand of the operator. After a comparatively short lapse of time, 30 to 60 seconds, the subject announces every tap inflicted upon him, and designates the spot where the taps are given—*with the exception of the spot aimed at by the operator.*

Also, if the operator be substituted by a neutral person (one who does not possess the power of exerting magnetic or psychic action) it will be found that on presentation of the hand for five, ten, or even twenty minutes, no effect will be obtained. The blindfolded subject will call out, indifferently, every tap given.

From this first experiment the deductions would be, at least hypothetically and still subject to ulterior controlling experiments, that:

1. The human organism radiates at a distance, at least through the hand, an influence capable of action upon another organism, that of a subject, producing in him a notable modification: to wit, anesthesia.

2. This influence does not emanate from all human organisms, or at least it does not emanate from all with sufficient force to produce effects of a notable order.

Experiment No. 2. The subject, being placed in the same conditions as before, is experimented upon by "a neutral individual," acting as operator in the manner described above. When it has been well established that the influence of that individual *has been nil*—that is, does not produce any observable effect—another experi-

menter is called in and placed in direct contact with the operator, by taking his hand or in any other way. It will then be noticed, after a lapse of time varying from 30 to 60 seconds, that the subject fails to perceive the taps exerted upon the spot aimed at by the hand of the neutral individual.

From this second experiment it will be deduced, at least hypothetically and still subject to ulterior controlling experiments, that:

1. The force radiated by *active individuals* is effectively received by *neutral individuals;* that it passes through their organism, although it does not manifest its presence through any observable sign.

2. This force is outwardly transmitted by the *neutrals,* preserving, after having passed through their organism, the property to influence a subject, while producing in him an observable effect: to wit, anesthesia.

Although many deductions could be made from these two experiments we shall indicate but the principal two.

In the first instance it will be found that our conception of animal magnetism not only is being confirmed—at least until proof to the contrary—but is being made more precise and clear.

In the second instance we see that, if this force does exist in the human body, it is not in the same degree of development in each individual. In many instances it appears to be thoroughly absent. Furthermore, we may conceive it as being extraordinarily diffusible, since it can pass immediately through all bodies without pro-

ducing in them any appreciable effects. We may even conclude that it is perfectly conductible, since it is being conducted from the operator to the subject, through the intermediary of a *neutral.* Perhaps, also, as may be verified in later experiments, this force may be conducted by all bodies in which it is being diffused.

This double experimentation permits one to classify human beings from the standpoint of animal magnetism. It is evident that they can be divided into three classes:

1. The operators: active or radiating. All those regularly capable of emitting this psychic force.

2. The neutrals: non-radiating and conductive. Those who do not emit the psychic force, but who can transmit it without appreciable modification.

3. The subjects: passive or non-radiating, isolators or non-conductors. These do not emit the psychic force, but they receive it, and manifest all its effects. This, no doubt, because they condense it, attract it, and perhaps, also, transform it while condensing it.

Let us summarize the above in the following tabulation:

1. *Radiating—conductible:* Operators.
2. *Non-radiating—conductible:* Neutrals.
3. *Non-radiating—isolators:* Subjects.

Now, however, it is possible to conceive a fourth class: that of the radiating-isolators.

As will be seen in a later chapter ("Human Radia-

tions"), this class seems to correspond practically to that of the *mediums,* producing physical effects (supposing these effects to be authentically proved).

All these deductions naturally raise an infinity of secondary questions, which may be resolved only by a long series of new experiments. For instance: To what must be attributed the difference between operators and neutrals? What is the part played, in the emission of the magnetic or psychic force, by the nervous system, the brain, the nerves, the skin, the blood circulation, breathing, nutrition, perspiration, etc., etc.? Does this emission of force radiate from every part of the body equally? Is it located in certain special centers? Can it be increased or diminished at will? Can it be artificially modified by drugs or physical actions with the help of external multipliers or condensers; such as the influence of water, a dry atmosphere or a humid one, electricity, mineralogical magnetism, etc.? Does its quality or intensity vary with the state of health, disease, age, sex, etc.? Is its force of emission equal in all those who possess it; and if it is true that such is not the case, how can one measure it? Is it possible to add and combine the radiating activities of one or more operators? Etc., etc.

Analogous problems arise regarding the neutrals: How does the conduction of this force take place? Is it throughout the whole of the organism, or through the surface only? What are the parts played respectively by the skin, the nerves, etc.? To what can be attributed

the relative impermeability of the subjects to the magneto-psychic force? Can one produce this phenomenon at will, suppress or modify it?

If we now consider the ensemble of the phenomena called psychic, and especially those of the third classification, a deep problem will be laid before us: that of *the unity of the Psychic Force.*

Indeed, it may be asked if it be not one and the same force which intervenes, in different ways though connected among themselves, in the phenomena of hypnotism and of suggestion, of telepathy and animal magnetism, of spiritism and mediumism?

Like all other problems, this can be solved only through a long and patient use of the experimental method. But this method, also, demands that we should give it a provisional and hypothetical solution. The solution seemingly suggested by the facts, especially by those of the second and third group, is that *this force is one and the same, although susceptible of presenting itself under various modalities.*

Granting this, it would be advisable to draw a line of distinction between the diverse modalities, and to determine the conditions under which the psychic force may pass from one to the other form. A tremendous task it is, which we recommend to future workers!

We can to-day, however, make the distinction between the various modalities:

1. *Internal modalities.* Here the psychic force remains shut in the interior of the organism. They would

correspond to the phenomena of the first group: hypnotism and suggestion.

2. *Internal-external modalities.* In these the psychic force is being exteriorized, passing from one organism into another. They correspond to the phenomena of the second order: animal magnetism and telepathy.

3. *External modalities.* Here the psychic force is being exteriorized, away from the organism and into material, physical objects; or it creates, itself, such objects. To these correspond the phenomena of the third order: mediumism.

It may be supposed, also, that to each of these different degrees of exteriorization, correspond correlating degrees of condensation of the psychic force.

From the state of *absolute fluidity* and *diffusibility* of the psychic force, which could be taken as a starting-point, it would be possible to obtain, through successive transformations, a sufficiently intense condensation to become effectively material, visible, and tangible.

However these hypotheses may be received, so long as they serve as instruments for future experimentation, there is every advantage in store awaiting the patient labors of the scientific seeker. There is no experimental method without hypothesis.

The field is all prepared for the sower to sow his seed. It is plowed clean and fresh. Let us now hope that the plowmen may turn out in great numbers, as the coming harvest yields promises of plenty and of joy.

CHAPTER I

The Cryptoidal Phenomena

I

Bacon, in his *Novum Organum,* recommends the scientist to observe indifferently all the natural phenomena which present themselves to him, and to reserve his interest and attention for really significant and instructive facts. To these he gives the name of prerogative facts (*prærogativæ instantiarum*), and classifies them in twenty-seven species.

He assigns the first place, almost, to the ostensive facts (*instantiæ ostivæ*), which he cites as examples of predominance (*elucescentias*). These facts are those the causes and properties of which are fully apparent, and freed from all obstacles to research. As an example he cites the magnet, where the attractive force is apparent.

To these facts he opposes those which he denominates as clandestine or dusky (*instantiæ clandestinæ et crepusculi*). "They are those in which the property being the subject of research is present in its lowest form or degree—at its birth, as it were—and as if masked and overcome by its opposite." As an example he cites cohesion in liquids.

Were we, however, to examine the question from a generally higher standpoint, we might be justified in dividing the phenomena of nature into two great classifications: *ostensible phenomena* and *clandestine phenomena.* For it seems to us that such a distinction, in the actual state of our knowledge and of our researches, would be of great scientific and philosophic import, as we now will attempt to demonstrate.

That man, in the name of science, has often criticized the illusion born in his own mind that "all things were made for the use of man and the satisfaction of his needs," is beyond question. Yet the very scientists who delighted in the demonstration of how illusory the pretended finality of nature was, in regard to our practical activities, did not suspect that they were the dupes of an illusion of the same kind, when considering nature as necessarily preordained for the requirements of science.

Things exist to become known. We may even go so far as to say that "things exist to be known scientifically and by man." This is what we might call the "initial postulate of human science." In this postulate, when examined impartially, one may recognize an application of the principle of finality, as naïve as that upon which are founded the primitive religions of humanity —the earth, center of the universe and man, the aim of creation!

We must confess that such a postulate is imposed upon ourselves, by our mental constitution. On the one hand, intelligence conforms, as do all nature's forces, to the celebrated formula which Spinoza gave us: "All that which *is*, tends to persevere in its own being."

But, where intelligence is concerned, to persevere in its own being means to exert its proper action, to have knowledge and exert it indefinitely. Hence its own confidence in universal intelligibility.

In his *Lessons in Philosophy*, M. Rabier states: "Every being, every conscious force, is naturally fully confident of itself. He whose mind has already mastered and explained to himself a number of natural phenomena may, or naturally will, believe that all things will be made intelligible to him, that he holds the secret to All, that the world is made for him and that he will be able to assimilate it." And thus, as Aristotle says: "As the young man's heart is filled with hopes sublime, until the bitterness of life's experiences has humiliated his pretensions, so the little bird who has just tried the power of his wings may imagine himself capable of flying to the stars."

On the other hand, intelligence finds in the human organism a certain number of natural instruments, which seemingly have been especially prepared to place it in relation with external things, thereby receiving immediate cognition. These are the senses. Does it

not seem, in reality, that the senses of taste, smell, touch, hearing, and seeing have been so kindly devised and combined by Dame Nature to give us a revelation of the existence and various properties of all the objects that surround us?

"All that we can see and touch, really exists; and all that which is not tangible or visible, does not."

Here are two propositions which, for the great majority of men, pass as every-day common sense. Yet these pretended axioms have been given all the titles in the world, forming, as they do, the first alignment of that vast classification of universal and natural prejudices, which Bacon denominates *idola tribus*.

Our senses, it is true, have been produced and fashioned by the things themselves, and from this point of view it would not be very exact to consider, with Descartes, that "all perceptions received are entirely subjective and arbitrary." Given other senses, we should perceive things differently. But perhaps we would not possess other senses if things themselves were different. In this case they naturally would become for us the object of other perceptions. Meanwhile, whatever part things played in the genesis of our senses, the primary factor in this evolution has certainly not been intellectual usefulness; rather, vital usefulness.

"The senses," writes M. Fouillée, in his *Psychologie des idées-forces,* "have been organized progressively, not so as to serve in the acquisition of intellectual and

speculative knowledge, as stated by Plato; rather, to supply the practical needs of 'appetite' and 'the will to live.' The eyes are not formed expressly for the purpose of contemplation; rather, are they there to ward off danger and facilitate the prehension of prey. It cannot even be said that the eyes formed themselves to see; rather, to transmit the impressions of pain, pleasure, and conduce to action. All organs of the senses are but means to accomplish motions of flight and of pursuit, which in themselves aim ultimately at evasion from pain and the pursuit of pleasure."

This is why one sense predominates over another. In the human species the predominance of the senses of sight and touch over all other senses can have no rapport whatsoever with the value of these senses as instruments for the scientific knowledge of things, nor be related to any particularity in the structure of this species or to any accident of its evolution. Suppose for one moment a race of beings as intelligent as man, in whom the sense of smell were the predominating sense, as it is with the dog. Smell, in this race, would then be the measure of reality; and among them the axiom would be: "All things without smell do not exist."

Error in common things has been equally shared by the greatest philosophers. Thus Aristotle taught that the reason why we possess five senses is because there are five distinct irreducible properties in material objects, which correspond respectively to our senses, such

as color, sound, smell, taste and tangibility. Hence his celebrated aphorism: "One sense the less, one science the less."

Until the advent of Descartes, the doctrine of Aristotle reigned supreme in philosophy. That one thing might exist without manifesting itself to any of our senses would have been an utterance which a medical doctor of the Middle Ages would have described, a priori, as absurd. Yet in the School this was universally admitted as a principle; in fact, it was one of those principles which it was forbidden to discuss: "Between that which does not exist and that which is not apparent, the difference is nil (*eadem est ratio non entis ac non apparentis*)."

To-day, however, we allow ourselves unconsciously to be guided by this obsolete principle. Phenomenon is for us synonymous with fact or natural event, as if nothing happened or were made in nature which is not susceptible of appearing to us, of revealing itself to us. The truth is that, together with other thinkers, we hardly begin to realize that "in the unfathomable regions of space, around ourselves, in our own selves, occur certain orders of phenomena to which we possess no key, upon which we have no light, and the knowledge of which it is imperatively necessary for mankind to obtain in order to understand the only just and true explanation of things." [1]

[1] *Théorie des sciences*, L. Bourdeau. (Paris: Alcan.)

II

A revolution is taking place at the present time in the general conception which scientists have of the phenomena of nature. This revolution consists in the admittance of the two orders of phenomena: First, the ostensible phenomena, to use Bacon's definition, or the *phaneroidal* phenomena; these are almost the only phenomena which scientists hitherto have taken in consideration. Second, the clandestine or *cryptoidal* phenomena, which appear to have been eliminated systematically from our usual means of investigation, but the reality of which we cannot afford longer to ignore.

Two principal causes have contributed to the advent of this revolution into our ideas. In the first place, we have the accumulation of the extraordinary discoveries from the latter part of the Nineteenth Century onward. The effects of these were suddenly to bring to light the existence of certain unknown phenomena occurring in those realms of nature which, in our own pretensions, we had thought explored through and through for all times. In the second place, the influence of the philosophical doctrines of Descartes, Leibnitz, and Kant familiarized us more and more with the metaphysical notions of the infinity of the universe and the relative imperfections of human knowledge.

In the beginning of the Nineteenth Century, we witnessed the definite constitution of almost all the sciences of nature, in possession at last of their objects and of

their methods; and as long as the first phase of elaboration and organization lasted, the scientists believed that all that remained to be done was to develop farther and regularly the results already acquired. They believed that they had filled all the pigeon-holes which they had prepared to receive their findings; but they did not, nor could not, suppose that these would suffice for the future acquirements of science. The natural curiosity of the human mind appeared, thus, for all times circumscribed within the barriers which the men of that era took quite in good faith for the very limits of reality. It would have been impossible for a scientist of the year 1830 or 1848 to have been capable of conceiving lines such as the following, which themselves date as far back as 1892, and which demonstrate to what extent the scientific spirit grew in the second half of the Nineteenth Century:

"Think of the fact that general physics, as the base of all the sciences, is constantly changing, constantly being renewed. We cannot, we should not, look upon the theories of the dynamism of heat and electricity, of attraction, of the conservation of energy, as the last word in scientific discoveries. These are, no doubt, great and wonderful laws; but, without being considered a dreamer, one may assert that these laws will yet be dethroned by others, different and more general in character. Nothing authorizes us to say that we know all of the laws of nature. Far from it; the probability is that a few of nature's forces are known to us, while a

great many are still hidden from our knowledge. What would we know of the force of electricity, had Galvani and Volta not experimented as they did? What could we say about magnetism, if the magnet were not in existence? Certainly, there are in nature all kinds of forces which we cannot see, do not know how to see, and that hazard only, or the genius of a man, will be able some day to discover." [2]

How can such a conviction not be shared by every scientist who pauses to think for only a brief moment, when he realizes how the medical sciences have been changed and renewed, from top to bottom, with the advent of Pasteur's discoveries; in 1860 he received but derision and abuse from his scientific colleagues. Then, the existence of microbes was hardly suspected; to-day we realize they are everywhere, and that nature has no greater or more energetic agents.

We might also recall the transformation which took place in astronomy through the discovery of "spectral analysis," thanks to which we are in a position to know a great deal more intimately the actual *chemical constitution* of the most distant stars than we know that of our own earth.

The more recent discovery, the Roentgen rays, has at once opened the doors wide upon an intricate ensemble of phenomena, which no one would have hesitated to declare at first sight as impossible of existence. And

[2] *Dans cent ans*, Charles Richet. (*Revue scientifique*, March 12, 1892.)

have not the scientists, only yesterday, discovered after centuries of analysis that the air we breathe contains four gases of unknown qualities: argon, crypton, neon and metargon? What about the discovery of radium, of wireless telegraphy and telephony, telegraphic photography, etc.? And we can safely say that the list is not by any means near to completion.

III

From another side, philosophy, following a different course, has reached this conclusion: "The knowable does not constitute the full reality; it is only a part of it—better still, an aspect of reality."

Descartes, while giving an absolute value to the rational knowledge founded upon distinct and clear ideas, only professes the relativity of knowledge, through the senses. According to this philosopher, our senses do not give us the real comprehension of the nature of things, which is entirely geometrical and mechanical. The senses give us a knowledge, only, of their proper modifications; and therefore can solely give us an indirect and incomplete knowledge of the phenomena of the exterior world. Of the infinity of figures and motions contained in the immensity of space, the senses reveal to us but an infinitesimally small portion, under the illusory appearance of sound, light, heat; or, in other words, of the various sensorial qualities. Matter, not being limited to space or to time, realizes infinitely more

phenomena than we are in a position to observe, than we may even conceive of. Hence the reason why the field of natural possibilities is to Descartes limitless: our imagination could not invent a prodigy which nature's mechanism were incapable of executing.[3]

Spinoza appears at first sight to promise us the science of integral and absolute being. Does he not pretend to deduce mathematically all truths from the three definitions of substance, attribute, and mode? But as Matter is infinite, it necessarily contains an infinity of attributes, infinitely modified; yet, of all the attributes of Matter, the number of which is infinite, two only are known to us: space and thought.[4] Therefore, parallel with the world of bodies and souls in which we have our being, others exist, endlessly, hidden to our vision, the modes of which are nevertheless inseparable from those of our own world in the indivisible unity of universal substance. Thus in the very center of Spinoza's system exists a terrific abyss above which the Mind of Man cannot lean without danger.

Descartes and Spinoza, then, place the Infinite outside of ourselves. Leibnitz, on the contrary, interiorizes it, or locates it within. Every soul, every monad, every element of things, contains in itself the universality of things past, present, and to come. There is no point in the universe which is not in active and dynamic communication with all the others.

[3] *Principes de la philosophie,* Descartes.
[4] *L'étendue et la pensée.*

Without taking the trouble to go out of my own individual sphere, it would be sufficient for me to descend, deeply, within my own self to behold, with mine own eyes, the whole drama of Universal Life. Would it then come to this, that my own and distinct consciousness, my apperception, lights up but the surface of my being, and that a whole world of latent perceptions lies behind that which I perceive? This inference leads to the introduction in philosophy of what is called the paradoxical notion, if contradictory in appearance, of sensations that are not felt and of thoughts that one has unknowingly; and at the same time the perspectives of psychology retrogress infinitely: hitherto limited to the first planes of conscious life, they now extend indefinitely into the mysterious regions of the subconscious and of the unconscious.

From still another point of view, Leibnitz may be reckoned as one of the most important promoters of this new way of looking at things. By this we mean his hypothesis of monads. While the doctrine of atoms invites us to conceive the hidden principles of the phenomena of nature with the characters of the phenomena themselves—size, form, weight, visibility, tangibility (for our imagination, if not for our senses)—monadism constrains us to suppose them absolutely heterogeneous in regard to the material world.

If this alone be but knowable, from the scientific point of view, does not the Leibnitzian hypothesis of monads become impossible of scientific cognition: that

is, objectively and universally? Kant did not hesitate to draw this conclusion. He resolutely decided upon the conversion of monads into noumena.

From his *Critique of Pure Reason,* the thesis of the relativity of human knowledge has passed into current use in philosophy and contemporaneous sciences. It has even become the common ground of thought in the present century. And it was this that Spencer used as the basis of the system in which he attempted to synthesize all the results, hitherto acquired or simply hoped for, from the scientific work up to date. Under the infinitely varied forms of the phenomena is hidden an unknowable reality, the substance and cause of universal evolution.

However, if this metaphysical conception of the unknowable, of the noumenon, or of the *thing in me* has paved the way to that of the cryptoidal phenomena it nevertheless differs from it materially—just because it is metaphysical and not scientific; because it is in rapport with absolute realities, with transcendental entities, and not with facts or phenomena, belonging as they do to the domain of positive science although situated in a part of that domain infinitely less accessible to our customary methods of procedure. In other words, contemporaneous science is beginning to assimilate the metaphysical concept of the unknowable, but in adapting it to its proper object, which is and will remain the phenomenal world. Through this it becomes, from the *absolute* unknowable of the metaphysicians, a fact *relatively* unknowable.

Between the cryptoidal phenomena and the others the difference is but one of circumstances, *not* one of *essence*. That which remained hitherto a notion purely formal, negative, and hollow becomes, as we will demonstrate later on, positive and concrete.

IV

From the above, it might be inferred that contemporaneous scientists are but rehabilitating a most ancient conception, obstinately ignored and scorned equally by scientists and philosophers, at least by all the so-called classical and official ones. Have there not existed, at all times, mystics, theosophists, magicians, etc., false philosophers and false scientists, so denounced by the former, who maintained the existence in nature of a whole order of special phenomena, in a sense supernatural, which science is incapable of knowing or of mastering by ordinary methods of observation and experimentation? Do not these phenomena constitute, as it were, a world apart, in the great world of universal phenomena? And to these must there not consequently correspond an order of distinct sciences, that of the sciences called *occult*, side by side and above the sciences called *positive*?

We are not in a position to say whether the assertions of the occultists have contributed to the widening of the conceptions of positive science. Were this to be true, however, it would in no wise follow that we would

witness, to-day, the rehabilitation of the occult sciences. But we may say, that the same law of transformation which is operating through the metaphysical notions of the unknown is operating also through the mystical notions of the occult. The one as well as the other tends to become rational and positive under its influence.

There is, therefore, no question of restoring astrology, alchemy and other pseudo-sciences of antiquity and of the Middle Ages. The whole question lies in the fact of merely developing the real sciences, the modern sciences, founded on experimentation and calculation, in such wise as to encompass all orders of phenomena, *visible or invisible,* ostensible or clandestine.

As far back as in 1814, Madame de Staël, writing in her book *De l'Allemagne,* said: "What we like to call errors and superstitions may be due, after all, to our imperfect knowledge of certain laws of the universe. The rapports between the metals and the planets, or vice versa, the influence of these rapports on human life, the oracles, even the omens, may have as their causes certain unknown forces of which we do not possess the slightest idea. Why not give the experimental method a wider philosophical concept, which would embody the universe in its ensemble, and would not despicably turn its nose up to the 'nocturnal' side of nature, while waiting for more light?"

If, therefore, by occult phenomena is understood miraculous and supernatural phenomena, not related

in a regular and constant form to the ensemble of the forces and laws of the universe, but constituting a second nature entirely aside from the experimental sciences, such as physics, chemistry and biology, it would be evident that to admit of the reality of such phenomena would not mean the regress of the limits of science; rather, the extension of its domain. If phenomena of that sort were truly possible, they would not constitute, for science, an open door upon new spaces to explore, but, on the contrary, a closed and unscalable wall.

The cryptoidal phenomena should be conceived as following the supreme and universal law which all phenomena obey: the law of causation. The flux and reflux of the same conditions bring them and take them away with an invariable regularity, and although they may appear capricious and elusive, they nevertheless belong to the realm of natural determinism. It is in rapport to ourselves, and not in themselves, that they differ from the sensorial and constant phenomena.

V

In the first group of the cryptoidal phenomena might be included certain phenomena which actually exist and recur perpetually in our universe, but which our senses do not record, owing to the lack of the reactive agent and to the fact that we do not possess, normally, the means to register or perceive them. With the ancients this was true in the case of air. And it was the case

with electricity so long as man remained ignorant of the means of producing and accumulating it artificially. The existence of X-rays might have remained unknown had it not been for the accidental fact of an electric current passing through the Crookes tube near certain chemicals in the laboratory of Roentgen. Their properties to-day are well known. A simpler example could be derived from the solar rays of light in the regions of the infra-red and the ultra-violet; these properties are known to us only indirectly, through their physical and physiological effects. The principles of photography are founded entirely upon the fact that images, at first invisible and fleeting, can be printed upon certain substances, and then made visible and permanent by means of other substances reacting upon the former.

In 1842, Möser, a German professor, maintained that two bodies of whatever nature constantly imprinted their image one upon the other, even when placed in complete obscurity. Thus, illustrated prints leave their image upon glass; to make this visible all you need do is to project upon the glass any kind of vapor —for instance, the breath, vapors of mercury, iodin, chlorine, etc.

In the realm of physiology and psychology, there is now an abundance of cryptoidal phenomena.

It is thus that all our emotions, thoughts, efforts of the will, etc., are accompanied by fibrillary movements in our muscles; although imperceptible to our senses they nevertheless translate faithfully their nature or

intensity. This is shown by the pendulum of Chevreul. Another physiologist, Gley, has gone minutely into this question; aided by special instruments he was able to produce the apparently enigmatic phenomenon of thought-transmission, or thought-reading. Dr. Pierre Janet, with the aid of "automatic writing," has been able to prove the presence of consciousness in hysterical patients, when they were apparently impervious to sensations of pain.

One might also suggest that the hypnotic and magnetic maneuvers are cryptoidal in nature, in the sense that their effects can reveal themselves only after the revelatory process of suggestion, gesture, or speech.

The same applies to the revelator of the still unknown cryptoidal state obtained by the Braidian process: the state to which Durand (de Gros) gave the name of *hypotaxy,* and which is the verbal suggestion or ideoplasty, the effects of which he compares to that of light thrown upon a sensitive plate. He says: "The individual whom you submit to hypnosis is to be compared to a sensitive plate. The usual Braidian process applied to him has the purpose of *sensitizing* him. But in order that the objects you wish to photograph may leave the record of their images, it is not sufficient that you should have sensitized the plate and kept it from the light. You also must put your plate in the dark chamber of the camera and open the obturator, so that the light rushing in will reflect the images of the objects upon the sensitized plate and accomplish the

task. Thus the second part of the photographic operation is represented in hypnotism by the ideoplastic phase, where the mental impression or suggestive word plays the part of the rays of light."

It also may be probable that this hypotaxic state may be produced by several other causes. It may even exist spontaneously among certain individuals; but not using the revelatory processes, which we ignore, we are kept in the dark as to its existence.

This may explain the phenomenon to which Bernheim calls attention: "If you take the arm of a typhoid patient, raise it slowly and leave it so, the arm will remain thus suspended in the position where it was left. Then take the other arm and do the same with it. You obtain catalepsy. This state will be more or less accentuated according to the cases. Certain patients allow the arm to fall; others remain cataleptized for a minute or two; while still others remain so indefinitely. Often the cataleptic state is slight: a mere touch will cause the arm to fall. More often, however, the arm is rigid or elastic, etc."

These, Dr. Bernheim says, are interesting and recurrent facts, and the clinicians go by them daily without knowing or noticing them. In so characterizing them, he gives to these phenomena almost the very same definition which we ourselves have given to the cryptoidal phenomena.

Then come the phenomena, still under controversy, but none the less real, discovered by the late Colonel

de Rochas. These are called "the exteriorization of the sensibility," and have been verified and reproduced by Dr. Paul Joire, of Lille, France. The subjects, in a deep comatose condition, lose the sensitiveness from the surface of their skin, and it appears to be projected outwardly at various distances or to become fixed, as it were, in certain objects held in contact by the individuals for a certain time. The description of this is fully given in our introduction and also in the chapter entitled "The Exteriorization of the Sensitiveness."

In these experiments, it would seem that the experimenter, having exteriorized his sensitiveness in a material object, remained in communication with this object through the lines of force; so that for every impression made upon the nervous system there was an immediate repercussion upon the object. By reciprocity, for every impression created upon the object there was an instantaneous repercussion upon the subject's nervous system; so that the part played by the subject was simply that of a reactionary agent or revelator, in virtue of his greater impressionability.

If this be the true interpretation of these phenomena, one cannot help being staggered by the immense quantities of subtle and imponderable actions which we exert, at all times, upon all the objects which surround us, and upon all the people with whom we daily come in contact; actions which we also receive from outside sources and of which we remain unconscious owing to the lack of proper revelators.

What a whirl of currents crossing our invisible atmosphere, what quantities of lines of Force, present around us in all directions, in the troubled depths of the etheric world!

Who knows that the jocular expression of Berthelot, the great French savant, was not spoken earnestly from the heart: "Will it be yet possible in our lifetime to find and photograph the image of Alexander the Great, beneath one of the rocks where he slept for a few instants during his expedition to Asia?"

VI

It would be interesting, in order to complete the study of this first category of phenomena, to study also the various kinds of revelators or agents of reaction.

We know that the obstacle in the path of the ancient philosophers to ascertain the atmospheric weight was the fact that all the atmospheric molecules counterpoised one another. It was only possible to manifest its effects on one point at the expense of suppressing them on another, as did Pascal and Torricelli.

The light of the stars becomes visible in the daytime when reaching the eye directly without being intercepted by the rays of the sun (for instance, at the bottom of a well or a mine). In other cases, the revelator does not play any other part than that of preventing the passage of an action which otherwise traverses too rapidly and freely the various *milieux,* without possi-

bility of controlling it. It is for this reason that, without the presence of isolators and bad conductors, it would never have been possible for us to gain a knowledge of electricity.

Mr. Bergson seems to have explained external perception, such as conceived by him, in an *action d'arrêt* of this kind. "The question is not how perception takes birth; rather, how it is limited; for by right it is the image of all things, although reduced in fact to that which interests us." In effect, "that which is given is the totality of the material world with the totality of their internal elements. But if you suppose certain centers of real or spontaneous activity, the rays reaching them, instead of going *through* them, will appear to come back and outline the borders of the object which sends them." Further still, "if we consider any part of the universe, we may say that the action of matter goes through it without resistance or loss, and that the photography of the whole is translucid: behind the plate is then missing a black screen upon which the image would be projected. Our *zones of indetermination* (the designation for living and conscious beings) would then play the part, as it were, of screens."

We believe that this mode of *revelation* is indeed more frequent in nature than is dreamed of; and that in particular that which distinguishes the people sensitive to magnetic, hypnotic, telepathic actions, etc., from the rest of humanity, is the fact that their nervous

system is relatively impermeable to these actions. Often, also, the revelator operates in reproducing and continuing the phenomenon which he is revealing to us.

A correlation seems, then, to exist between them all when we may read or see, with more or less facility, all the variations of the one in the variations of the other. This is the case with scrap-iron and the magnet; or with the vibrations of sound (for which nature gave us the ear, as revelator) and sand strewn over vibrating surfaces, etc.

Apparatus of registration come into this category, which might also include those which reproduce the variations of phenomena, amplifying and multiplying them at the same time.[5]

These examples will, I hope, suffice to give us an idea of the diversity of means whereby the most elusive phenomena may be made manifest. All instruments should, then, fill the purpose of placing the phenomena in rapport with our nervous system, which remains, after all, the supreme revelator. But if it is the most delicate of all, it also is the easiest to disrupt.

[5] At time of translating, I have just cut from a New York newspaper an announcement as follows: "Improved sound amplifier. Berkeley. Cal. 16. 1. 17. Experiments with this new sound amplifier indicate that it will be possible to make heretofore impracticable scientific tests. For instance, by attaching the instrument to an ordinary phonograph it will make possible the record of the sound of a human heart. The sound of a leaking heart-valve can be amplified 10,000 times." Professor R. B. Abbott, instructor in physics at the University of California, is the inventor.—W. de K.

Hence the reason why all researches where it cannot be given the complement of artificial revelators, such as those seen in physical laboratories or chemical reaction agents, are condemned, almost indefinitely, to uncertainty.

Indeed, it would seem that we are not very much farther advanced than at the time when Laplace wrote: "Of all the instruments that we may use in our quest for knowledge of the agents of nature, the nerves are the most sensitive, especially so when their sensitiveness is exaggerated through particular circumstances. Through them we discovered the feeble current of electricity which two heterogeneous metallic bodies generate, and which opened an unlimited field to the researches of the chemists and physicians. The singular phenomena which result from the extreme sensitiveness of the nerves, in certain individuals, has given birth to diverse opinions upon the existence of a new agent called 'animal magnetism,' upon the action of the ordinary magnetism, the influence of the sun and the moon during various nervous affections. Finally, upon the impressions which can be gathered when in the proximity of running water and subterranean masses of metal.

"It is natural to think that the action of such causes is quite feeble and may easily be disturbed by a great number of accidental causes. Therefore, if in some instances such actions have not been manifested, their existence should not be rejected."

VII

In the second group of the cryptoidal phenomena might be included all the phenomena which nature, in the ordinary course of her operations, produces but rarely, if at all, but which nevertheless are evolved from her laws in the state of possible certainties.

These, therefore, are not cryptoidal in the same sense as the former; for when they are realized, spontaneously or otherwise, they fall immediately under our senses, and we have no trouble in observing them. Yet, for all that, they remain hidden and relatively inaccessible; for they appear only as rare exceptions, so long as we do not meet them with conditions necessary for their realization. In the majority of instances, also, they may be qualified as paradoxical, inasmuch as most men, never having observed them, are disposed to consider them as impossible, until the day that science discovers the means to produce and reproduce them at will under their very eyes.

These phenomena require, in fact, not, as in the former cases, special revelators, but, if we may term it so, special *realizers,* without which they remain not only invisible, but inexistent. As soon as the realizers are procured, whether by chance effect or otherwise, one beholds the abrupt surging of these phenomena from the depths of the latent possibilities of nature, similar to

the genii of those Oriental fairy tales, ready to obey the magical evocation.[6]

In practice it is not always easy to distinguish these phenomena from the preceding ones. The difference which separates the revelator from the excitator or realizator is often but a shade. For example, take remembrances of an extremely distant past, as in the instance of the young patient who in her delirium recited, without apparent consciousness, texts in Hebrew, Greek and Latin, which she had in former days known. In this case has not disease been the revelator of a state already existing, or has disease realized a hidden condition? In a general manner, if it be admitted that every impression, every thought, even the most ephemeral, leaves behind itself a trace in our organism and in our mind, every one of us contains a world of phenomena, cryptoidal phenomena, which might indifferently be classified in either of these two groups.

It also may happen that the same phenomenon belongs to both groups, as is the case with many of those we already have discussed; for instance, passes and the Braidian process, which would remain unperceived were it not for the revelators: suggestion and muscular contraction, voluntarily provoked in the subjects.

But, from another point of view, who could believe, so long as he did not experiment, that it is sufficient

[6] To this category of phenomena belongs that of the apparition of new living species, by way of the law of transformation of the species already in existence.

to wave your hands in front of certain individuals, or to make them gaze at a fixed spot for a certain length of time, to realize in them such extraordinary phenomena as somnambulism, catalepsy, lethargy, hyperesthesia, amnesia, hyperamnesia, etc.? Hence may be explained the stubborn incredulity that these phenomena have for so long had to contend with in the so-called scientific world, as well as among the laymen. One may fully understand why Dr. Bernheim, a few years ago, should say:

"That which astounds fellow-doctors who honor us by visiting our clinic, is the singular ease with which we hypnotize the immense majority of subjects of all ages, sex, and temperament. They imagined that the hypnotic state was the exclusive inheritance of a few and rare neuropathic subjects. Now, they see a whole room of patients of all denominations fall under the influence of hypnotic suggestion. How is it possible that for centuries we have passed by, without discovering it, this wonderful and easily demonstrated truth?"

Our conviction is that as Science shall relentlessly pursue her quest for Truth and Knowledge, before her will be unfolded other and still more wonderful truths by the side of which mankind has traveled for centuries without ever noticing them.

CHAPTER II

Thought: the Hidden Force

"The two actions of thought, that which induces belief in an object, and that through which one knows that one believes, may often exist one without the other."

This quotation from Descartes[1] concerning *belief* indicates his conceiving the action of belief as an unconscious one. Hence one may ask whether certain other mental states do not present a similar character.

Leibnitz, however, it would seem, had been the first to formulate the conception of unconscious psychological phenomena, or as he then called them, "insensible perceptions." He was the first to say that: "In ourselves exists an infinity of perceptions, without apperception or reflection; in other words, certain mental changes exist of which we are unconscious because they are too numerous or too infinitesimal, or too similar. When separate, these impressions have nothing to distinguish them; but joined to others they seldom fail to produce their effect and to make themselves felt, if only confusedly."

His conception since then has been in frequent use

[1] *Discours de la méthode*, Part III.

in psychology. If it has been possible to discuss the interpretation of "unconscious psychological phenomena"—some holding the view of absolute unconsciousness, others the subconscious or relative unconsciousness—students have been at least unanimous in admitting the existence of such phenomena, in order to explain mental life.

Certainly this question has progressed, since taken into the field of experimentation, through the study of certain pathological, more or less abnormal facts; for in this way it has been possible to make visible all the internal life hitherto hidden from our sight. One has thus proved experimentally that side by side with such things as sensations, perceptions, ideas, judgment, reasoning, etc., of which we are conscious, may exist other sensations, perceptions, ideas, etc., of which we are thoroughly unconscious. Experimental research has also gone so far as to prove that these latter impressions are capable of such coördination and may organize themselves in such manner as to constitute a second personality more or less distinct from and independent of the principal.

Giving, therefore, the term *cryptopsychism* to the ensemble of these latent psychological phenomena, we may distinguish two degrees or two forms of cryptopsychism:

1. *An elementary cryptopsychism:* fragmentary; consisting of isolated phenomenal instances.

2. *A synthetical cryptopsychism:* organized; consisting of phenomena more or less allied and consistent, so as to assume the appearance of a secondary personality.

I

In the first division the most frequent case is that of *unconscious sensations.*

One knows how frequent are cases of anesthesia among hysterical subjects. But are these cases real or apparent? When touched, pinched, pricked, burnt, etc., must it be understood that the body of the hysterical patient does not resent any pain? That these sensations are but unconscious?

To solve this problem all that is needed is the means to render these sensations *conscious.*

Let us now examine the various processes, before going any farther in the study of cryptopsychic phenomena, that enable us to *reveal* (in the full sense of the term employed by photographers) the sensations in the unconscious and in general all the unconscious psychological facts.

The first process is that of *subsequent somnambulism.* This consists in placing the subject in the somnambulistic state, and to question him on the sensations he receives at the very moment when he appears not to feel anything. It will then be understood that the sensations did actually take place, but that these were not accompanied by a state of consciousness—at least

these sensations were foreign to the central and personal consciousness of the subject.

Well do I remember having first of all employed this process in the year 1896, when at the Salpêtrière, with the late Dr. A. Voisin. My attention was drawn by B. L., one of my pupils, now practicing medicine in Paris, to an hysterical woman, S., who was afflicted with cutaneous anesthesia over her whole body. S. had been badly burnt; and through this we were able to test her degree of sensibility. We found that she was perfectly insensible. Vainly did we endeavor to restore her sensibility through suggestion, given her while in the hypnotic state. Whether in the sleeping or in the waking state, S. remained totally anesthetised.

As that time I had just read the remarkable works of M. Pierre Janet upon psychological automatism; and I wondered if really this case of hysterical anesthesia were not a case of unconscious sensitiveness, as described in his book.[2]

I then placed S. in a somnambulistic state, giving her the post-hypnotic suggestion that she should exactly remember in a second state of somnambulism the various pin-pricks which I was about to inflict upon her, and that she should be able to indicate precisely the location of the pricks.

S. woke. She did not appear to remember the suggestions given. While her attention was distracted through conversing with a third person, we inflicted

[2] *L'automatisme psychologique*, Part II. (Paris: F. Alcan.)

several other pin-pricks upon her. She did not see us do this, and was therefore wholly unaware of it.

Placed a second time in the somnambulistic state, S. indicated with great precision the various parts of her body where these pin-pricks had been inflicted, and even to the very order in which they had been inflicted.

It would have been most interesting to make this experiment again, without preceding it with suggestion, and varying the circumstances as much as possible. In a general manner, it should be well to ascertain whether all the cases of partial or complete hysterical anesthesia are not, in reality, cases of *subconscious sensibility*.

The second process is that described by Pierre Janet as *suggestion by distraction*. It consists in giving a specific suggestion while the subject's attention is distracted to some other object. This suggestion is realized by him quite unconsciously, while in the waking state and when his actions seem to imply the exercise, more or less complicated, of his mental faculties.

Pierre Janet cites the following:

The patient L—, possessing that natural distraction which is common to hysterical subjects, is incapable of hearing me while listening to others, and still less of obeying my commands. This woman is not like other hysterical patients, subject to receiving suggestions in the waking state. If, in a direct manner, I command her to perform an action, she will discuss it in astonishment, but will not obey. But when she is busily engaged talking to others, I can, without her knowledge, and while standing, unseen, behind her, induce her to obey my commands. For instance, she will slowly take her

watch from her pocket, or walk away, or put her gloves on, or take them off, when ordered to do so.

Anesthesia among certain subjects gives rise to similar phenomena.

L—'s left hand is in a complete anesthetic state. I hide it behind a screen, and place in it a pair of scissors. I then ask L— to tell me what she holds. She cannot do so, although her fingers are clutching the scissors through the rings. The same inability occurs when she is asked to describe the pair of spectacles she holds; until the screen is removed and in amazement she exclaims, "Ah, but it is a pair of glasses I am holding!"

The third process, somewhat allied to the foregoing, and which Pierre Janet has employed in his experiments, is that of *automatic writing.* The spiritists appear to have used this first, and with an altogether different aim. But we can safely isolate this method from all spiritistic belief.

"In itself the phenomenon of automatic writing consists simply in this: that the experimenter, while speaking or singing, writes without looking at the paper. He may write many pages, in sequential order, yet without possessing the slightest consciousness of what he has written."

Taine, from whom this is quoted,[8] says: "The sincerity of the writer is beyond question, when he states that he has no knowledge of what he has written, or when on reading his writing he gives expression to astonishment, often alarm. . . ."

[8] *De l'intelligence,* Taine.

To produce this phenomenon the experimenter may use the form of suggestion by distraction or suggestion in the somnambulistic state. As an example:

Taking L—'s left hand—which is in an anesthetic state—I place a pencil between her fingers while she is talking to others and is unconscious of my act. Her fingers clutch the pencil. Instead, now, of guiding her hand to write a letter which she would continue to write indefinitely, I ask her these questions: "How old are you? In what town are we?" And we see the hand quickly write the answers, without L—'s attention being turned once from her conversation, in which she is actively engaged.

The following is an example of the somnambulistic state:

The suggestions are given while the subject is deeply asleep (hypnotic coma). Then she is awakened completely. I now order: "When I clap my hands, you must take the paper and pencil which are on the table, and write the word *Bonjour.*" Instantly, and quite unconsciously, the hand writes the word rapidly and clearly. All the while L— remained perfectly unaware of the action of her hand. Now I say: "You will multiply in writing, 739 by 12." And again the hand writes, stopping only when the operation is completed. During all this time L—, fully awake, was explaining to me how she had spent the morning; but her hand never stopped for an instant.

However, it is not necessary to ask the questions during the somnambulistic state, and to wake the subject afterward, in order to have her unconsciously write the answers. Pierre Janet deems it sufficient to make the suggestion during the somnambulistic stage to the effect that she must give correctly, when fully awak-

ened, the answers to the questions. Thus automatic writing is found allied to suggestion by distraction, as shown by the following:

L—, although fully awake and having been given the suggestion in a preceding comatic sleep, did not seem to hear or see me consciously. She was speaking to all around, but not to me. If I then gave a suggestion (by distraction) she would reply to it in writing and without being interrupted in her conversation with the others.

Automatic writing can be replaced by other signs. Pierre Janet cites:

I suggest to L— that she may answer my questions by squeezing my hand to say "Yes"; and by shaking it to say "No." Taking her left hand, which is anesthetized, I question her while she is speaking with other people and is unconscious of my doing so; and she gives me her replies by imparting short jerks and hand shakes well adapted to the questions.

It is precisely the same phenomenon which Professor Flourney relates [4] in the case of Helen Smith, whose one personality (Leopold) spells the letters with one finger while the other personality (Marie-Antoinette) uses the vocal organs of the medium. It may be said that the pen or the pencil can be replaced by a table, an ouiga-board, a planchette, etc.

Finally, the fourth process consists in what is termed *crystal vision* or *crystal gazing*. The subject is made to gaze into a glass globe placed against a dark

[4] *Des Indes à la planète Mars.*

background. Usually, after a short time, images are seen and described in quick succession.

This phenomenon may be studied from various points of views. For instance, one may use it, as did the former mesmerists, to test the degree of lucidity or clairvoyance. It may very appropriately be used to reveal and test various psychological states of the unconscious—dreams, etc. Pierre Janet, to whom one must always refer, gives us this example:

A patient, a somnambulist, got up in the night, and, among other things done, wrote a violently insulting letter to some one. The letter, taken away from him, was given to me without his knowledge. On waking, the patient remembered nothing. A few days later, I experimented upon him with the crystal globe. As he professed to see certain written letters, I commanded that he take some paper and a pen, and write what he saw. Word for word he transcribed what he saw, excepting a few letters which were not sufficiently clear. While doing so, he had the appearance of copying sentences which he did not in the slightest understand. But the real fact was that he was transcribing, without knowing it, the actual text of the letter he had written a few nights before, the copy of which was no more in his possession.

The vision in the crystal may be used to reveal certain subconscious sensations:

Taking the first finger of the anesthetized patient in my hand, I ask him what I am doing. The reply is that he does not know. But if placed in front of the crystal globe, he will see in it the hand pinching his first finger; then only will he be conscious of what is being done to him. If, however, you turn his gaze away from the globe, and change the position of

his fingers, he will remain unconscious of the fact until he gazes back into the globe, when he will become aware of the position you have given his fingers.[1]

Such are the principal means which experimental psychology has at her disposal to reveal to our conscious senses all the strange phenomena which our consciousness is otherwise incapable of reaching, although identical in nature to those found in her inner recesses.

In the same manner, many other facts of a more complex and a higher order can be proved.

1. *Perceptions,* or the various combinations of sensations, remembrances, and judgments, closely associated between themselves and forming actions which in appearance are indivisible in relation to determined external objects. Such is the case of L—, already seen.

2. *Judgments,* which are no doubt provoked by the sensations, as distinct from the perceptions, in so far as they have less to do with objects as with certain rapports of resemblance, difference, number, etc. An example is given by Pierre Janet: "'When I speak out two letters of a similar nature, one after the other, you will become quite stiff.' Having awakened the subject, I mutter the letters, A—C—D—E—A—A. At this precise moment the subject becomes rigid and stiff." This then is a subconscious judgment of resemblances.

The following are types of judgments of difference: "You will fall deeply asleep when you hear me call out

[1] *Névroses et idées fixes,* Pierre Janet.

an odd number," or "you will turn round when you hear me speak a woman's name." The results are exactly the same. The suggestions are implicitly followed when the sign is given. The subject has therefore unconsciously heard, compared and appreciated the differences.

Judgments and reasonings, in more or less lengthy sequences, also can be produced *outside* of the realm of consciousness. An example: "When the sum of the numbers which I am about to announce will make a total of 10, your hands will throw me kisses." The subject at this moment is awakened and led to speak with others. From a distance I announce: "2—3—1—4." Instantly her hands make the suggested movement.

The same results attend various other tests of a still more complicated nature.

3. Actions implying the function of the faculty of *imagination* also may be produced outside of the realm of consciousness.

For example: The subject was given the suggestion while in the somnambulistic state that when she awoke she would write a letter. The following is what she wrote: "Madam: I cannot come next Sunday to see you as agreed. Kindly excuse me. It will, however, give me much pleasure to come to see you; but it is impossible for me to accept your invitation to-day. Your friend Lucy.—P. S. Many good wishes to the children." This automatic letter was quite correct. It

showed a certain amount of reflection. Lucy, however, at the time of writing, was busily engaged in talking to people present. When the experiment was ended, she could not understand the nature of such a letter; she even declared that the experimenter had personally counterfeited her signature.

Spiritistic mediums in their séances are often seen to produce, by means of the table, of alphabetical letters, automatic writing, etc., many kinds of most complicated communications. These often present the character of scientific, philosophic dissertations. At other times they may be in the form of a novel, a poem, or some artistic work, which naturally imply the actions of reason and of imagination. To these actions the medium's consciousness is absolutely foreign. Hence the spiritist's inclination to attribute such phenomena to the action of spirits, or discarnate intelligences.

Some beautiful and splendid examples of this can be found in Flournoy's book, *Des Indes à la planète Mars.* This contains the unconscious creation of a new language purporting to be that of the Martians themselves, and includes a vocabulary, grammar, script, etc.

It goes without saying that *memory,* which in all beings is normally unconscious in function (the conservation of memories) furnishes us with an infinite mass of cryptopsychical facts. Experimentally, these facts can be manifested through the crystal globe.

A young person relates that whenever she looked at

herself in a mirror, she was always obsessed by the same vision: a house with high black walls, dark and sorrowful of aspect, and upon these walls shone a tuft of fragrant white jasmine. Never, in her belief, had she seen such a house. After a short search conducted by the Psychical Research Society of London, it was found that there actually existed such a house as described by the person in question. Evidently, she had passed it by, without ever noticing it.

Another person, made to gaze into the crystal ball, sees a number in it. "This number I have never seen. Why should it be 3244 rather than any other?" she exclaims. Subsequently it was demonstrated that she had, in the course of the day, changed a bank note bearing that number.

A third person, somewhat mystically inclined, while gazing into the crystal ball, sees a newspaper article. She finds this most strange. She seeks to decipher it; and succeeds. It contains the announcement of the death of one of her friends. She cites this fact to those immediately around her, who are naturally stupefied. . . . On searching the house, a newspaper is found, stuck in front of the chimney as a screen, and on the visible side of this appears the article with the same characters and display as she had seen in the crystal ball. This case is precisely of the same nature as that already related concerning the somnambulist's letter writing, and of which no conscious memory had been kept.

Thus it will be seen that all the *intellectual phenomena* are capable of assuming the aspect of a crypto-psychical form. The same may be said of the *muscular phenomena,* of actions proper. This is proved by the method of "suggestion by distraction."

Could we, however, provoke and observe the actions of the *will,* of resolutions and decisions belonging to the subconscious? This would be most interesting to study; and yet we are unaware of its being studied.

The *emotions* also can pass from the conscious to the subconscious range of action. But as every emotion is ordinarily connected with an idea, it is difficult to know if the latent persistence of the emotion be not a simple consequence of the latent persistence of the idea with which it is being associated. In order to dissociate the two phenomena it would be necessary to resort to certain experiments which we believe have not yet been conducted. And so the works of Lang and of William James would find an interesting verification.

In the actual state of our researches, however, the question of subconscious emotions is but another aspect of that of subconscious *fixed ideas.* According to Pierre Janet, these fixed ideas, in all points analogous to hypnotic suggestion (therefore subconscious) have their source in an emotion, in an ordinary incident, which at a given moment strikes the mind of the patient. It is true that emotion is a potent factor in distraction, anesthesia, amnesia—in a word, of unconsciousness.

Emotion appears to possess an inverse action or rôle

to that which has been attributed to will and attention. That which characterizes these two functions is a synthetical activity, the construction of systems all the more complex and edified with the elements of thought, sensations and images. These systems form the resolutions, the perceptions and judgments, the memory, and the personal consciousness. Emotion, on the contrary, seems to be given the power of dissociation, of analysis. Except in extreme cases, it does not really destroy the elements of thought. It allows them to subsist, disaggregated and isolated from each other, to such an extent as to give the impression, at times, of being suspended in action. It is, then, in this state of disaggregation and isolation one might say that they become, as it were, exteriorized from the personal Consciousness of the subject.

The result of most observations in the field of fixed ideas leads to the finding of some violent emotion at their origin, which contributed to their fixation; while subtracted from the consciousness, it produces the various derangements in the intellectual and vital functions, which tend to reappear at the least opportunity.

The following is a good example: "A patient, among other hysterical symptoms, falls into violent attacks and without apparent reason. She has a horror of the color red. But while in the somnambulistic state, she will explain that her attacks are provoked by the reproduction of an emotion dating several years back. She had seen the dead body of her father at the time

when the coffin was being nailed down! And in each attack she sees, anew, this painful spectacle. She explains her horror of the color red, by the remembrance she has of the red flowers laid over the coffin of her father.[6]

II

The foregoing facts belonged to what we have called Elementary or Fragmentary Cryptopsychism. That is to say, they compose, as it were, small subjacent islands to the series of conscious phenomena of which the personality of every day is composed. It can also be that, under certain ill-defined circumstances, other facts of this nature conglomerate, so as to form a succession of veritable continents. In this manner they, then, present the aspect of secondary personalities, of a more or less permanent order, and co-existing with the principal personality.

They belong to what we have called Synthetic or Organized Cryptopsychism. Automatic writing is the method whereby we will be able experimentally to produce this transformation.

Quoting again Dr. Pierre Janet:

Having noted the surprising intelligence of the secondary personality which was manifested in the automatic writing of

[6] Dr. Pierre Janet, *Névroses et idées fixes.* Cases of emotional contractions observed among hysterical patients: "The contraction persists, owing to the persistence of the emotion, which always is followed by the same physiological and psychological consequences. It is, in a way, a congealed emotion."

L—, I opened, one day, the following conversation, while her normal self was engaged in talking to some one else.

"Do you hear me?" I asked.

Writing, she replied, "No."

"Since you answer, then you hear me?"

"Yes, absolutely," she wrote automatically.

"Well, then, how do you do it?"

"I do not know."

"There must be some one who hears me and listens?"

"Yes."

"Who is it?"

"Other than Lucy."

"Ah! It is another person. Do you want us to give her a name?"

"No."

"Yes! It will be easier."

"Well, it is Adrienne."

"Then, Adrienne, do you hear me?"

"Yes!"

Now, baptized, the subconscious personality is clearer, more defined and distinct in its psychological characteristics. It shows especially that it has knowledge of these sensations, neglected by the primary or conscious ordinary personality of every day. It is he who exclaims when the arm, hand, or finger is being pricked or pinched, while the other personality has long lost every tactile sensation.

One of the first characteristics manifested by this secondary self is a marked preference for certain people. Adrienne, for instance, who is well disposed toward Dr. Janet, does not take the trouble to converse with any or every one.

When the cryptopsychical phenomena are isolated, they can be provoked by the first-comer. But when grouped in personalities, they manifest strong preferences; not only do they refuse to obey, but they even resist a stranger's suggestions.

This personality, ordinarily, has little will of its own. It obeys the least orders, although expressing much indocility, and as it progresses it seems to acquire a greater capacity for resistance and spontaneity. It is also possible to provoke, in the same subject, the formation of several latent personalities, superposed, as it were. Thus Pierre Janet produced in Leonie, Leontine; and below this a third personage, Leonore, quite different from the others.

Organized cryptopsychism is not exclusively of experimental origin. Spontaneous cases are to be found in certain diseases and among certain spiritistic séances.

The following is an interesting case. It is that of a patient of the Salpêtrière, in 1891, presenting all the various signs of "diabolical possession" as described in medieval writings on epidemics. This patient's double personality was not mistakable. One, that of his ordinary self; the other, that of the devil who spoke through his mouth, words and imprecations of the most violent and obscene nature.

The doctor's efforts to control the devil through suggestion administered to the patient, were of no avail; nor were all attempts at inducing the patient in the

hypnotic state. Dr. Janet, however, seizing his opportunity, when the patient's attention was being distracted in another direction, was fortunate enough to place a pencil in his hand and obtain from him a few automatically written answers.

Placing himself behind the patient, Dr. Janet gave in low tones certain commands which produced no effects.

After a while, the hand which held the pencil began to write: "I won't."

"And why won't you?

"Because I am much stronger than you."

"Who are you?

"I am the Devil."

"Ah! Very well then, we are going to talk together."

And from this time onward the experimenter was able to have many executions of actions carried out, against the will, even without the knowledge, of the patient. Finally the "devil" was asked, as a last proof of his power, to put the patient to sleep, deeply and without resistance on his part. Thus Dr. Janet obtained the state of somnambulistic sleep which he had been unable to produce by direct hypnotization; and during this sleep the "possessed" patient confessed that the real cause of his illness was due to a grave fault committed on a journey. This confession led to a complete recovery afterward.

Examples of a similar nature can be found among reports of spiritistic séances. No doubt the advocates of spiritism will contend that the secondary personalities manifested by the mediums are in all reality independent beings, and it would appear that certain observations made with the American medium, Mrs. Piper, would give these assertions an appearance of verisimilitude.[7] But it will be admitted that it is antiscientific to have recourse to the "spirit" hypothesis, so long as an hypothesis, simpler and in conformity with the ensemble of knowledge, enables us to record the facts under observation. And this is true with a great number of mediumistic communications.

III

Having reviewed the various forms of cryptopsychism, we will try to show how it is possible to explain them.

In the normal man we find an elementary cryptopsychism in the various phenomena of *distraction, instinct, habit,* and *passion.*

The man with a preoccupied mind will brush away a fly from his forehead without feeling it; he will reply to questions he has not heard; or, like Biren, the Duke of Courlande, he will, quite unconsciously, tear with his teeth an important commercial document. Who has not heard of those absent-minded people who, when

[7] *Human personality,* Frederic Myers.

speaking at table, keep on filling their cups with sugar until——?[8]

Pierre Janet says: "Real voluntary actions are rare, and many of our actions are, in part if not totally, automatic." He then goes on to explain the subconscious motions, such as rhythmic motions due to the hearing of music, as well as those afforded in the "willing game."

Condillac already had remarked the dissociation of personality created by habit. There are, he says, two selves, the Self of Habit or Custom, and the Self of Reflection. It is the first self who feels, sees, and directs all our animal faculties; its object is to guide the body and to keep it from accidents, to preside continuously over the speech faculty when in action. The second self, giving over to the other all these details, goes in quest of other things. But although these two selves appear to pursue each a personal end, they often act together. For instance, a mathematician occupied in the solution of an important problem will have the objects of his mind continuously acting upon his senses. The self which guides the body through the crowded thoroughfares of New York, London, or Paris, still obeys their impulsions, whereas the reflective self will be all the while engaged in the finding of a solution.

Xavier de Maistre, in his book, *Voyage autour de ma chambre* (*A Journey Around My Room*), gives a most descriptive picture of this dissociation of the per-

[8] *L'automatisme psychologique*, Pierre Janet.

sonality during distraction, habit, and passion. He says: "I have found that man is composed of two entities: a man and a beast. These two beings are absolutely distinct, but so closely allied to each other that it requires a certain superiority of the soul over the beast, to enable the distinction to be perceived.

"Having painted all the morning, I decided to go to Court, for a change. I was conscious while walking, that my soul was enraptured with the sublimity of the art of painting—given to all kinds of uplifting reflections upon color and Nature. And while thus inwardly engaged, *the other* (the body) had walked so far to the left that when my soul caught it up, she found it half a mile away from the Palais Royal, at the door of Madame de Haut-Castel!"

Cryptopsychism takes such importance among hysterical subjects that one wonders if it may not be the very foundation of hysteria, or its principal symptom whereby all others may be explained. Hysteria, says Dr. Janet, is by far the most favorable ground for the development of automatic phenomena.

It has already been seen that automatic phenomena always imply the presence of subconscious psychological states. Yet this author admits that "hysteria is but a particular, complex state of another more general and simple, a state which is not normally healthy but which, for all that, may not be uniquely hysterical." This state, according to him, is in greater frequency than hysteria. It would encompass among its manifestations

all the hysterical symptoms; but it would reveal itself, also, in fixed ideas, impulses, anesthesia due to distraction, automatic writing, and somnambulism.

Of what then does this malady [9] consist?

Since all the extremely varied phenomena of automatism have, as an essential condition, an anesthetic state or a state of distraction, the conclusion should be that this diseased state is allied to a shrinkage of the consciousness; and this shrinkage is due to the weakness of the synthesis and the disaggregation of the mental composites in several smaller groups, smaller than they should normally be. In a word, this state "is a moral weakness of a particular order, consisting in the impotency of the subject to condense his psychological phenomena or to assimilate them." A weakness of assimilation is termed physiological misery; for the same reason it might be suggested that this moral disease be called *psychological miserere.*

In any case, whatever the depth of the physical substratum of this mental misery, its most constant sign is, without question, *cryptopsychism.* In other words, it is the tendency which certain psychological phenomena possess to decentralize themselves from the central consciousness, to constitute by its side certain focuses of consciousness of a secondary and less persistent order.

Therefore, the majority of hysterical symptoms belong to cryptopsychism, as may be realized by the list

[9] *La maladie hystérique.*

of such symptoms: fixed ideas, anesthesia, amnesia, paralysis, contractions, etc. It might also be stated, in confirmation of what Durand (de Gros) and Pierre Janet said, that it could be considered as the "key of all hypnotic phenomena." And, better still, it might contain in itself the explanatory key to suggestion itself.

Alone, hysteria would enable one to grasp the mechanic complexity of such prima facie inexplicable suggestion-phenomena, as post-hypnotic suggestions at long periods.

Does cryptopsychism contain in itself an integral explanation of spiritism?

In our opinion, this question is not susceptible of a definite answer. It is, however, certain that cryptopsychism intervenes constantly in mediumistic phenomena: automatic writing, incarnation or "control" manifestation, planchette, etc. It is evident that if the secondary personality were real, in certain cases, we should be confronted by a new fact—one which could not then be explained by ordinary psychological laws. But in the majority of cases the hypothesis of the intervention of a foreign personality is absolutely unnecessary, and therefore, until better information is gathered, the present exposition of cryptopsychism suffices.

The same applies to cases of so-called "demoniacal possessions," so frequent during the Middle Age period.

Summarizing, we may say that *cryptopsychism* is a general explanatory principle, which experimental psy-

chology should never lose sight of in the study of phenomena more or less abnormal or paradoxical in human nature.

IV

How can cryptopsychism be explained?

The first and most ancient hypothesis is given by Durand (de Gros) as that of polyzoism and of human polypsychism. He says:

"There is not only one psychological being in man; there are legions. Certain consciousness phenomena, and those which remain foreign to our consciousness, take place in other consciousnesses, associated with them in the human organism, in an anatomical hierarchy as represented by the series of nerve centers of the ganglionary system.[10]

Purely as a matter of reference we mention here the hypothesis of cerebral duality and the functional independence of the two cerebral hemispheres to which scientists have resorted, in order to explain the development of the two parallel consciousnesses in the somnambulistic and spiritistic phenomena.[11]

May we, in Dr. Grasset's hypothesis of the *polygon,* and of the center "O," see an explanatory attempt, or else an easy way to get out of the heavy task at explaining the facts?

[10] *Le merveilleux scientifique.*

[11] *La dualité cérébrale et l'indépendence fonctionnelle des hémisphères cérébraux,* Bérillon; *Étude clinique expérimentale.* Magnin; *Multiple Personality,* Myers.

This is what he says: "There are two forms of psychism, two categories of psychical actions: (1) Superior, voluntary and independent; (2) Inferior and automatic. In other words, a superior psychism and an inferior one.

"To each category of these acts necessarily correspond different groupings of centers or groupings of neurons. Therefore we find: (1) Simple reflex centers; (2) Superior reflex centers, inferior automatism and non-psychic; (3) Centers of superior psychic automatism; (4) Centers of conscious, superior psychism, responsible and independent.

"O represents the superior psychic center, constituted by a great number of distinct neurons: it is the center of the personal *self,* conscious, independent, and responsible. Below is the polygon A-V-T-E-M-K of the automatic superior centers. On one side of this are the sensorial centers of reception: A, center of audition; V, center of vision; and T, center of general sensibility. On the other side, the motor centers of transmission: K, kinetic center; M, center of articulate speech; and E, graphic center (writing).

"All of these centers, located in the gray substance of the cerebral circumvolutions, are connected by intracortical and intrapolygonal fibers. On the periphery, they are connected by centripetal and centrifugal subpolygonal ducts; all of these being ultimately connected with the superior center O by subpolygonal ducts; ideo-

sensorial or centripetal, ideo-motor or centrifugal."[12]

Here are a few examples:

"When Archimedes goes along the street, *he walks with his polygon* and *shouts "Eureka" with his O.* When your neighbor indefinitely fills up your glass as to inundate the rest of the table, *he does so with his polygon,* although his O does not remain inactive. He is engaged in speaking—so busily engaged in the conversation that he forgets his polygon. In the distraction a disjoining of the two psychisms occur; but there is no annulment of the O.

"Condillac distinguished in him the *self of habit* and the *self of reflection.* The first is polygonal while the second is in O. During sleep, O is at rest, while the polygon persists.

"The characteristic state of suggestibility in hypnotism is constituted by two psychic elements, equally essential:

"1. The subpolygonal dissociation, or the suppression of the action of O upon the subject's own polygon.

"2. The state of malleability of the polygon, or the emancipation of the subject's polygon from his own O; while keeping his own activity, the subject obeys immediately and absolutely to the center O of the mesmerist, so that the hypnosis in a subject is the substitution of the O of the hypnotist for the center O in the hypnotized subject, etc."

[12] *De l'automatisme psychologique* and *Leçons de clinique médicale,* Dr. Grasset.

After all, it would appear as if Dr. Grasset's hypothesis were but an ingenious fashion to express, schematically, in terms of cerebral anatomy and cerebral physiology, the other hypothesis, that of Dr. Pierre Janet upon mental disaggregation and the shrinking of the field of consciousness; both of them suffering, as it were, from a debility of the power of synthesis or from the state of *psychological misery.*

This time we find ourselves, however, in the presence of a purely psychological explanation, at least so far as giving the title of explanation to a theory which, after all, only summarizes the facts in a general interpretation.

From this principle, it would seem, is derived the suspension or the enfeebling of a certain power, of a certain operation (let it be what you will) which is the common basis for will and judgment, and which may be characterized by the words "synthesis" and "creation."

It would seem as if there were in the mind two different activities, which complement each other or oppose each other, as the case may be. The ancient philosophers were prone to say: "To be, is to move and create; and consciousness, which is in the supreme degree a reality, is thereby an active force."

Were we to attempt to represent its nature to our eyes, we would find it, above all, a synthetical activity which unites all the given phenomena, more or less numerous, into a new one, differing in the elements.

It is a veritable creation. It is impossible to say which are the first elements thus combined by the work of the consciousness. That which is certain, however, is the existence in nature of degrees of synthesis and organization more and more complex.

In the same way that all beings composed of one cell are similar, and that all beings composed of several cells begin to take on distinct forms, the vague consciousness of pain and pleasure gradually becomes sensations of a determined order and of different kinds. These sensations subsequently organize themselves in the more complex states exhibited by general emotions. Certain minds go farther still. They synthetize these perceptions in judgments, general ideas, moral, artistic, and scientific conceptions.

At all these various degrees "the nature of consciousness is always the same." However, there also exists in the human mind "a secondary activity," which is called the *conservation of energy*. The syntheses once constructed cannot be destroyed: their unity cannot become altered, and their elements are preserved in the order in which they were. From the moment one places oneself in favorable circumstances, one may witness emotions and sensations being prolonged, with all their character, and as long as possible. Further than this: if the preceding synthesis be not fully given out, if but part of its elements exist in the mind, this conservation of energy will go toward completing it, and the absent elements will be added in the order and

manner necessary to reconstitute the original whole. Whereas the preceding energy tended to create, the latter tends to repeat and conserve. The most important manifestation of the first was to synthetize; the distinct character of the second is that of association of ideas and memory.

These two energies subsist together; on their complete equilibrium depends the health of the body and the harmony of the mind. When the mind is normal, only certain inferior acts are abandoned to "automatism"; these, given the same conditions, may repeat themselves in the same manner. But this automatism is always active to produce effectively at every moment of life those ever new combinations, incessantly necessary to maintain its equilibrium with the change of surrounding conditions.

Should this creative mind energy be brought suddenly to a stop, after having since the beginning of life accumulated a mass of automatic tendencies, the mind would become entirely unbalanced, left, without control, to the action of one force only. The phenomena then produced *would no longer be in new syntheses;* they would no longer be molded to form at every moment of life the personal consciousness of the individual. These elements would naturally reënter their ancient groups, and then automatically be brought into the combinations which formerly had their reason of existence.

There is no doubt that if a mind of this kind be carefully maintained in immutable and artificial sur-

roundings; if, having suppressed the possible alteration of circumstances, one eliminates from it the drudgery of thinking,[18] it may be capable of subsisting for some time, though in a feeble and distracted state. If, however, the surroundings become modified in any way by certain accidents and changes of circumstances, these will demand such efforts of adaptations and of new syntheses from the mind as to generate in it the most complete disorder.

It may be asked if the above interpretation concords well with the details of all the facts which we have enumerated hitherto, and if it takes into sufficient consideration the tendency of the cryptopsychic law of the conservation of energy, which in a great number of cases is responsible for the creation of a new personality and for the manifestation, under this form, of powers of perception, memory, imagination and reason equal, even superior, to those of the creative energy, normally identical with the central or habitual personality.

It may be due to these facts that certain authors, who, thinking the phenomena of easier access for observation with mediums, or sensitives, than with hysterical subjects, thought to modify, in a larger sense though less scientifically accurate, the hypothesis of Janet. In the belief that they would discover in the subconscious activities certain faculties which the faculties of the conscious energies do not possess (perturbating, curative, telepathic, thought transmission or penetration,

[18] "And of willing" might be added.

exteriorization of the sensibility and of the motricity, etc.), they concluded that the former was in reality superior to the latter, and was not of infra-normal order, but *supra-normal.*

Such is the development of the hypothesis, with certain variations of detail more or less important, by spiritistic-inclined authors, such as Aksakoff,[14] Dr. E. Gyel,[15] and Professor Fr. Myers[16] as shown in his posthumous work.

Says Aksakoff: "As soon as the personality, or the external consciousness, is asleep, there arises something else that thinks and wills. This is not identical with the sleeper, and it manifests itself in characteristic ways. It is an individuality of which we are not cognizant, although it knows the sleeper and remembers his actions and thoughts. If we wish to admit the spiritistic theory, it is clear that this interior nucleus is the individual principle which survives the body; and everything which belonged to its terrestrial personality shall be but a matter of memory."

Dr. E. Gyel says: "The psychic being should be divided into two parts: (1) The conscious self, representing the less important part; and (2) the subconscious self which constitutes the principal part. The conscious self depends, for the greater part, upon the

[14] *Animism and Spiritism*, Aksakoff.
[15] *L'Être subconscient*, Dr. E. Gyel.
[16] *Human Personality and its Survival of Bodily Death*, Frederic Myers.

functions of the organism, and is inseparable from it; the subconscious self comprises force, intelligence and matter, and is capable of perceptions and of actions which for the greater part are inaccessible to the direct and immediate knowledge and will of the normal being. Largely independent of the functions of the organism, it is capable of exteriorization, projection, or dissociation. It is the synthetical product of the actual consciousness and of the anterior consciousnesses. After death, the conscious self disappears, but its integral memory persists in the subconscious. Its psychical elements remain in unison, in the subconscious synthesis, with the psychic elements of the anterior consciousness which constituted it. To summarize, it would appear that the subconscious self should be the real self, the permanent self; whereas the conscious being should be but the apparent and transitory personality. The individuality, then, would be the synthesis of the successive personalities in integral conservation."

"The conscious self, as we call it," says Fr. Myers, "the empirical, supraliminal self, as I would prefer to call it, does not comprise the totality of the consciousness or the power which is in ourselves. There exists a deeper and more comprehensive consciousness, which, for the greater part, remains potential in all that regards the terrestrial life, but of which the consciousness and power of the terrestrial life are but limitations, and which becomes reconstituted only in the liberating change of death. . . . I consider every man as being

one, yet infinitely composite; as the heir to an inheritance from his terrestrial ancestors of a multiple and 'colonial' organism—polyzoidal and perhaps polypsychical—to an extreme degree; but also as the governor and unifier of his organism through a soul or spirit which, as yet, surpasses our present analysis: *a soul which has its origin in a spiritual or superetheric ambient* and which, even when incarnate, continues to exist in this ambient, and shall continue to exist therein after bodily death."

One might go even farther. One might ask whether this transcendental or subliminal self is not necessarily individual, and whether it does not go beyond the limits of the organisms in which each has its own being; whether it does not constitute a sort of universal, common ground in which the different spirits are all plunged and in which they all more or less penetrate each other.

Thus would be given a pantheistic or monistic form to the monadic or pluralistic hypothesis of Fr. Myers and of Dr. Gyel. It is also toward this conception that Mr. Goupil inclines. He says[17] that "the cerebral functions of human beings are collected in one general intellect—which is manifested in the phenomena."

It would seem to us premature to attempt an explanation of the phenomena, apparently so complicated and so obscure. The only hypotheses scientifically possible of admission are those which may help in the

[17] *Pour et Contre. Recherches dans l'inconnu*, Goupil.

direction of researches while suggesting various and precise experiments. This, however, is not the character of those experiments we have reviewed.

There will be time to elaborate a general explanation of cryptopsychism when, through the rigorous application of the experimental method, the effects and conditions of cryptopsychism—that which we may call, with Claude Bernard, its determinism—shall be scientifically established. Until then, the efforts of all the would-be seekers will have to be directed toward that end: *to establish this determinism.*

CHAPTER III

Animal Magnetism in the Light of New Investigations

I

The first men who observed the singular phenomena obtained by mesmeric or magnetic processes attributed them to the action of a force emanating from the operator and radiating toward the subject. With Mesmer (1779) and the Marquis de Puységur (1784), they believed this force to be analogous in nature to that radiated by an ordinary magnet. Hence the name "animal magnetism."

According to them, the gaze, the passes, the imposition of the hands, or the breath, are apt to produce contraction, relaxation, excitation, or paralysis of the vital functions, as well as of the intellectual faculties, because these organs serve as vehicles for its transmission from one nervous system to another.

It matters little, after all, what name be given to it, or under what manner one may conceive it. Whoever admits of a physical influence capable of being transmitted, at a distance, between two living beings, pro-

fesses unconsciously the hypothesis of animal magnetism, under its simplest and more general form.

Every one remembers more or less the captivating experiments conducted by Dr. Pierre Janet in Havre, in 1885 (embodied in a report[1] under the modest caption: "Notes on a few Somnambulistic Phenomena"). In these various experiments, the subject had been induced into a comatic sleep, through a mental order sent by the operator posted at distances varying from a few hundred yards to two kilometers. Furthermore, this was done under the strictest of conditions, excluding every hazard, simulation, or possible "suggestion" influence.

Not wishing to suppose that the experimenters had deceived themselves, or that their purpose had been to deceive their audience, I wondered whether the ancient hypothesis of animal magnetism, in a more or less modified expression, were not the source of all these facts, while excluding academical theories of hypnotism and suggestion.

I then decided to experiment personally along that line; and I became puzzled at various phenomena which I obtained. A "something" different from suggestion or hypnotism peered through, although it remained illusive, as you will see.

One of my first subjects to experiment upon, Robert C., a young mechanic, nineteen years old, induced into

[1] This report Dr. Pierre Janet read before the "Société de psychologie physiologique." (*Revue Philosophique*, XXI.)

a state of contraction beforehand, was always conscious of a "heat" sensation above his right hand while I was operating with my right hand; and as soon as I took my hand away, his would rise as if drawn upward. But when I bid him close his eyes, this phenomena did not occur. Hence I believed that this pretended magnetic effect was but the result of pure auto-suggestion.

Would it, then, be to the same cause that one should attribute the well-known effect obtained by the Moutin method? When applying one's opened hands upon the shoulder-blades, with thumbs closing in upon the spinal cord, the patient falls backward as if drawn by some irresistible power. This phenomenon I had obtained many times independently of any spoken suggestion.

But one might say that the action of placing the hands upon the subject's back is equivalent to "tacit" suggestion. I was, however, still more perplexed by certain observations made with female subjects, when, after having repeated the experiment a number of times, the subject felt irresistibly drawn backward, even, if I stood still, with hands in my pockets. At other times, I was surprised to succeed in obtaining attraction with subjects upon whom I experimented for the first time, and who were entirely ignorant as to what was going to take place. The same results, I obtained in placing my hands at distances of 5 to 6 centimeters behind their backs.

I also succeeded in drawing a medical friend of mine, most sensitive to this process, while interposing an-

other person, entirely incredulous of these things, between my hands and his back, the latter barely touching my friend with the finger-tips. Every movement to draw away my hands from the back of the interposed person was immediately followed by the falling backward of my medical friend. But could not one also hold to the supposition that these effects were cases of auto-suggestions created by unconscious and subconscious perceptions, as those which appear to explain the Cumberland experiments?

My doubts persisted, even after having obtained some still more extraordinary phenomena.

For the past six months I have had in my service a young man from the Pyrenees, Jean M., extremely sensitive to hypnotic influence. The following are the notes as I find them in my note-book:

"All I need do is to hold my hand at a distance from his elbow, or any part of his body; this being followed by jerks, movements, contractions, etc. Without these, nothing happens. This is true when he is entirely unconscious of my doings, while his back is turned, or when he is engaged in conversation, etc. Several times, when asleep normally, it was sufficient for me to stretch out my hand above his stomach, at a distance of 8 to 10 centimeters, to see his abdomen swell up, as if drawn out, until it would contract when the distance became too great."

Was this, perhaps, but a simple phenomenon of hyperesthesia of touch, or was it magnetism?

The first hypothesis, that of hyperesthesia, became more difficult of admission in my next experiment:

It was on a January Sunday afternoon, 1893. My servant, Jean M., had gone to his room to rest, being fatigued from his duties. Going upstairs, I found him in bed, fully dressed, the head resting in the angle opposite the door, the arms crossed upon his chest, the legs crossed and the feet slightly protruding from the blankets. The idea came to my head, as I stood in the doorway, a distance of about 3 meters from the sleeper, to hold my right hand, outstretched, in the direction and at the height of his feet. Had I held an electric projector, the feet would have been directly in its light. After a few seconds, I slowly raised my hand; and to my entire stupefaction, I saw the feet of the sleeping man rise in the air by muscular contraction, and follow the ascensional movement of my hand. Three times I repeated the experiment; three times it succeeded, with the precision and the regularity of an instrument of physics.

Enthusiastic at this result, I called for a witness, in the person of Madame B., and asked her to be as quiet as possible. The experiments were repeated, and were followed by the identical results. At this juncture Madame B. suggested: "Try to do it by thought projection." I then fixed my attentive eyes upon the feet of the sleeping man; and, raising my gaze slowly, what was our astonishment to see his feet follow the

movement of my eyes, now ascending, now stopping and descending as the gaze from my eyes did.

Madame B. then took hold of my left hand, and with her other hand she did as I had done—with the same successful results. But as soon as she let go of my hand she ceased to exert any action whatsoever.

On Jean's waking, a half hour afterward, he complained of slight pains in the legs and of convulsions in the knees; these I had to calm with the aid of suggestion and friction.

II

The preceding discoveries, though interesting, were not sufficient, however, to dissipate from my mind the shadow of doubt placed there by former events. It was due to pure chance circumstances that my attention was drawn to a new series of experiments, which would at last give me the certainty of the real existence of animal magnetism.

I feel that I must introduce, first of all, a few details regarding the subject with whom the experiments were conducted.

G. P., an electrical engineer, was for the first time induced into the comatic sleep, through the fixation of my gaze, in the year 1892. He was then eighteen, and perfectly healthy and normal. Rather dreamy, and certainly quickly responsive to suggestion and hypnotic induction, as I had had the opportunity to note during our sittings from time to time from 1892 to 1894. I

had entirely lost sight of him when I met him again in 1894 and when I decided to renew my experimenting with him.

From the first sitting, I remarked the following particularities:

When under the influence of my right hand placed before his forehead, G. P. goes through three various states. In 30 seconds he is fully plunged into the first state, called by some *credulity,* by others *suggestibility,* and which is characterized by the three following states: *amnesia,* cannot remember anything, name, address, etc.; *absolute suggestibility,* believes, feels and smells everything suggested to him; *persistence of sensitiveness and of voluntary movements,* his arms drop when raised, he feels pin-pricks and other tests unless paralysis and anesthesia be produced through suggestion.

When placing my hand for a second time to his forehead for 30 seconds he passes in the second state, *cataleptoidal.* His arms, legs, etc., keep the positions I give them, and automatically repeat the motions imparted to them; independently from all suggestion there is complete skin insensibility; he does not reply to all the questions asked him.

For the third time I hold my hand to his forehead, for 30 seconds. The subject closes his eyes, recovers the faculty of speech, and his intellectual faculties. He has now reached the state of *somnambulism.*

If I now hold my *left* hand, instead of my right hand, to his forehead, while he is still somnambulistic, this

will have the effect of getting him back into the second state. And placing my hand there for the third time, he returns to the first state; until at the fourth presentation of my hand, he becomes quite re-awakened.

All this I have obtained without verbal suggestion.

These three states can also be produced through suggestion. Having suggested that, on hearing the words *Mane, Thecel,* and *Phares,* he would immediately fall into the corresponding hypnotic states, G. P. did so. This effect remained permanent, even after 8 months' interval.

Besides the singularity of *hand polarity*—the right provoking induction and the left provoking awakening —I had never observed in this subject, phenomena coming under the head of the various schools of hypnotism and of suggestion, until some unexpected phenomena led me into another path.

On a Sunday morning G. P. came into my study where I was, and, sitting on a chair at the side of my table, rested his arm upon it and kept busily talking to a third person present, while I put the finishing touches to a letter I was then writing. As my fingers, just outstretched from dropping my pen, pointed toward his elbow, I saw to my surprise that his elbow was moved as if drawn by my hand.

Without a word or a sign that might draw G. P.'s attention to my doings, I lifted my own elbow, while he was still talking, and his elbow rose simultaneously. But, as if the attraction, becoming stronger, had cor-

respondingly awakened his consciousness, he bruskly took his left elbow in his right hand, and turning to me said: "Well, what are you doing to me?"

From that moment I always took the precaution to turn his attention away from my doings, while surreptitiously presenting my hand to the various parts of his organism I wished to test. Whether I experimented with his leg, foot, hand, arm, elbow, etc., I always was able to observe the same phenomena: *attraction of the member.* And whether the subject's eyes were blindfolded or not, whether he was in a trance or quite unaware of my maneuvers, I always obtained the same effects. (See chapter on the conductibility of the psychic force.)

I have indicated here the most significant experiences only, as it would take far too long to enumerate innumerable and similar cases.

Now the question arose: "How far can suggestion influence all these phenomena and supplant or prevent the action of animal magnetism?" As this was a problem of the utmost importance, this is how I proposed to solve it:

First experiment. The subject being awake, but blindfolded, I warn him that I am going to experiment the necessary time for the production of magnetic effect. In order that he shall be able to indicate to me exactly *when* he will feel its action, I tell him that I am going to act by attraction upon his right hand, and ask him to concentrate the whole of his attention upon it.

After this preparatory suggestion, I say: "Now I begin!" Then I describe any kind of motion with my right hand, without, however, placing it before his own. After one minute or two, the subject, most attentive, exclaims: "How strange! I do not feel anything. Are things going wrong with me?" Then, after a while, he says: "Ah, no! I feel something now; but it seems to be in my left knee. It is not an attraction; it is a sort of pricking, tingling sensation."

Exactly what I had done. I had held, in silence, my left hand opposite his left knee and a few inches from it. This result I obtained permanently, with just a few small differences, while the subject was in the waking state, and blindfolded. It proves that, with this subject at least, and during this period of my experiences, suggestion *in the waking state* is impotent to simulate magnetic action.

Second experiment. This subject, having been plunged into the first state—that of suggestibility—is given the suggestion to fix his attention upon one of his hands, as he is going to be drawn by an irresistible force. As soon as I have said, "I begin!" his hand rises in the air, although I am not acting in any way whatsoever upon it. Thus, *in this state,* suggestion is quite sufficient to simulate magnetic action. But, if at this moment I silently place my other hand opposite his other hand, then attraction results here, while simultaneously the two effects are produced, identical in

appearance though really by two distinct causes—here by magnetism, there through suggestion.

Third experiment. The subject, being in the state of suggestibility, is suggested that in order to produce certain effects exclusively upon one side of his body the other side must be rendered insensible; and in fact this other side is now paralyzed and anesthetized.

Here again, I obtain through the use of suggestion, without other actions, the phenomena of attraction in the members in which sensitiveness and motricity have remained intact. But if I place my right hand in the direction of his anesthetized and paralyzed foot, hand, leg, or knee, I observe, in spite of all the suggestions, the various movements of attraction.

Therefore, not only can magnetic action produce its effects, independently of any "suggestion" influence, but it also can, in certain cases, prevent and annul the effects of suggestion.

Such is, unless I am mistaken, the conclusion to be inferred from this triple series of cross experiments.

III

In my frank opinion, magnetic radio-action or nerve radio-activity exists as palpably as the radio-activity of light and heat; and I am fully convinced that, whoever will experiment, in observing the conditions which I did, if he be possessed with sufficient patience, will reach the same conclusion.

It is true, also, that it now remains for us to discover the laws of this action, although we should not be too ready to generalize.

From the experiments conducted with G. P., one might have been tempted to deduce that this force was polarized, as solar light, electricity, and magnetism are, inasmuch as we have seen that the right and the left hands produce effects of a different order. And yet, such a conclusion would have been erroneous, owing to the peculiarities of polarization and depolarization, which we still ignore.

Indeed, eight months after having left for the country, G. P. returned to Paris and consented to give me three more séances; and during these I noticed that he had remained sensitive to certain suggestions given him eight months previously. But on blindfolding him, I noted with surprise, and regret perhaps, that he had become less sensitive to my influence. It seemed that the senses he had developed under my magnetism had been blurred through eight months' inaction. The effects were weaker, and took a longer time to produce.

New experiments are, therefore, necessary to determine the laws of magnetic influence; but this influence, we repeat, is a positive fact, material and precise, which any one can prove, experiment with, and observe at will; meeting, as it does, all the requirements of science.

If we were to suppose that electricity had not yet been discovered, we naturally should have to begin from

the beginning. By this is meant that we should have to begin to note that, in certain substances, friction develops the power to attract various light substances; that zinc and copper when in contact with water containing an acid solution generate a particular force, etc.

Similarly, if the phenomena of telepathy, and other parapsychical phenomena shall one day be understood, they can only become so as the result of experimental verifications of the simplest and most direct action which living beings exert upon each other from and at a distance. No doubt there have been other men, long before this was written, who did observe the nature of these phenomena. M. de Jussieu's report before the "Commission du roi" is replete with observations upon the magnetic actions of Mesmer's tub in Paris. We also find the same effects related in the report presented by Dr. Husson before the Académie de Médecine (1838), in which is cited this example:

"Baron du Potet, having blindfolded the somnambulist, directs his fingers to within two feet of his body. At once, violent contractions of the hands and arms are manifested. Having now approached his feet to those of the subject, the latter abruptly withdraws his, although neither had been contacted by the other. The subject also complains of feeling, in the members to which the magnetic action had been directed, a pain as if due to 'burning heat.' The president of the examining commission, M. Bourdois, obtains, on experiment-

ing, the same effects, although with less promptness and in a weaker form."

Dr. Pierre Janet, in his note, *Quelques phénomènes de somnambulisme,* describes the phenomenon of magnetic attraction as mere hyperesthesia of the sense of touch. It is true that the conditions in which he observed the phenomenon were different; therefore he does not seem as yet to attach much importance to its occurrence. This is what he says: "To provoke a general contraction it is sufficient for the magnetizer to hold his own hand at some distance from the body of the sensitive. At first are seen certain twitchings and sudden jerkings of the frame; then the whole body lifts itself up and follows the hand, as if really being drawn up by it."

In 1887 Dr. Barety published a most wonderful treatise entitled *Le magnétisme animal étudié sous le nom de force neurique.* This contains a lengthy series of experiments the purpose of which is to prove the thesis we endeavor to place before you here. It is indeed the greatest scientific effort which has been made hitherto to establish the reality of animal magnetism.

How does it happen, however, that the admirable work of Dr. Barety did not succeed in overcoming the indifference or the incredulity of the savants, as did, at least for a time, Charcot with hypnotism, Bernheim with suggestion? The principal cause of failure resides in the prejudiced attitude which the great body of scientists nourish toward the question of animal

magnetism. It also may be due to the manner in which the thesis was presented at the time. It would seem that in his work, Dr. Barety had not sufficiently eliminated from his tests the possibility of suggestion-infiltration. For every magnetic experiment in which one has not foreseen and excluded suggestion, not only in its most ordinary form but also under the form of auto-suggestion, loses immediately its value as an unquestionable proof. On the other hand, he also may have been too hasty in generalizing and transforming into laws certain facts which, being observed in some instances with one subject only, were applied to other subjects.

It should not be forgotten that the time has not yet come for theorizing, systematizing, and explaining. A more imperative duty is imposed upon us all: "First observe, then prove."

IV

Should we, then, attribute the various effects described in the former chapters to the workings of mere chance—to a series of mere coincidences?

It is supposed that, owing to the effects of whatever cause, movements and sensations were produced in those regions of the subjects' organisms to which I had directed my fingers. But it cannot be supposed that coincidence alone can be responsible for such constancy and precision of effects.

Are they due to simulation? All subjects, it will be

objected, are hysterical; therefore, simulant. This also has been the objection leveled at hypnotism and suggestion.

Let us examine the facts: First of all, with the exception of Jean M., who showed slight signs of hysteria, nothing authorizes us to consider the other subjects as hysterical. Consider certain children upon whom I experimented—Julio M., for instance, who fifteen minutes prior to meeting me, knew nothing of such phenomena; why and how should he have simulated? And even supposing that it might have been the wish of G. P. and Jean M. to deceive me, how could this have been at all possible? Blindfolded and therefore oblivious to all outside things, is it easy to guess if it is the right or the left hand which is before you at a distance of 10 centimeters and more? Or when it is directed to the left or to the right side, to the knee, the forehead, or the elbow?

Several times, also, I have experimented with persons deprived of all magnetic sensitiveness; and in spite of their greatest efforts, they never were capable of telling which hand was before them or what gestures I was describing in front of them.

Should, then, hyperesthesia of sight and touch be invoked?

The subject, it will be objected, owing to the extreme sensitiveness which he develops through hypnosis, hears in the atmosphere the slightest motions you make, feels the heat emanating from your hands!

But it must not be forgotten that, with the exception of a very small number of cases, I always experiment with subjects in the waking state. G. P. was awake in every instance. Julio M. had never been hypnotized apart from making a few passes down his arms, and applying the Moutin method of attraction. It would, therefore, be quite arbitrary to tax the subjects with hyperesthesis of the senses, which, had it existed, would have manifested itself through a multitude of other signs. As it is, their auditory or tactile sensibility, when tested, have always reacted as in a normal being. Even admitting that the sense of touch were in hyperesthesis, one would naturally admit that this sense cannot perceive what is not produced by an external cause, however feeble it may be, to excite it.

What, then, can be the reason for G. P., after 30 seconds, to perceive the action of my right hand as the source of attraction, and my left hand as the source of the tingling sensations? Is it the heat radiated from the hand?

It would indeed be a strange hyperesthesia which would enable the subject to perceive at a distance greater than 10 centimeters a temperature difference between the right and left hands, and to express this difference by two widely dissimilar things: attraction and tingling. And what can be answered to the fact that such influence can be perceived at the end of a metallic wire along which, for more than 2 yards, it

has been transmitted—and when the two hands are holding it together, with their temperature differences?

Suggestion, one might say as a last objection; and one may remember that Professor Bernheim succeeded in convincing Dr. Liébault, his teacher, that the "imposition of the hands" and "magnetized water" possessed distinct curative properties when administered to suckling babes. They attributed this effect to the sole influence of suggestion.[2]

It also may be objected that I have unwittingly given my subjects to understand what would be required of them. But reading carefully the reports of my experiences, it will be seen that my sole aim always has been to experiment: without speech, without noise, and without the least signs or outward suggestions. It will be noticed that when we used suggestion in the experiments of control, it was not with a view to advise the subject of what we expected of him, but, on the contrary, to divert his attention, to oppose suggestion to magnetism, as it were. In spite of all these precautions the magnetic effects were realized. We therefore have the right to say that *suggestion* was nowhere in the experiment.

Pretending attraction of a subject without magnetism, by the sole influence of suggestion, does not exclude the possibility of attracting him through magnetism. The customary arguments of the partisans of suggestion are the best specimen of sophism, which the

[2] *Zoomagnétisme* and *Thérapeutique suggestive*, Liébault.

logicians called *ignorantia elenchi:* in other words, shifting the question.

Next, comes the final objection: Might it not be the effect of auto-suggestion or of mental-suggestion?

To this we reply: Why should you want the subject to possess such imagination at the exact moment when we place our right or left hand before any portion of his organism? No other reply can honestly be given than that these effects must be the outcome of some objective influence: in other words, of magnetism. Hazard, simulation, suggestion, etc., are completely out of the question.

Yet, what about "mental suggestion"? The hand really, you say, emits no radio-action; it is enough for you to "will" and to "believe" yourself capable of exerting such action upon the subject for your will and belief to penetrate his mind, and be realized in his organism.

My reply to this is that, so far as I know, I have never been able to provoke this phenomenon except under the form of a simple "mental order";[8] but this I know, that if "mental suggestion" does exist, *mental suggestion is a magnetic phenomenon.*

Do not let your mind be abused by the incompleteness of words. Mental suggestion, inadequately so named, has nothing in common with suggestion proper. This is why the School of Nancy rejects the former conception, and admits the latter. If I say to a person, "Get

[8] See chapter on telepsychism.

up!" and he does so, in spite of his own will, it is not due to the fact that the individual's brain has heard and understood my command; rather is it due to his inability to resist the order. If, without uttering a word, I desire that a person shall get up, and he immediately has the idea of so doing, whether he gets up or remains sitting, the particularity of this case, that which constitutes the "mental suggestion," resides in the fact that he heard the order. Whether he obeyed it or not, this would be of the resort of suggestion—that he heard the order, and understood it, without my having pronounced a single syllable or made a sign. Anything beyond this does not matter. The phenomenon exists. It is complete in this: that the transmission of the thought or the will has taken place from one brain to another brain.

What is, then, the rapport between this thought transfer and ordinary suggestion, which consists entirely in the influence of an idea upon the entire organism, whatever source this idea may have? The whole mystery resides in the influence that one brain exerts from a distance upon another. And who cannot see in this influence a particular case of magnetism in general? Instead of supposing that this influence radiates from all the parts of a living body upon all the parts of another body, it is supposed that this influence radiates only from one brain to another.

If, then, the phenomena already described can be explained through mental suggestion, they can be ex-

plained also through magnetism; for I do not imagine that any one will attribute to thought and will the mystical property of communicating themselves, from one brain to another, without some physical intermediary force where they have their material existence.

But, is it true that the action of one man upon another be always and exclusively a cerebral one, the effect and sign of will and thought?

I cannot conceive how such hypothesis could explain the facts described above. When I first noticed that I could attract the elbow of G. P., neither he nor I thought of producing the phenomenon, but unconsciously, as my hand was turned, fingers outstretched, in the direction of his elbow, it took place. And when I held my left hand toward his elbow, the tingling sensation was obtained. When I presented my two hands simultaneously, I fully expected to see their effects become neutralized, instead of completing the effect, as they did.

Only one conclusion would seem to remain possible. It is the same one which the great Cuvier formulated in his *Leçons d'Anatomie* when writing upon experiments dealing with the action which nervous systems exert upon one another. "It is most difficult to distinguish the effect upon the imagination of a person operated upon, from the physical effects produced by the operator. Yet, the effects obtained upon patients who had lost consciousness before the operation began; the effects taking place upon others who lost consciousness

after the operation; and the effects which certain animals exhibit, *leave not the slightest doubt* as to the real effects resulting from the proximity of two animated bodies, in certain positions and movements; and this independently from the influence due to the imagination of either. It will appear sufficiently demonstrated that these effects are due to *some sort of communication which is taking place between their nervous systems.*"

Laplace replies as follows to the detractors of magnetism who refuse it a hearing: "It is most unphilosophical to deny the existence of magnetic phenomena because they are, as yet, unexplainable, in the actual state of our scientific knowledge." [4]

There is not the shadow of a doubt that, one day, it will be possible to discover the unity of nature in the three orders of psycho-physiological phenomena—hypnotism, suggestion, magnetism—in the manner which tends to unify to-day the physical phenomena of heat, light and electricity.

They are too closely allied not to be related to one another. But in the present state of our scientific knowledge it would appear futile to identify them. They are, perhaps, the effects of the same cause; but that which is certain is that they are produced under different conditions and according to different laws.

When, however, it shall have been proved that animal magnetism really exists, it will then become necessary to consider its possible intervention in the ensem-

[4] *Calcul des probabilites*, Laplace.

ble of phenomena hitherto exclusively attributed to hypnotism and suggestion. Then, every precaution will need be taken to eliminate animal magnetism from experiments in suggestion, as we have eliminated suggestion from our own magnetism experiments.

The School of Nancy said, with reason, that the ancient mesmerists had unwittingly used suggestion. Now the turn has come to say that Nancy used magnetism instead of suggestion.[5] It is quite possible that the gaze, the contact, the passes, and the personality of the operator act, on certain subjects, in a purely suggestible manner. With others, it may equally be that magnetism is added to the suggestible influence, or is substituted for it.

It is impossible to say, a priori, which is the part played by suggestion, and which played by magnetism. These forces are too susceptible to combine their actions simultaneously. Experimentation alone can determine the respective parts played by magnetism and suggestion.

V

We do not wish, however, to be believed because we affirm our own belief in magnetic force. We ask, on the contrary, that adequate pains be taken to verify its hypothesis, in the same way that one verifies every other scientific hypothesis: submitting it to experimental tests and control.

[5] *Thérapeutique suggestive*, Liébault.

Hypotheses, as we shall presently show, may be met in science under two forms. This, Claude Bernard was the first to distinguish. (1) A theoretical hypothesis. (2) An experimental hypothesis.

The first, very general, aims at the explanation of a whole ensemble of phenomena and of laws which cannot in any other way be coördinated into a system. One may confirm but not verify an hypothesis, though one may introduce in this ensemble unity and cohesiveness.

Hypotheses are found in science with their proper name and physiognomy, either among the principles, such as the atomical hypothesis, or among the conclusions, such as the hypothesis of the ether. This is how Newton understood the rôle of the hypothesis when defining it thus: *hypotheses non fingo.*

The second, particular and limited, and suggested by observation, aims at the immediate establishment of one or several experiments of which it rigidly determines the conditions: it can and must be immediately controlled, as later on the hypothesis proper disappears, at least under this name. When once the hypothesis has been verified it passes under the name of law, when it becomes a truth; and, if the contrary prevail, it disappears, without leaving any trace. Only the history of science may then keep it on record. Such is the part played by an hypothesis that it has been termed the great spring of the sciences of nature.

Hitherto, animal magnetism has been only a theoreti-

cal hypothesis. *It must become an experimental hypothesis.*

To start from the facts, and go back to them—this is the secret of the experimental method. Thus one may, without fear, give a free course to one's imagination and to one's reasoning. Certain scientists wish to limit science to the sole observation of facts: they appear to be afraid of thinking freely. They forget that facts are of value only to those who know how to interpret them.

One observer alone does not suffice to bring these researches to a victorious ending. The continuous cooperation of a large circle of physicians, physiologists, and philosophers is imperatively necessary.[6] Will the savants of the world persevere in their obstinacy to ignore systematically the remarkable accomplishments of such ardent and sincere workers as Deleuze, Du Potet, Mesmer, Lafontaine, Puységur, and scores of others? Or do they fear for the dignity of science, to have one day the painful task of giving a belated acknowledgment to the men they once scoffed at, derided, and ostracized?

Yet the truth underlying animal magnetism is an all-important one, for its consequences, theoretical and practical, can hardly be grasped. Honor, glory, and immortality await those who may at last give science

[6] Following this conception, a decision was arrived at to establish the "Institut psychologique général" (now actually existing at 14 rue de Condé, Paris).

the opportunity to study and recognize this great truth, so supremely important to the mind of humanity.

THE HYPOTHESIS

In a general sense, every supposition, every conjecture more or less founded, is an hypothesis. In the language of mathematicians an hypothesis is made to designate the first part of a theorem, that which the logicians call the subject or antecedent, in opposition to the second—attribute or consequence. For example: "If two straight lines are perpendicular to a third (hypothesis) they are parallel to each other (consequence)."

But the word *hypothesis* belongs primarily to the vocabulary of natural sciences, where it indicates one of the most important methods of procedure, whereby the scientist imagines at first and supposes as already known the very truth which he seeks to obtain.

There exist two hypotheses: the experimental and the theoretical.

The first, suggested through observation, renders possible the experiments which control it. Its great function is the direction of researches. Claude Bernard in his *Introduction à l'étude de la Médecine expérimentale,* says: "Experimental initiative resides in the idea, as it is that which provokes the experiment. Reason and reasoning serve but in the deduction of the consequences of this idea and in their submission to experimentation.

An anticipated idea or an hypothesis is, therefore, the starting-point necessary in all experimental reasonings. Without it, it would not be possible to conduct investigations, for one would gather merely a heap of sterile observations. If one were to experiment without a preconceived idea, one would merely stray from the path."

The experimental hypothesis must always be founded upon an observed fact. There is, however, no rule to be given to suggest a just and prolific idea which may act as a sort of intuitional anticipation of the mind toward successful research.

The idea, once conceived, may then be submitted to definite precepts and to definite rules of logic. But its apparition and nature have been entirely spontaneous and individual. It is a particular sentiment, a *quid proprium* which constitutes the personal originality, invention, or genius of each.

Such is the importance of this process, which Claude Bernard does not hesitate to proclaim "the very kernel of scientific progress." The method by itself is not creative; for method can only develop the idea which has been submitted.

The experimental hypothesis belongs to science while it is being formed, but it leaves science once it has been verified by experimentation, or else contradicted and therefore replaced by another hypothesis; and so on, until the final discovery of the law. It can be said that all actual laws have primarily been hypotheses. This sudden disappearance of the experimental hypothesis

may be one of the reasons why the logicians ignored its existence.

The second hypothesis, the theoretical, aims at the coordination and integration of the truths already acquired. It places itself at the conclusion of the series of operations of the method after experimentation and induction. Its function is then not that of directing research; rather, that of explaining the results.

When the mind, having once discovered a certain number of laws, feels the need to coördinate them, to bind them together, as it were, and thus complete in a measure experience and reason with imagination, it will then construct an hypothesis in which all these laws are explained.

Such hypotheses are naturally quite general. They are, in physics, the hypothesis of ether as the vehicle of heat, light, and electricity; in chemistry, the atomical hypothesis; in astronomy, the hypothesis of Laplace; in natural history, those of Lamarck, Darwin, etc., etc.

One may, perhaps, have to distinguish between two kinds of theoretical hypotheses. Some are *explanatory:* these pretend to give the real and (at least partially so) definite explanation of a certain ensemble of facts; for example, the hypothesis of etheric undulations in optics, and that of the natural transformation of the species in natural history. The others are simply *representative:* they seem to permit the introduction of a temporary order, more or less artificial, though facilitated by the exposition, in an ensemble of

facts, the cause of which is still ignored. Often these are but ancient explanatory hypotheses, recognized as insufficient, but retained because of their apparent handiness. Such are the hypothesis of optical emission and that of the two electrical currents, etc.

In all its forms, the hypothesis testifies to the insufficiency of pure empiricism and of the necessity for the part played by the mental faculties of regulation and of creation in the sciences of nature.

CHAPTER IV

Our Own Subliminal Powers

Two important drifts of thought fashion the intellectual life of the Twentieth Century professional philosophers and thinkers generally.

First: Experimental psychology, or the science which treats of the relations between "mind and body" or between "soul and matter." It is called by some "Psychophysiology."

Second: Sociology, or the science which treats of the natural evolution of human society.

To judge from the public-spirited activities of civilized nations before the international cataclysm of 1914, sociology, as a study, was more in general public favor than psychology. This may be realized by recalling the innumerable quantities of international congresses which took place on both the new and the old continents, as well as the infinite number of chairs for sociology founded in every university the world over.

It would, however, have been more logical, and surely safer, had the old philosophical precept of Descartes been followed—that of "directing one's thought from

the simple to the complex." By this is meant that the study of psychology, the study of man as an individual unit, should necessarily precede that of sociology, or of men grouped in bodies forming the natural impact of human society.

Hence there arose the need for a new psychology.

Experimental or physiological, in what form does this new psychology differ from the old? What is its purpose? What are its methods? What is the spirit that animates it?

These are the questions which the following chapters will attempt to answer.

Analyzing yourself, you will find that at first you appear to your consciousness under a double aspect. If looking from the outside, it will be as a material mass or body, composed of the same elements as the other bodies and material surrounding objects, and subject to exactly the same physical laws and chemical reactions. But if you look from within, you become aware of a being who feels, thinks, and wills. A being which is as an invisible center, immaterial in form, spectator and judge of all that takes place around it, so far, at least, as it affects itself only.

This dual aspect of the human being is expressed when one speaks of "the mind and the physical organs" or "the soul and the body." Again, the distinction is to be found in the two sciences which treat of man: Physi-

ology, the science of the body; psychology, the science of the soul or of the mind.[1]

To maintain rigidly the barrier between these two sciences, to establish and defend the independence of psychology as distinct from physiology—this was, at the beginning of the Twentieth Century, the dominating purpose of psychologists in general.

With what zest did the savants vie with one another in attempts to prove or disprove the relations between these two lives indubitably pulsating within us! A physical life and a mental life! Perhaps, also, this was a necessary reaction from exaggerated assertions of certain physiologists who pretended to absorb the mental into the physical, thus riveting the existence of man to the sole functions of his bodily organs!

To-day no one would be bold enough to contest psychology's right of existence. But the point is to know whether psychology shall isolate itself from physiology; or whether, by closer association and by following *physiological* methods and facts, psychology can more safely and precisely solve problems peculiarly its own.

Thus it is that from the perfect state of enmity in which physiology and psychology lived, the new science of psycho-physiology was born. In this, the facts contained in the intellectual, moral, and psychical life of man are studied, not as abstract propositions, as formerly, but as they are in reality, in their intimate con-

[1] See *Mémoire sur la distinction des faits psychologiques et des faits physiologiques*, by Jouffroy.

nection with the bodily states over which they have dominion.

In the transformation which, then, philosophy is undergoing, this form of human knowledge obeys the same irresistible current which takes in its whirl all the other sciences toward the apex of general progress through Evolution. This it is that enables them to combine in a closer and more effective—if not more efficient—copartnership. And it is why the psychologists of to-day become physiologists, and physiologists become psychologists. Philosophers, scientists, general medical practitioners, all fraternize as common workers in the great collective ideal, which is the Unity of Human Knowledge.

And, again, I should like to say that in so uniting itself to physiology, psychology merely renews its interrupted traditions—traditions which sprang from two immortal master-minds of ancient and modern philosophy: Aristotle and Descartes. The tradition of Aristotle, who defined the Soul as "of form essential to the human frame," and who gave to the world the first samples of experimental psychology in his opuscules on *Sensation, Sleep* and *Memory.* The tradition of Descartes, who, in his treatise on *Passions,* associates, in all his analyses, the description of bodily movements with the sentiments expressed by the human heart: love, hate, desire, happiness, sorrow, etc.

Having explained the object of the new psychology, let us now analyze its character and methods.

Its general character is that expressed in its name—psycho-physiology. Earlier psychology, such as that of Jouffroy, Garnier, and Damiron, was essentially subjective in function. It was, as it were, closed up in the internal recesses of that soul which it tried to study mainly, if not wholly, by means of "conscious reflection."

Psycho-physiology, on the other hand, is essentially objective. It takes as its basis the scientific knowledge of the human body, its organs, its functions, its tissues and their elementary properties, its functional disorders and diseases. It embodies the study of anatomy, physiology, histology, pathology. It studies the whole human organism, or that part of the organism in which the spontaneous communication between the physical and the mental takes place: that is, the direct relationship between the nervous system and the brain.

This is why this new psychology exacts the closest of collaboration between the physiologist and the psychologist, the philosopher and the medical man. For as each discovery is made in any of these fields of science, it has its correspondence in the other. This is evidenced by the recent discovery of the neurons by the Italian, Golgi, the Spaniard, Ramon y Cajal, and the Frenchman, Mathias Duval. If indeed their discoveries, verified by ulterior experiments, prove exact, these will undoubtedly revolutionize all the theories held hitherto pertaining to the functions of the brain and the nervous system in relation to the actions of thought.

Psycho-physics, which is another branch of this new psychology, goes farther in this direction; for its aim is the study of psychical facts, sensations, and phenomena, in their relation to the physical agents such as sound, light, heat, etc., by which they are provoked and to which scientists endeavor to apply measurement and calculus. Fechner, in 1860, was the first to apply psycho-physical methods, instanced by his *Éléments de psycho-physique.* Since then this has not ceased to be applied and developed, even to the extent of constituting, by itself, the whole science of modern psychology, *of which, of course, it is but a part.*

The other aspect of the character of this new psychology is expressed by its second form: *experimental.*

The old classical psychology relied mainly on observation. From the field of conscious observation, it noted all the most futile and fugitive happenings of the internal existence, "Self." It attempted to sound what took place in the soul of other men, noting their speech and actions, even the changes in their attitudes and facial expressions. Internal and external actions of the consciousness—this formed the procedure of observation.

The new psychology, however, is not content to observe only; it experiments. When observations are made, they are taken from the subjective examination of consciousness to the objective control of the senses. These in turn are rendered more precise, safe from error, by the use of instruments, apparatus which regis-

ter and measure them. The result of this has been a wider area of experimentation and investigation.

Not only are the phenomena of normal life studied, but also rigorous analyses are made of all abnormal, pathological, and exceptional cases, in which the psychical mechanism is mutilated, or out of gear. Such cases as blind-born, dumb-born, criminal-born, to use the current expression of Lombroso, hysterical, pathological, and the various forms of mental disorders, all come under the sphere of experimental activity.

Again, the modern psychologist does not work as the old-day philosopher, whose only instruments consisted in his books, and whose sole laboratory was a cosy, though often dusty and worm-eaten, studio! Psychological experimentation is to-day conducted in hospitals, asylums, and prisons. (At the time of translating it is even carried on to the very first lines of trenches, on the battlefields of Europe.[2]) The number of laboratories finely equipped with all kinds of devices, special instruments for experimentation, etc., increases every day. It was the famous German philosopher, Wundt, who created the first laboratory of its kind in Leipzig, and since then similar institutions have spread all over the globe. Not only did every university town of Germany establish its own psychological laboratory, but also every important center, intellectual or otherwise, in Europe and America adopted the system.

The country, however, where the creation of these

[2] January, 1917.—W. de K.

psychological establishments surpasses all others is, without question, the great sister republic of France.

From 1881 to 1894, the United States founded not less than twenty-eight. Since then their number has grown so fast that there is not one important town, college, or school, that does not possess its own psychological laboratory, or at least its own trained psychologist. And their number continues to grow.

It is interesting to watch the early evolution of this movement.

The first American laboratory was founded at the Johns Hopkins University in 1881 by Professor Stanley Hall, himself a pupil of Wundt. It struggled for seven years all alone, until in 1888 other emulators founded 3 more laboratories. From that period, great fecundity followed, with the founding of 3 in 1889, 4 in 1890, 2 in 1891, 5 in 1892, 4 in 1893, and 6 in 1894.

France in this matter is also forging ahead rapidly, though not at the same rate, nor in the same way in the matter of modern establishments. The ancient laboratories of the Salpêtrière, of the Charité, of the Asile Sainte-Anne, in Paris, still stand as glorious monuments to early experimental psychology. For have not such men as Charcot, Luys, Dumontpallier, Magnan, surrounded by their numerous and brilliant pupils, actively contributed to the progress of physiology and pathology of the nervous system, of the brain, and thereby to the progress of experimental psychology of to-day? Has not the School of Nancy, under the genial

direction of Liébault, Liegeois and Bernheim, elucidated the problematic questions of hypnotic and suggestion phenomena? These will surely be remembered, by future generations, as the forefront pioneers of modern experimental psychology.

As to the spirit which animates this experimental psychology, it is safe to say that psycho-physiologists in general are quite indifferent to metaphysical speculation. They are entirely disinterested, or at least so they pretend, in the eternal and unfathomable mysteries over which have labored the greatest mental giants humanity ever produced: Plato, Aristotle, Descartes, Leibnitz, Kant, Hegel. What is the nature of soul? What is its origin? What its destiny? Questions indefinitely unanswered, which the science of "correlation between mind and matter" ignores, and still less attempts to solve.

Psycho-physiology, therefore, cannot be either materialistic or spiritualistic, no more than can physics or chemistry. It will not attempt to go against any system of thought. The attitude of psycho-physiology as a science and of psycho-physiologists as scientists, is neutral. Of course, it is quite evident that to study, measure and record the most rudimentary phenomena of psychological life, such as sensations, instinctive movements, memory, touch, hearing, etc., it is not necessary to debate on the question of free will nor over the existence of God.

As one soars higher into the realms of moral, mental,

and intellectual being, and as one tries to submit to experimental methods, the nobler forms and more delicate mechanisms of sentiment, thought and will, it is evident that the new psychology reflects the metaphysical influences of the old.

The interest in metaphysical problems cannot die out in the heart of humanity. We conceive them and approach them in a manner different from that of our predecessors. We often hope to solve them by other methods, unless, in our own infatuation, we already believe ourselves in the possession of the keys. But these problems prevail, nevertheless.

Was it not a celebrated physiologist who once said: "I may well exert myself all I can to find the soul under the microscope and under my scalpel; but, alas, I have never found it."

This phrase, which might well serve as a model of argumentation, illustrates eloquently the position of the so-called positivist school of thought and of the mystical; the real differences between these two being contained in their respective attitudes and methods employed. The positivists say: "All phenomena which are not observable, not measurable or experimentable, are phenomena which cannot be known scientifically. They elude science; therefore, they do not exist. All phenomena become known scientifically when they appear under the triple aspect:

"*First:* If objective, in space. They come under

the observation and examination of any one of our five senses.

"*Second:* Under analysis. They are of such nature that they can be reduced to elements of number, figure, mass, or velocity; therefore, they are capable of being calculated and measured.

"*Third:* They are of such a nature that, knowing the conditions upon which they depend, they can be produced or arrested at will, as often as desired, and are phenomena which can be experimented upon."

It will be observed that the character of all these phenomena resolves itself into one thing—materialism. The phenomena susceptible to being scientifically known are the material ones—and those only!

The savant in positivism thus systematically ignores all immaterial phenomena; his position being similar to that of a certain species of animal whose optic nerves have become atrophied for want of light.

But what about the mystic? His tendency is to believe, after the manner of Hamlet, that "there are many things 'twixt earth and heaven, undreamt of in our philosophies."

"No," says he; "it cannot be true that everything can be known scientifically. There are yet in nature many unknown forces which can never be harnessed, as have been those which we already know. Is there not in man, even, one of those forces—the soul—which in part falls under the study of positivism, but which, nevertheless, is *immaterial?* Who has, after all, handled

with his own fingers the *thoughts* and the *sentiments*? If we express in ciphers, if we measure the movements which thoughts and sentiments impart to our organs, do not these phenomena elude, in themselves, all attempts at measurement and calculation? Therefore, no one can boast of knowing all about the soul. It is through observation only, through the impartial notation of all facts, scientific or not, that we may succeed in perceiving a few of the mysterious faculties hidden beyond its veil."

Such an attitude of thought may appear entirely opposed to the positive mind, as being too unscientific. But may we not look, in this very attitude, for the natural counter-balance which helps to serve the higher interests of science as a whole?

Do not abuse the mystics, for are they not keeping open the very gates which the positivists attempt to close? And who knows that it is not behind these very gates that are hidden the most resplendent discoveries called to dazzle future centuries of generations?

At the time when electricity was hardly suspected as a force, was not the savant who dared to predict its future wonderful possibilities treated as a dreamer? Perhaps physiology, such as we know it to-day, may even be in the same position as the science of physics was prior to the period in the history of science when no one suspected the wonderful part played by electricity in nature.

Let us, then, tolerate, side by side with a *scientific*

and *positive* psycho-physiology, a *mystical* and *occult* psycho-physiology. Both, sooner or later, are called to meet each other, no matter what may be their tendencies, at the same point which can be nothing else but that of Truth.

There are many who already practise this tolerance. The study of the strange and puzzling phenomena of animal magnetism, for a long time denied by science, which relegated them to the domain of empirism and charlatanism, is now reappearing under the newer appellation of hypnotism and suggestion. And the study of these two fields of research induced the physiologists and the psychologists gradually to investigate the neighboring, though still obscure, phenomenal regions of mental suggestion and telepathy.

Every one knows in France the name of Colonel Albert de Rochas because of his peculiarly fascinating experiments on the exteriorization of sensitiveness. Every one knows, also, the indefatigable labors of Dr. Charles Richet, Professor of Physiology at the School of Medicine, Paris; of Dr. Dariex, under whom "The Annals of Psychical Sciences" (*Les Annales des Sciences Psychiques*) are published. England, also, possesses its Society for Psychical Research, at the head of which are the eminent names of Sir William Crookes, Sir Oliver Lodge, Henri Bergson, and many others.

America possesses, as well, a very prosperous Society for Psychical Research, whose works shall forever be linked with the undying names of William James,

Hyslop, Royce, etc. And legion are the periodical publications devoted to that special branch of psychology which, for the want of a better name, I shall call *parapsychology.*

It is the special field of this as yet unknown psychology, this *Psychology of the Future,* which we shall attempt to define.

CHAPTER V

Psychology of the Future

PARAPSYCHICAL PHENOMENA

On the confines of science, as it were, exist a group of phenomena which still elude all scientific explanation. They appear to be foreign to what we know of the laws of nature. Their reality, up to the present time, has been contested or not generally admitted, although in the remotest antiquity such phenomena had positively aroused the curiosity of mankind and awakened admiration mingled with terror and superstition.

Science, however, is just beginning to explore this region of the supernatural, in an attempt to discover the laws which would enable it to explain those mysterious phenomena and produce them at will.

We shall here endeavor to classify them, and to give them appropriate names, so as to distinguish them from all others, that their study may be facilitated; for there does not seem to exist a common name for the whole family of facts known as hypnotism, animal magnetism, spiritism, telepathy, levitation, etc.

These phenomena are often called "occult." But this denomination means nothing except to those who admit

of the existence of the "occult sciences" in contra-distinction to the "positive sciences"—which, it is necessary to say, are the only possible ones in our opinion.

Often, also, these phenomena are called "psychic phenomena," forming a particular group named "psychic sciences," as instanced by the titles of the English, American, French, and other societies and journals devoted to the study of psychic phenomena. Although it seems to be spreading more widely every year in English-speaking countries, this appellation does not seem to us at all satisfactory, inasmuch as the term "psychic" is also being used elsewhere—perhaps more adequately—as synonymous with "mental." Joy, sorrow, pain, remembrance, reasoning, an act of will, are, properly speaking, so many psychical states; and there does not seem to be in the word anything which would tend to restrain its use or its application to extraordinary or abnormal phenomena.

For this reason we propose the term *"parapsychical,"* in which the prefix *para* justly indicates the nature—paradoxical, exceptional, aberrant—of phenomena of thought and life outside the laws known to us.

True, it could be objected that this can be but a temporary appellation; for when the day has come for mankind to know *all* the laws that govern thought and life, the parapsychical phenomena will then form a natural part of our every-day life.

To-day, however, we can safely define these parapsychical phenomena as all phenomena which, produced

in animated beings, or as an effect of their action, do not seem to come under the explanation afforded by nature's laws and forces already known.

Let us divide them in two principal orders:

First: All phenomena appearing to be explained by certain forces already known, and supposing that these forces, given certain circumstances, act according to certain laws more or less different from those we already know, such as hypnotism and suggestion.

Second: All other phenomena which seem to imply the intervention of forces as yet unknown, of certain factors quite distinct from all those already discovered or examined by science. These include telepathy, animal magnetism, spiritism, etc.

Every "scientist," to-day, admits the phenomena of the first order. Most of them reject those of the second order, or else they attempt to explain them by the former. It may be, therefore, permissible to call the first *scientific* and the second *extra-scientific.*

The first order itself is classified in two groups of phenomena, more or less distinct, and for which we must coin new names: The *psychopathic* phenomena (from two Greek words, *psyche,* soul, and *pathos,* modification); and the *cryptopsychical* phenomena (from the Greek *cryptos,* hidden, and *psyche,* soul).

PSYCHOPATHIC PHENOMENA

All phenomena proceeding from modifications of certain states of the mind or of the nervous system—as,

for instance, mental exaltation, abnormal inhibition of certain psychological faculties or vital functions, hypnotic and suggestion phenomena—can be classified under this definition.

These phenomena may be produced in two different ways:

First: They may proceed from certain modifications of the *mental* state of the subject, often determined by the spoken words of the operator, constituting "verbal suggestion." The suggestion, in some instances, need not be verbal. It may be produced by a gesture, a look; it may even taken spontaneous birth in the mind of the patient, when it becomes auto-suggestion. In all cases, the cause is a *mental* one, an idea insinuated or imposed on the mind, which is responsible for all subsequent phenomena.

Suggestive psychopathic cases being, in appearance, the simplest, should naturally be studied first of all, as they form the greater part of the cases and therefore would explain them in their entirety.

Second: Their cause may be purely *physiological,* consisting in a modification of the nerve centers, produced by gazing for a length of time at a brilliant object, by a pressure exerted on any determined part of the body, or by any other device of a *physical* nature.

They constitute the *hypnotic phenomena* studied by Braid and the School of the Salpêtrière, which considered them as morbid states of the nervous system called

hysteria. According to their theory, these phenomena revealed three characteristic forms: lethargy, catalepsy, and somnambulism. Instead of being effects of suggestion, these states were their causes, in the sense that every hypnotic subject was suggestible, presenting phenomenal aspects entirely independent of his own suggestibility. For instance: the neuro-muscular hyperexcitability in the lethargic state, the transfer of contractions by the action of the magnet in catalepsy or somnambulism.

The School of Nancy differed from Braid and the School of the Salpêtrière, inasmuch as its Professor Bernheim would not admit of any other phenomena but those of suggestion. He said: "There is no such thing as hypnotism; everything is suggestion. For instance, without touching or looking at a patient, I give the suggestion: 'You have forgotten your name, your address, your profession'—and the patient cannot remember any of them. Or I say: 'You are going to sleep, to sleep—and the patient goes off to sleep.' Or: 'In five minutes you won't be able to remain standing'—and the patient falls on her knees. Or: 'You are irresistibly drawn to this chair, and you can't help falling into it'—and the patient does so."

In the actual state of science it would be difficult to say who is, or is not, right—the believers in suggestive psychopathy or those in hypnotic psychopathy (better called, to my mind, hystero-hypnotic).

CRYPTOPSYCHISM

Under this heading should come all those phenomena where an intelligent action, a psychical action, takes place, seemingly without the presence of consciousness to any degree.

Although more or less in close relation to psychopathy, cryptopsychism can be found to exist independently of the former.

Prophetism of the Camisards is an historical example of spontaneous cryptopsychism. But the best example of this class of phenomena may be found in *automatic writing.* For instance: You hold a pen in your right hand, and unconsciously the hand will write a sequence of phrases which frequently correspond, in answer, exactly to the proffered questions. Pierre Janet, in his book, *Mental Automatism,* has begun the study of this problem, which he defines under the name of *the transfer of the personality.*[1] Some aspects of spiritualism, too, come under the category of cryptopsychical phenomena.

The phenomena of this order, which are still awaiting the attention of scientists and, it may be remembered, imply the action of certain forces, still unknown, should be classified under three groups:

1. *Psychodynamic phenomena* (from *psyche,* soul; *dynamis,* power).

[1] *Dédoublement de la personalité.*

2. *Telepsychic phenomena* (from *tele,* distant; *psyche,* soul).
3. *Hyloscopic phenomena* (from *hyle,* matter; *scopein,* examine).

Psychodynamism

In this are included the mass of the phenomena which an animated being produces over other animated beings, or upon matter, by the intermediary of a force *sui generis*—a force distinct from all other known forces, though in nature analogous to light, heat, electricity, magnetism. When the action of this force manifests at great distances, without the help of intermediary factors, these phenomena become then *telepsychical.* The difference, therefore, is but one of degree between the psychodynamic and the telepsychic phenomena, although the former are found in greater variety.

We are not including in this nomenclature the phenomena whose action is supposedly exerted or is generated, not from an animated being—animal or man subjected to our examination—but from some spirit intelligence, belonging to another world. Such phenomena constitute what we may call *spiritic psychodynamy.* (We included in our earlier division a spirito-cryptopsychism.)

But before we enter upon the field of this hypothesis we should certainly endeavor to explain these facts, through analyzing the unconscious actions of the subjects or mediums who produce them.

Whether we admit them or not, the actions exerted by living organisms (animated beings) assume two principal forms, according to their effect on other living organisms or upon matter: The first action is called *vital psychodynamism* or *psychokynesia;* and the second, *material psychodynamism* or *psychokynesia.* Almost all phenomena attributed to the action of animal magnetism, in so far as they remain distinct from the phenomena produced by suggestion and hypnotism, belong to this classification.

We will give here a rapid enumeration of them.

VITAL PSYCHODYNAMISM, OR VITAL PSYCHOKYNESIA. (*A*) *Its effects on man.* The simplest experiment is that which consists in placing the two hands, lightly, without pressure, on the shoulder-blades of a man or woman. Draw the hands slowly away, toward yourself, when you will find that it will be impossible for the subject to resist the attraction; he falls backward, often with much violence. Some people, being naturally more sensitive, respond to this attraction from the very first experiment, even when the hands do not touch the body, and are held two or three inches apart. It must be understood, of course, that the subject is not told what is being expected of him.

When the hands are being placed on the shoulders, and a slight exertion of the will is being made to draw the patient backward, it will have the effect of doing so very promptly, especially if the subject has already proved sensitive to the attraction.

The same result can be obtained, although not so easily, when holding the hands over the epigastrium. It can be produced, also, when holding one hand at the base of the spinal column, and the other, or the fingers, on the subject's knee.

In the case of some very sensitive patients, it will be found that placing the hand open, with slight or no contact, behind the elbow will produce a series of jerky movements of the arm and also attraction. And this can be obtained without the knowledge of the patient.

The contact or the nearness of the hands of the experimenter will cause in the patient phenomena of contraction, adhesion, stiffness—all these being the effects of the same, as yet undetermined, force. It is the same force which the *magnetizers* (magnetic healers) attribute to the effects of the *passes,* which they perform to awaken or to send their patients into the comatic state. And in the same manner that electricity and magnetism are *polarized*—that is, are, at the same time, both positive and negative—so is this force-emanation of the human body.

Vital psychodynamism, besides producing external effects, has the action of producing a series of effects internally, in the body, and constitutes what is known as *curative magnetism.*[2] Thus, making certain passes over a diseased organ, or applying the hands over its region, would have the effect of reinstating its lost or deficient vitality. The necessary equilibrium would appear to

[2] *Le magnétisme curatif,* A. Bué.

have been given the vital energies or vital forces, the necessary power to resist the causes of disease, and also death.

Dr. Liébault, of the School of Nancy, the apostle of *suggestion,* after numerous experiments with young children, came to the conclusion that a human being could, solely by its presence, exert a *healthful* or an *unhealthful* action over another, independently of any suggestion.

It should be recognized that suggestive psychopathy implies a kind of internal psychodynamism; for how could the *idea* of cure produce its effect unless the brain, under the gripping influence of the idea, sent *currents of energy* to restore and regularize the functions of the affected organs?

(*B*) *Effects produced on animals.* These effects are very similar in nature to those produced on human beings, although experiments conducted in this direction have not been as extensive as with human organisms. It would be most desirable to increase these; for the effect of suggestion is naturally much less, and thus the experiments would be more valuable.

(*C*) *Effects on plants.* Certain plants, having been treated by means of passes, have shown a distinct increase of growth. Other plants, in a perishing state, have revived; and fruits treated in this way have ripened one month earlier than others not submitted to the same influence.[3]

[3] *Le magnétisme curatif,* A. Bué.

MATERIAL OR PHYSICAL PSYCHODYNAMISM OR PSYCHOKYNESIA. We find two manifestations of this force:

Indirect psychodynamism. This consists in the action on material objects. It does not manifest itself by a perceptible change in the constitution or the properties of the object; rather on the effect that this object produces on human beings, and particularly so on *sensitives.* For instance, water is found to possess curative properties when submitted to the process of passes.

We have also seen a subject who felt as if he were being scalded every time he touched certain objects which, unknown to him, were magnetized.

Direct psychodynamism. In this case the effects produced on physical matter are visible to all. They consist in movements imparted to the substance of matter. Some of the so-called "mediumistic phenomena" come directly under this heading. It may even be asked whether the movements of the tilting tables are not caused by the unconscious movements of the sitters? But when a table is levitated—lifted in the air—without apparent contact, one must admit that the intervention of mechanical forces is not sufficient to explain these phenomena. One must admit some psychodynamic action.

If Sir William Crookes had taken all the necessary precautions for scientific control, his experiences with the medium, D. D. Home, would be classified under this head.

To the phenomena of *levitation* should be added those of *materialization,* which seem to be produced by a condensation of the parapsychical force, through which tangible and visible objects, in all aspects similar to living bodies, can be created.[4]

Telepsychical Phenomena

Under this classification come a group of phenomena implying an action exerted and felt at a great distance, or at distances between which certain obstacles have been interposed.

1. *Telepathy.* These facts have been thoroughly studied in England and in France and can be found analyzed in detail in Podmore's *Phantasms of the Living,* in the *Annales des Sciences psychiques,* etc. They consist in the sudden mental appearance of the image of a parent or friend, more often at the moment when the latter is in danger of death.

2. *Second Sight, Lucidity, Clairvoyance.* These phenomena, although denied their existence by official science, exist nevertheless. According to the numerous testimonies, which so often have been verified on subjects in the somnambulistic state, the subject can see things—objects and scenes, internal organs of the body, distant towns or countries—that the eye cannot reach.

3. *Transmissions of Sensations,* and often simultaneously of bodily states. The following example, taken

[4] For this see William Crookes' almost incredible story of Katie King.

from Pierre Janet, illustrates what is meant: "Madame B. seems to feel most of the impressions received by the person who has sent her off to sleep. She believes that she is drinking when I drink; she always recognizes the substance I place in my mouth, and can tell accurately if I put salt or sugar on my tongue."

To this category of facts belong the phenomena, still controverted, obtained by Colonel de Rochas, and called by him "exteriorization of the sensitiveness."

4. *Transmission of Thought.* This is actually the phenomena of *Mental Suggestion.* The subject divines, reads, understands thoughts as yet not verbally expressed. He replies, for instance, to mental questions. The Marquis de Puységur wrote of his subject, Victor Vielet: "I have no need to speak. I think before he does, and he hears me and gives me his answers."

5. *Transmission of the Will.* The subject obeys the will, as yet not expressed in words, of the experimenter. Whether done *consciously* or *unconsciously,* it would appear that thought-transmission has taken place.

Among these phenomena should be included that of *sleep produced from a distance,* as in the famous experiments of Messrs. Gilbert and Janet at Havre, when they succeeded sixteen times in inducing sleep in their subject from distances varying from 6 meters to 2 kilometers.

Hyloscopic Phenomena

This, the last group in our classification, comprises all of the phenomena where physical matter appears to exert an influence on human beings, in particular, and on animated beings in general—an influence or action difficult to explain by its known chemical or physical properties, and which, therefore, would seem *to reveal a force unlike* all those which science already has studied.

As may be seen, the hyloscopical phenomena present inverse and complementary aspects to the phenomena included under *Material Psychodynamism.*

The following are their subdivisions:

1. *Influence of Movement.* It is quite sufficient to go round a subject, from left to right, without telling him the object for so doing, for him to lose the sensibility of touch and the memory. If you keep on going round, your subject will pass gradually and successively through the lethargic, cataleptic, somnambulistic states, etc.[5] When reversing the process—that is, going around him from right to left—he comes back successively through all the former states until quite normal. The same results are obtained by the rotation of the subject on his own axis (on himself) or round a fixed point; or by the rotation of a material object round him.

[5] May we not recognize in this the peculiar practice of the North American Indians in early wars, though on a larger scale?—W. de K.

2. *Influence of Atmospheric Currents.* Certain people of nervous temperament often feel the coming changes in the weather long before this happens. They are, so to speak, "living barometers" of extreme sensibility.

3. *Influence of Subterranean Currents.* The numerous "divining-rod" tests conducted during the International Congress of Experimental Psychology in Paris, 1913, and which arrested the attention of the scientific world, come under this division.

4. *Influence of Terrestrial Magnetism.* Up to the present, this is still very obscure. Certain sensitive subjects seem to present this influence. It may be that which constitutes the sense of direction, that instinct of orientation which naturalists attribute to certain species of animals.

5. *Influence of the Magnet.* Charcot's school of hypnotism, Luys, as well as the ancient school of the mesmerists, admits this influence, although the school of suggestion denies it. A magnet will produce on the subject not only sensations of coolness and ankylosis, but also the objective phenomena such as sleep, contracture, transfer of movements and attitudes, etc. This influence can be applied therapeutically. One might even discover effects of a similar nature produced by electricity, heat, light, sound, certain crystals, etc.

6. *Influence of Metals.* This has been studied by Dr. Burq under the name of metalloscopy and metallotherapy. His experiences and observations may be read

in two lectures delivered by Dr. Dumontpallier, in 1879, at the Hôpital de la Pitié, Paris.

7. *Influence of Divers Substances.* Under this classification are included: (1) The action attributed, in homeopathic medicine, to its infinitesimally small corpuscles. The power of this action seems to be in the inverse ratio of their mass; and, if real, it implies the existence of a force different from all other forces known by science. (2) The action of drugs at a distance, studied by Bourru and Burot, from whose experiments arose such wide discussion. (3) The action of organic extracts, very similar in effect to the above, attributed to Brown-Séquard.

Although we do not pretend to have given all the nomenclature of the parapsychical phenomena, yet the above classification may help in their study.

In so classifying these phenomena, we have at the same time classified the sciences to which they belong, and we may now divide the parapsychical sciences in the manner following:

In the first degree:

1. Psychopathy.
2. Cryptopsychism.

In the second degree:

3. Psychodynamism.
4. Telepsychism.
5. Hyloscopy.

However, I should like to say that, since the above attempt at classification was published by me in 1893,

for the first time, in the *Annales des Sciences Psychiques* of Dr. Dariex, my ideas have greatly developed. Since then I have added certain contributions which may serve to make them more complete.

There is no distinct place in science for all the ensemble of facts which the public calls "spiritism," and which, for many of our colleagues, form the most interesting and important of psychic phenomena.

If we make abstraction of all hypotheses upon the origin of mediumistic and spiritistic phenomena (and in using these two words, we lay stress upon the abstraction which we make of such hypotheses), it seems, at first sight, that these facts, taken in themselves, belong to the classifications above referred to. They should be psychopathic, cryptopsychic, psychodynamic, etc.

For example: Is not the comatic state of the medium or subject a simple phenomenon of spontaneous psychopathy? A case of auto-suggestion or self-hypnosis studied experimentally by the Schools of the Salpêtrière and Nancy? In the same manner, are not the so-called mediumistic "messages" obtained through table-rapping, table-tilting, automatic writing, and various other devices, spontaneous cryptopsychical phenomena, absolutely comparable to the phenomena of the transfer of the personality as obtained by Professor Pierre Janet?[6] The actions of levitation, translation, etc., imparted by the medium to material objects;

[6] *Automatisme psychologique* and *Névroses et Idées fixes*, Pierre Janet.

luminous and form-apparitions, materializations observed in certain spiritistic séances—are they not but spontaneous psychodynamic phenomena? If these be real, they will be obtained experimentally on the day when science finds herself in possession of the necessary laws and conditions which govern them. The same would apply to the spontaneous, telepsychical phenomena frequently reported as happening in those spiritistic séances: thought-reading, clairvoyance, etc.

Thus, adopting this analytical point of view, spiritistic and mediumistic phenomena would not constitute a distinct order of parapsychical phenomena; rather a decidedly variable combination of parapsychical phenomena belonging to psychopathy, cryptopsychism, psychodynamism, etc.

In fact, their manifestation presents a twofold aspect: (1) They are essentially spontaneous; and (2) they imply, at least hypothetically, the intervention of *personalities* seemingly distinct from all other visible personalities present in the phenomena themselves.

In contra-distinction to hypnotic, suggestive, magnetic experimentation, such results cannot be obtained *at will*. As a matter of fact, the word experiment is thoroughly inadequate. Maxwell in his *Psychic Phenomena* says: "The peculiar character of psychic phenomena is their apparent independence. Experiments guide or lead us: they are not easily conducted. One would incline to believe that they obey a will foreign to any of the sitters." Maxwell sounds an emphatic

note of warning against the prevalent supposition that these things can be observed at will.

Again he says: "Every time that a paid subject is expected to give you regular sittings, there will be one hundred chances to one that you will meet with failure. The fact is certain that the character of the phenomena is at least irregular. I have experimented with educated mediums who, in the best interests of science, were naturally anxious for results. During weeks of experimentation I barely obtained one good séance. At other least expected moments, however, without the regular séance preparations, we obtained results in abundance."

As to the second aspect (and the character of this is closely allied to the first), these facts suggest to the observer the hypothesis of an invisible personality, distinct from that of the medium or of those of the sitters as their causal agents. They *appear* to possess, in themselves, a personality; nay, it is claimed they give to themselves a personality.

That this be real or not, that the affirmation be true or false, is a point upon which opinions can be, and are, divided. Nevertheless, the appearance and the affirmation exist, and characterize this order of facts.

To quote Maxwell[7] again: "The most peculiar fact about these psychical experiments is that the force which manifests itself seems to have a certain amount of intelligence. . . . In general these manifestations are attributed to a deceased person, known or unknown.

[7] *Les phénomènes psychiques.*

"I call personification any order of being who claims to be manifest. One can but make a hypothesis as to its essence. The skepticism during the whole of my observations may not be rightly founded; and perhaps it would be more courteous, after all, to give it the deference we would show a co-experimenter. Such a prudent attitude pays best in the long run. In practice, I have for the personification the same regard as for the medium. . . . I call it by the name it has given itself, while at the same time insisting gently on precisions as to my quest. Its help, whatever foundation it may possess, I have found indispensable.[8]"

Whatever may be the presentation of the characters or aspects of these mediumistic or spiritistic phenomena, it seems to us necessary to give them a special place all to themselves in a general classification of the *parapsychic* phenomena. This classification should, there-

[8] Close observation reveals, in psychic phenomena, that the emergence of these secondary personalities present certain particular characteristics: notably, the possession of certain information inaccessible to the normal personality. These may coexist, without the slightest trouble being apparent, in the motor and sensitive spheres. In other instances they so control the normal personality as to make it lose the use and the sensation of one or several members. Also, the personification may take possession of the whole organism, when it then becomes the phenomenon of incarnation. When it has attained its maximum development, it displays a remarkable spirit of autonomy, more difficult to control by suggestion than during its other intermediary states of evolution. What are these personifications? An illusion? A spirit? A collective consciousness? I do not know. But what, at least, I realize, although all is possible, is that one cannot trust them implicitly.

fore, include a third order, specially reserved to the *mediumistic* phenomena.

Here follows the classification:

1. All phenomena *seemingly* capable of being explained by the *forces already known,* supposing that these forces, given certain conditions, operate according to certain laws which we do not know yet—laws more or less different from those we already know.

2. All phenomena *seemingly* implying the intervention of *forces still unknown,* of agents distinct from all those that science has already discovered and studied but which normally belong to our world; in other words, belonging to the ensemble of agents and forces which we call nature, and which are, in fact, intra-natural.

3. Phenomena *seemingly* implying the intervention of certain *forces, not supernatural, but extra-natural,* which, while not belonging to our world in a normal way, do suddenly make an irruption in Nature, outside of a sphere of existence usually foreign to our own.

To make the above definitions clearer, let us delineate them somewhat differently:

All the phenomena of the first order bear a certain analogy to those observed in sleep. Often they are followed by sleep, or by a state similar to sleep. We therefore would propose the word *hypnoidal* to define them.

The force or forces, hypothetical, which seem to manifest themselves in all phenomena of the second order, bear, as other observers have remarked, a close resemblance to electricity and magnetism. These, then,

could be called *electroidal* and *magnetoidal* phenomena.

The phenomena of the third order, which seem to imply an intelligent force, a spirit, could be called *spiritoidal.*

Such a classification, now apparently complete and precise, can, after all, be but provisory, since it is founded on the *appearances* under which the parapsychical phenomena present themselves.

This is not a summing up of the scientific knowledge of these phenomena. *For it is precisely the* knowledge *of these phenomena which should be instituted. This is simply a classification which we believe necessary in order to facilitate their study.*

Perhaps some day a deeper knowledge of the spiritoidal phenomena will lead us to conclude that, after all, they are but of hypnoidal and magnetoidal origin. It should even be in this direction that our steps are guided. Of course we do not have the right to adopt this hypothesis at first sight; for the contrary may equally be possible.

As much may be said of the magnetoidal phenomena in relation to the hypnoidal; and, in final analysis, of the whole of the parapsychical phenomena in relation to the psychical or, as it is preferably said, to the "normal psychological."

CHAPTER VI

New Experimental Method in Hypnology

The observations made in the foregoing chapter were the starting-point of new researches.

As it would be wearisome to read the results in detail, I shall give here only a few words on the rules employed in this new method of experimentation.[1]

1. You should always experiment with subjects in the waking state. Subjects previously hypnotized are naturally in a state of greater sensitiveness, and the sensitiveness of their nervous system thus developed helps advantageously for future experimental success. However, this does not constitute an indispensable condition. I have obtained some excellent results with people who had not previously been submitted to any influence.

The point which I wish here to emphasize is that, during the course of these special experiments, I not only do not attempt to put the subjects to sleep hypnotically, but I carefully avoid doing anything which might tend to modify their normal state in any way whatsoever.

2. Your subjects should have their eyes bandaged,

[1] For a full discussion of the results obtained, see the chapter entitled "The Conductibility of Psychic Force."

from the very start, and during the whole of the proceedings. It should be made impossible for them to see anything. You will find the best thing for the purpose a piece of black cloth, thick enough to intercept all light, covering the forehead, the eyes, the nose, and the ears. The mask should be made to fit tightly on the upper lip, the subject breathing through the mouth, instead of through the nose, during the period of experimentation.

It is absolutely necessary, for the validity of the experiment, that the subject be masked in such a manner that it will be impossible for him to see.

3. During the whole of the séance, the most rigorous silence must be imposed on all alike. The sitters should be attentive to all that happens and should understand without asking questions or exchanging opinions. If certain explanations are necessary, they should be given in writing.

The subject, alone, is allowed to speak, to say what he feels; without, however, being interrogated.

All articles, objects, instruments, used during the séance must be brought into the room only after the subject has had his eyes bandaged, and without his knowledge that such will be used.

4. No bodily contact is to be allowed. There should exist no possibility for the subject to substitute the sense of touch for that of sight and hearing, in the attempt to ascertain what is happening.

5. You should combine your tests in such a manner

that the experimenter himself—if only so for the first time—should be placed in the position of guessing as to what may be the result.

As can easily be realized, these precautions aim at the physical and mental isolation of the subject. He must be in such a position as to ignore completely the nature of the experiments; he should be in the same position as that of an instrument in a laboratory.

Admitting that the five rules of this new experimental method are rigidly adhered to, you may proceed as follows:

In ways that can be infinitely varied, place your hand at 5, 10, 15 centimeters (from 2 to 8 inches), with straightened-out fingers, keeping still for a while and pointing to any part of the body: front, back, right side, left side, shoulder, arm, wrist, hand, knee, foot, stomach, etc.

The results which you will obtain may be summarized in the following twelve propositions. And they are but a few among the many which still remain to be discovered.

1. The time necessary for the production of an effect (phenomenon) varies according to the temperament of the experimenter. In my own case the effects took place after an average of 30 seconds.

2. The nature of these effects varies also with the subjects. With the more sensitive something always happens, although not constant in recurrence; in others the effects produced are constant in nature.

3. Everything happens as if the human organism (the human body) generates, at least with some people, an influence of unknown nature, capable of action at a distance on the organism of other individuals.

4. Most individuals appear to be good conductors of this influence. It seems as if the influence goes more or less rapidly through the entire mass of their bodies, and as if it becomes dispersed, on reaching the exterior, without producing any visible effects. On the other hand, with *bad* conductors, those called "subjects," this influence would appear to accumulate and be stored for a certain length of time, in the parts of the body where it had been directed, with results of a more or less marked character.

5. These are the effects which I have observed so far: (a) Analgesia, then anesthesia; first superficial, then deeper. (b) More or less violent contractions of the muscles in the part pointed at. This is particularly observed in the triceps muscle, when the action is directed toward the knee. (c) General contraction of the parts aimed at, especially in prolonged actions. (d) Movements of attraction, by which that part of the subject's body is irresistibly drawn to the hand of the experimenter. With some, jerky movements are spontaneous, even when the hand is immobile. In others they are produced only when the hand is slowly displaced, when a quasi-mathematical correspondence is established between both the movements of the operator and those of the subject. (e) Divers sensations

felt, mostly of "heat," often going as far as of scalding. Sensations of being pricked; tingling; stiffness. Most subjects associate these sensations with that of electricity. Other parts of the body develop their own particular modes of reaction; in certain subjects the breathing becomes difficult and irregular when the fingers are directed toward the pit of the stomach, etc.

6. This unknown influence emanating from the human organism can be conducted to a distance by means of a copper wire or of an ordinary wire. You hold one end of the wire, and the other is made to face the subject.

7. In certain subjects, as also in certain experimenters, this influence is *polarized* (is positive and negative), the conditions of which are unknown to me. I have found, however, that the right hand always produces a certain kind of effect, and the left hand another kind. When the two hands are placed, palm against palm, on the body, the effect produced is that of the two combined.

This polarity persists, even, when the influence is transmitted by means of the metallic conductor, copper or ordinary wire, held with the right hand, the left, or with both hands.

8. This influence emanates particularly through the fingers; from all other portions of the body it emanates, apparently, in a more diffused state. To prove this, you may fix round your arm a metallic wire, running spirally from the hand to the elbow; and on this you fix a

smaller wire of the same metal. On presenting the head of this small wire, the same sensations of pricking, tingling, stiffness, anesthesia, attraction, etc., are obtained. If you fix a similar device round your hand, with five metallic fingers adjusted on your own, you will greatly increase the rapidity as well as the intensity of the effects.

9. Glass, on the contrary, is a bad conductor for this kind of force. It plays the part of isolator. At least this is the conclusion to which I have come from the following experiment:

Take a glass rod, 50 centimeters long, and possessing a sharp point at one of its extremities. On half its length, twist round it a wire so that its end rests on the pointed end of the glass rod. Now take this prepared rod by its bare end, and hold it for some time, on or before any part of the body. Even after 4 to 5 minutes, the effects will be nil. But if the twisting of the wire be now continued to the other end of the glass rod, so that the metal comes in contact with the palm, on presentation of the rod to parts of the body the former effects of anesthesia, etc., will be produced.

10. All individuals do not possess the faculty of generating this unknown influence in such measure as to produce effects of an appreciable nature.

11. On the other hand, if an individual who is apparently denied the capability of exerting this influence, is placed in contact with another who can, he will then

be able to exert the influence as long as he remains in contact with the other.

12. In repeating and in prolonging the contact, the influence can be communicated, for a more or less durable period, to another. This other person, in turn, will be capable of using this influence and directing it through the body of a third individual, himself incapable of exerting such action.

These twelve propositions are a faithful résumé of the principal facts so far observed, with a strict application of the experimental method prescribed for myself.

I will now complete the description of the method of procedure used for the verification of the various states of sensitiveness of the subject during the course of the experiments:

Suppose that the rotula of his left knee is chosen for the experiment. The experimenter has placed his own hand upon it. Now one of the sitters present aims (with the five tips of his fingers close together) at various parts of the body of the subject, and among them that part where the experimenter's hand is resting. The subject verbally announces what contacts he feels. If he is silent when the finger-tips aim at the rotula, you may conclude that it is anesthetized; and to test its extent you may pinch or prick that region of the body.

It is not necessary for me to dwell upon the impor-

tance of all these facts, from the points of view of hypnology, psycho-physiology, or even from that of general physiology. My sole wish is that the greatest number possible of experimenters should take the trouble to verify, in turn, all the results obtained, while complying with a strict observance of the experimental methods I have mentioned.

Should their first results be in the negative, they should not hastily conclude that the experiments are worthless, or imaginary. Patience should be taken to experiment with the greatest number of subjects, either alone or, better, with the help of other experimenters.

CHAPTER VII

Mesmerism and Suggestion

When Mesmer attempted to explain the strange phenomena which he produced by the imposition of his hands, his passes, his famous "water tub," by a universal fluid analogous to that of the magnet, he met with strong opposition. The wise men of the time, the savants, preferred to deny these facts, or to declare them without importance and foundation, rather than investigate them.

In spite of this, however, there appeared quite a different explanation from that of Mesmer himself. The King's commissaries, while timidly framing their "report," hardly suspected at the time [1] that it would one day become the principles of a new theory and of a new art—the theory of suggestion and the art of psychotherapy.

This explanation attributed all the facts observed to the imagination of the subject—imagination more or less excited and directed unconsciously by the operator; often, under the impression that his influence was purely objective.

[1] Paris, 1784.

This theory became almost lost to sight when Braid thought he had found an explanation to Mesmer's phenomena, and to his own, in "a particular state of nervous or cerebral fatigue, an exhaustion of the centers *sui generis,* and determined by a protracted or excessive tension of the senses and of the brain."

Then, along came a third doctrine, which for a time eclipsed the other two: hypnotism.

We know with what zest Charcot and the whole School of the Salpêtrière adopted and professed it. Charcot even went so far as to complete its definition by adding that "the hypnotic state" could be produced only with hysterical or neuropathic subjects.

But since the School of Nancy outgrew the Salpêtrière in the study and application of these phenomena, and especially its utilization of hypnotism in the treatment of diseases, the views of Liébault and of Bernheim have taken the place of those of Charcot.

Actually, every medical man or scientist who studies these questions inclines with Bernheim in believing that "suggestion is the key to all hypnotic phenomena . . . There is no such thing as hypnotism, everything is suggestion." [2]

Dr. Milne-Bramwell in his study of James Braid says: "Hypnotism is a particular state of the nervous system susceptible of being provoked by various physical actions, a state characterized, at least partially, by an

[2] *Revue de l'hypnotisme,* Nov., 1897.

abnormal exaltation of the suggestibility, a state in itself perfectly independent of suggestion."

To our mind, Braidism is, and remains, distinct from suggestion. In the actual state of the question, it is not hypnotism which is in opposition to mesmerism, as formerly; it is suggestion.

For the future this problem resolves itself into these terms:

Are all phenomena, pretended to be magnetic, hypnotic, or suggestive, due to the self-formation of ideas, or to the convictions and emotions communicated to them which these ideas form in the mind? Or else, are these phenomena caused by an objective and occult influence radiated by the operators who exert over the nervous systems of the subjects an action similar to that which the ordinary magnet exerts over iron?

We believe, with Durand (de Gros) that suggestion and mesmerism are two distinct agents, equally real and independent. Yet they can be found in combination in the production of common effects. Mesmerism can be found without suggestion; and suggestion without mesmerism. One may have a pseudo-mesmerism which is nothing else but suggestion; and a pseudo-suggestion which is nothing else than mesmerism. Yet, again, mesmerism and suggestion may be found combined; this then might be called mesmeric-suggestion or suggestive-mesmerism.

The following example may illustrate a case of pure suggestion without mesmerism:

Not touching nor even looking at the subject, you say to him, "Close your eyes. You cannot open them!" And he cannot, no matter how hard he may try. Then you add, "When I have counted up to seven, you will be able to open them. Now—1, 2, 3, 4, 5, 6, 7!" And his eyes fly open.

In this example, suggestion will be found allied to mesmerism:

If you place your hand open, slightly above the hand of a so-called magnetic subject, he will complain, after a short while, of feeling an impression of great heat, which soon becomes so intolerable that he will beg you to take your hand away. When he asks this, you reply, "I have no objection to your taking your own hand away." But after having made several attempts to do so, he finds it impossible. The hand appears, as it were, contracted or paralyzed, and stuck where it stood. Yet, if you move your hand to and fro, up and down, the subject's hand follows these various movements, as if an invisible thread connected the two hands.

It would appear that such an experiment were purely of mesmeric order, but in reality the effect produced is but a counterfeit of it through suggestion. It is but suggestive pseudo-mesmerism. To prove this, change but one condition of the experiment: for example, allow the subject to auto-suggest himself, or the operator to make a suggestion. Thus, say to the subject, as before, "Close your eyes. You cannot open them!" And he cannot. If now you place your hand

above his, as before, move it to and fro, up and down, the subject feels nothing whatever, and makes no movement, your hand being apparently incapable of exerting any influence.

The fact that the subject's eyes remained closed is the key to the situation. Auto-suggestion, in the first instance, while the eyes remained open, was responsible for the motions of the hand.

Experiments of this nature delight the hearts of the enemies of mesmerism; for they ejaculate with Bernheim: "You see there is no such thing as mesmerism; suggestion is everything; for the supposed magnetic influence acts only so long as the subject can be suggested, or allowed to suggest himself."

These were the arguments opposed to the original assertions of Mesmer from the beginning, by the King's commissaries in their report.

Of course, such experiments as the above are not the only ones upon which mesmeric argumentation is based. There are others where suggestion is completely eliminated, yet the effects due to magnetism persist indubitably, as real and demonstrative. The reason for this is that the subjects, not purely of the *suggestible* order, are really *sensitive to magnetism.*

It is evident that *suggestible* subjects, with whom pseudo-magnetic effects can be obtained, are more commonly found than the real *magnetic sensitives.* With diligence, however, one may discover subjects sensitive not only to suggestion, but also to magnetic influ-

ence. Personally, I have known five such magnetic subjects. With two of them,[8] particularly, have I been fortunate in obtaining good results in the most severe of test conditions: G. P., a young electrical engineer, and L. V., a student of law and philosophy.

As soon as they would arrive for the séance, I would welcome them, make them comfortable, ask them to sit down and agree to have their eyes blindfolded. In almost every instance, they were left in the waking state. Nothing was done to modify the state of their minds. During the whole of the sittings, not a word was spoken by myself or any of the sitters. But at the start the subjects were asked to "describe whatever they felt, if they did feel anything at all." With conditions such as these, we obtained the most varied and specific results, on all parts of the organism, corresponding to the positions and movements of my hands, either the right hand or the left, or both.

To illustrate this point, let me describe the proceedings of three sittings, arranged so as to place in conflict the theories of mesmerism and suggestion.

1. The subject G. P., in the waking state and blindfolded, is told that I am going to experiment as long as is necessary to produce a magnetic effect, and so that he may be able to let me know exactly when the effect occurs, I will tell him that I am about to produce an

[8] See *Revue de l'hypnotisme*, Nov., 1896, and the article by A. de Rochas in *Annales des Sciences Psychique*, May-June, 1895.

attraction effect on his right hand, and I ask him to concentrate his attention upon it.

After this preparatory suggestion, I say, "I begin," at the same time making any sort of motion with my right hand, but not that of placing it opposite the right hand of the subject. After 2 or 3 minutes, the subject, who has been very attentive, murmurs: "It is strange, but I do not feel anything. It seems as if something has gone wrong." And then, all of a sudden, he exclaims: "Oh, no! I do feel something; but it is in the left knee. It is not an attraction; it is a tingling sensation."

In reality I had placed my left hand to within a few inches of his left knee. (In his case, my left hand produced a tingling sensation, whereas my right produced an attraction, on his left knee.)

These results I always obtained, with the exception of details, no matter what part of the body I operated upon—the subject always being in the waking state.

This tends to prove, at least with this particular subject, that *suggestion* in the waking state is incapable of simulating the *magnetic* effect.

2. The subject G. P., with eyes bandanged, is induced into the state of *fascination,* or *suggestibility,* in which he becomes extremely suggestible. He is asked to fix his attention on one of his hands, while being told that he will feel it attracted by an irresistible force. As soon as I have proffered the words, "I begin," the subject's hand is seen to rise, although I do not act on it or touch it.

In this state, therefore, *suggestion* is quite sufficient to simulate *magnetic action.*

But if, at the same time and without uttering a single word, I place my hand opposite the subject's other hand, this one will be *attracted.*

These effects have been produced simultaneously, by two different causes: one by magnetic action, the other by suggestion.

3. The subject G. P. is still in the state of *suggestibility* and blindfolded. I suggest to him that in order to act exclusively on one side of his body, I have to induce a state of inertia in that side—which I do. I now test the effect of this suggestion and find that one side of his body is in a state of lethargy and anesthesia.

Here again is obtained, through suggestion, apart from any real action, a phenomenon of attraction, in the limbs where the actions of *sensibility* and *motricity* remained intact.

But, if I direct my right hand toward his knee or foot (both in the lethargic and anesthetic state), I find that *in spite of suggestion,* movements of attraction are being obtained.

Therefore, the conclusion at which one may arrive is that mesmeric action acts independently of suggestion; that in certain cases it can oppose, even annul, the effects of suggestion.

It is on record that Liébault and Bernheim, of the School of Nancy, after vainly attempting by suggestion, to cure a woman patient of pains in the stomach, suc-

ceeded in curing her by means of "magnetic passes." In their own minds, however, they believed that they had, at last, found out the right way to give her "suggestion"!

When attempting scientifically to prove that human magnetism exists (or any such force, call it by what name you care to), it becomes necessary always to bear in mind its possible intervention in the ensemble of phenomena hitherto attributed solely to the influence of hypnotism, or to suggestion.

In the same way that we attempted to eliminate suggestion from our experiments in magnetism, so magnetism should be eliminated from all experiments in suggestion.

The School of Nancy said, with reason, that the ancient mesmerists used "suggestion"; but it can equally be said that they often "mesmerized" when treating by suggestion.

It may be that the look, the contact, the passes, the personality of the operator, etc., act on the patient or subject merely as an influence purely *suggestive*. But it may also be that, to the suggestive influence is added, with others, a *magnetic* influence—or substituted for it. Perhaps, after all, they are the effects of one and the same cause, and much time might be lost on an attempt at their identification. But that which is certain is that they are produced under different conditions and according to different laws.

This reserved attitude may be explained by our viewpoint, which is essentially "experimental."

From this viewpoint it may be said that mesmerism and braidism render more easy the work which suggestion has to perform. They prepare, as it were, the ground upon which suggestion has to maneuver. Say to the first man you meet, "You cannot get up!" and he will hold you in derision, unless, being naturally sensitive, he actually cannot get up. But if you submit him to certain magnetic passes, it may so happen that in spite of his incredulity and resistance, your suggestion will then produce the desired effect.

Thus, it may be inferred, for example, that if the great masters of suggestion—Liébault, Bernheim, Quackenbos, etc.—succeed in applying suggestion to such great numbers of people, it is not due to their ability nor to their consummate experience and technical knowledge of suggestion. It is because they unconsciously exert an exceptional magnetic power. And this, too, would explain the marked inequality prevalent among the various suggestion practitioners. Our personal experiments have proved to us that this "magnetic power" is not equally imparted to all human beings.

Suppose, again, our subject G. P., in the waking state and with his eyes hermetically sealed. Let us suppose there are ten people present, and they have agreed to maintain perfect silence throughout the entire séance. If communications must necessarily be

made, these will be done in writing. Each one of these ten people, differing in age and sex, will in turn place his or her hand facing that part of the body of the subject to be experimented upon. It will then be observed that some of the ten operators produce the same effects of anesthesia, contraction, attraction, etc., which I myself produce, with more or less rapidity and intensity. Others will not produce even so much as an effect, until after 10, 15, or 20 minutes of the hand presentation.

It is shown, therefore, that some people emanate this magnetic action more freely than others, although there is nothing to indicate this at first sight. These magnetic tests reveal the invariable nature, as to quality and intensity of action, of each sitter. In a second experiment the same effects produced by an efficient operator would be repeated in as short a time as on the former occasion, and those having little of the magnetic ability would be no more effective than before.

But here is an extraordinary phenomenon: The magnetic influence can be transmitted, at least momentarily. A magnetic individual can give some of his magnetic power to those who do not possess it.

Suppose that Mr. A., after 20 minutes of presenting his hand, produces no visible effects on the magnetic subject; and Mr. B. influences the subject in less than 1 minute. It will be sufficient for Mr. B. to give his hand to Mr. A., and for Mr. A. then to present his other hand to any part of the subject; in one minute

he will have produced all the effects of contraction, anesthesia, etc., which he was incapable of producing alone. But let Mr. B. withdraw his hand; immediately Mr. A. becomes once more ineffective.

I have made still another successful experiment; this time with a very well known scientist and philosopher friend of mine, Mr. A. F. It shows that, if the non-magnetic person remain in the contact of a magnetic person for a certain length of time, he will acquire—accumulate, as it were—the magnetic influence in such sufficient quantity as to be able to operate alone for a good length of time.

Such experiments, multiplied methodically, scientifically controlled, and studied by a large number of observers, would throw a great light not only upon the differences between and the rapports in mesmerism and suggestion, but also upon the various influences which human beings exert upon one another in the course of every-day life.

The following experiment, although conducted but once, is not in the least to be overlooked, as it is full of food for thought, and material for future experimentation. It would tend to prove that the *efficacy of the power of suggestion rests on a mesmeric rapport*—mediate or immediate—between the subject and the operator.

After having held my hand for half a minute to the forehead of G. P., a few minutes were sufficient to have him in the first characteristic state of extraordinary suggestibility. Outwardly he showed all appearances

of the waking state. If, while in this state, some one in the room gave him suggestions tending to produce hallucination, lethargy, or paralysis, G. P. would not obey, although hearing perfectly and understanding every word. If, however, the suggestioner held my hand, G. P. (blindfolded, of course) obeyed the suggestions immediately.

So it is that, in numerous cases, mesmeric action plays an important part, *unsuspected or unknown to practitioners of suggestion.* In any case, the question is sufficiently important to be studied, not as it is too often done, with objections of a purely theoretical order, but in the only justifiable way: by practical experimentation.

I think it can be admitted that the agent animating the nerves of man's organism and conducting the sensitive impressions to the brain, while presiding over the motor actions and impulses is, at the same time, also that which becomes the vehicle for magnetic influence exerted by one individual over another. The action by which my brain moves my arm is, after all, identical with the action by which it would move the arm of another person.

But suggestion such as understood by the School of Nancy, as well as by almost every other school the world over to-day, is nothing more than a particular form of action of the brain and of the nervous system over the rest of the organism. Not greatly different from that of magnetism!

Only, it seems that the unknown force, the agent for the production of all these extraordinary phenomena—call it *nerve force, neuric energy,* what you will—manifests itself in conditions of diffusibility and conductibility particularly its own. In normal individuals and in the normal state, this force animating the system follows, as it were, certain constant and preordained channels. If some internal or external cause tends to upset its natural balance, it reacts immediately in a manner that will tend to reëstablish it. Further, it receives, without a doubt, the radiations of other, foreign nervous systems, which it absorbs, neutralizes and transforms. This reception of extraneous force is, however, unconscious and imperceptible.

On the contrary, each time that the phenomena of suggestion or magnetism become possible, this force then seems to acquire the property of rapid mobilization in all parts of the human organism; so much so that, under the action of the will or of the imagination, or under the action of certain physical agents and influences, it travels and accumulates itself instantaneously in certain parts while it abandons and evacuates certain others. Also, it would seem as if it had ceased to remain impenetrable, or indifferent, to the force of a similar nature which another nervous system sends it. It will allow itself to be influenced by it, as if both belonged to one and the same individual, and as if regulated by the very same consciousness.

To sum it all up, the condition common to all these

phenomena seems to be an abnormal plasticity *of the nerve force, which finds itself capable of receiving faithfully all the impressions coming* from within. *It becomes then auto-suggestion.*

And when these impressions are being received *from outside,* it is mesmerism, whether found in its simpler state or accompanied by the kind of telepathy improperly called "mental suggestion."

CHAPTER VIII

The Provocation of Sleep at a Distance

What is the mechanical process operating in the production of hypnosis? Is it a simple effect of suggestion? Or, as pretended by the School of Nancy, is it a conscious expectation and conviction on the part of the subject? Or is it a much more complicated mechanism than that of the Nancy theories, implying on the part of the operator a personal influence quite distinct from suggestion?

The following is the incident which set me on this line of research:

In September, 1892, I went with my family to a summer resort, Amélie-les-Bains, for my vacation.

At the Casino thought-reading séances were given by a Mr. Dockman, aged twenty, medium height, dark hair and complexion, lean in structure, and of a very nervous temperament. My curiosity being awakened, I decided to go there, merely as a spectator.

You know the kind of performance, where the members of the audience attempt to transmit their will by mere mental effort, without contact, gesture, or spoken words. The man previously had been a subject for

hypnotic experimentation to a naval doctor, and since had taken up this profession of thought-reading in public.

Studying and watching him closely, I found that he was not as accurate as he might be. He confessed later that it was so, and that to obtain his results, he tried to guess what was wanted of him from all sorts of exterior indications.

Smilingly I suggested, "You should again be put under magnetic sleep to recover your lucidity. If you wish it, I am ready to render you this service."

Dockman laughed and replied, "The shoe is on the other foot. It is I who send people to sleep."

A few days later, the mayor of the town being desirous of witnessing a mesmeric séance, we selected Dockman as a willing subject. Thus in the evening at 6 P. M., in the presence of five sitters, I took him by the thumbs, fixed my gaze into his, and in a few minutes he was in the comatic state, rigidly cataleptic. His jaws set. With the greatest difficulty I obtained replies to my questions. And the waking up was very slow. Again I placed him in a sleep; with the same results as before, except that the waking was quicker this time. I came then to the conclusion that my subject was not interesting, as there was little to obtain from him.

The next day, however, sitting in the garden of the Casino, I saw Dockman at another table, with a friend who was reading a newspaper. Dockman's back was

turned to me, and he was in the act of rolling a cigarette.

At this precise moment I conceived the idea of concentrating my thoughts, with the whole strength of my will, upon Dockman. I willed that he should fall into a sleep and cease all movements. At no time was he aware of my looking at him. In a very short while, his movements became slower, his head drooped, the cigarette, unfinished, fell from his hand, and Dockman sank into a deep sleep.

His friend, having finished reading his newspaper, called out to him, but obtained no reply. An actress sitting at the neighboring table became alarmed and rushed out, screaming for help.

Then I got up, went to Dockman, blew over his eyes, and so woke him up from his slumber, without his having realized what had taken place.

This experiment, conducted spontaneously, left me astounded, as I did not expect the slightest result.

The next day, again, an opportunity offered itself to renew the experiment. It was 1 P. M., on the terrace of the Casino. This time Dockman was alone, sitting and writing at a table, so bent over that his nose almost reached the blotter. My own table was about six yards away. Between the man and myself were four other men, busily playing cards.

Once more I concentrated my thoughts, with such intensity that my head trembled with the tension of the muscles of the neck. Mentally I ordered Dockman to

stop writing, or to fall asleep. The action was less rapid than on the previous day. It seemed as if he were struggling against something. In two minutes he began to show certain signs of contraction. His pen became inert. With the other hand he made a gesture as if to drive away some obsessing influence. Then he tore up his letter and began to write another. But soon his pen remained motionless, and in that position he fell asleep.

Some of the card players and I then approached him. We found his body entirely contracted, and as rigid as a stone. It was impossible to get his arm bent. Under the influence of certain passes which I made the body lost its rigidity, and by blowing a few cold breaths over his eyes, he awoke!

When Dockman later came back to his senses, he assured me that, both times, he had fallen asleep without having the slightest suspicion of being used in any way.

This peculiar provocation of sleep at a distance, without the knowledge of the patient, set me all the keener on other such similar attempts. With my usual subject, G. P., I conducted for six months early in 1894 a series of experiments. And again from February, 1895, till July, 1896. These experiments were conducted at regular intervals. And during the whole of this period, in the most varied of tests, *the phenomenon of "sleep provoked at a distance," by mental action only,*

as well as the "awaking from a distance," was produced as often as was desired.

This phenomenon is now, for me, as familiar and as easy of production as sleep induced by suggestion, the gaze, or passes. A few of the experiments, I think, should be given here, as examples.

In the first place, it should be said that the particular test difficulty is that the subject must not suspect, even in the slightest degree, the intention of the experimenter. Sleep in the subject must be induced at the least expected moment. It should be left entirely to the hazard of conditions for the improvisation of favorable opportunities. Hence the somewhat anecdotal form of the following descriptions:

February 27, 1895. G. P. had just been mesmerically put to sleep. But as the tests of attraction, pricking, anesthesia, were irritating him that evening, I decided to wake him. It was done in a second or two. Meanwhile I let him rest and talk with me. Seeing that the fire in the chimney was on the verge of going out, I called the maid to light it up again. As she did so, and as we had remained silent, my gaze resting in the direction of the hearth, I decided there and then to will G. P. to sleep mentally, with all the power of my concentration. In less than one minute, and before the fire was alight, he was fast asleep.

After ten minutes—during which he had slept soundly—I went to the window, and, with my back

turned on him, looking outside, I *mentally ordered* him to awaken. Within the short space of one minute he gave a deep sigh and awoke from his coma.

A few minutes afterward I again put him to sleep, by the sole action of willing, and I woke him by the same process.

When he woke after the first sleep, I asked him the reason why he had "gone off" without my permission. He replied: "All of a sudden I felt in my head the same sort of heat and the same kind of trouble which always precedes magnetic sleep." This is all the reply I could obtain from him; and this is what he reiterated subsequently, whenever I asked for enlightenment on the subject.

Many are the people whom I have admitted to witness these tests. Among them, one evening, was a Mr. K., a medical assistant in the clinic of Dr. Berillon. He was accompanied by a friend whom he used as a mesmeric subject.

After having shown them a certain number of experiments with my subject, G. P., as above described, I asked them to experiment before me. Mr. K.'s subject then was induced into comatic sleep *by suggestion*. G. P., meanwhile, was looking on at the proceedings with great curiosity. As his attention, along with the other spectators, was riveted upon Mr. K. and his subject, I *mentally ordered* him to fall asleep. But under similar circumstances, when his attention was keenly

excited, he always opposed me, though quite unconsciously, by a strong resistance. It took me three minutes to provoke him to sleep.

When he became fast asleep, I called this to the attention of the assistants, who had remained all the time unaware of my intention. They believed that G. P.'s state was due to the action of "sympathy" [1] while looking on. But I gave them to understand by certain signs that nothing of the kind was the case. Seeing, however, that they were not convinced of this, I wrote on a piece of paper, which I passed round: "I am going to wake him up mentally. Watch it!"

And while Mr. K. tranquilly proceeded with his own subject, I *mentally ordered* G. P. to wake up. At the end of two minutes of mental tension, he woke; and, judging from his countenance and from his words, no doubts were left as to the fact that he knew the cause of his unexpected little "nap."

As I desired very ardently to convince my friends of the reality of this phenomenon, I seized an opportunity which presented itself in the following manner:

Mr. K.'s subject was only in a half-comatic state. Mr. K. suggested to him then, in loud tones, that when the clock on the wall struck ten, he would fall into a deep sleep. The clock then showed ten minutes to ten. This caused G. P., now wide awake, to become greatly

[1] The state of "sympathy" is that produced when a subject or sensitive imitates the various actions and attitudes of another subject in a state of coma.—W. de K.

curious, his eyes going to and fro, from the subject to the clock, waiting for results!

At this moment I circulated a note among the sitters, telling them my intentions. (G. P., being accustomed to see me circulating notes, takes no notice of the fact.)

When the clock marked five minutes to ten, G. P. was sound asleep. I left him thus, till fifteen minutes after ten.

Again I circulated a note, to the effect that I was now about to wake G. P. by *mental command,* without word or gesture, by the sole effort of the will. And G. P. woke. When he regained full control of his consciousness, at the very point where it had been broken, he expected Mr. K.'s subject to become deeply asleep when the clock struck ten. He looked up—and finding the clock marking nearly twenty minutes past ten he was so stupefied that he declared that he did not understand anything more.

Up to this moment I had produced sleep with G. P. only through mental action at a distance; and this only in the course of preparation of a séance when he was more or less under magnetic influence. The question arose in my mind—would it be possible for me to produce sleep through mental action only, at the very onset of a séance, even when G. P. had been absent for eight or ten days? Subsequent experiments proved that it was indeed possible.

Hitherto, however, in all the experiments described

above, comatic conditions of the subject were produced when in the same room. No material obstacle intervened between him and myself, the operator. The distance, also, was not very great. Could, then, the phenomenon be produced when subject and operator were in two different rooms? With one or more doors between us?

This is how I solved the problem:

After a long séance, in which Mr. K. had assisted, G. P. asked to return home and retire. But, outside, the rain was pelting down in fury, as it can do in Paris. G. P., deciding to wait a while until the storm had abated, did so in the ante-room, as he did not wish to come back into the main room. I left him, then, alone, returning to my friends and closing the door behind me.

The moment was propitious to attempt the experiment, and there and then I decided to do it. The conditions, also, could not have been better.

One minute's mental concentration had the desired effect. On opening the door, we found G. P. rigidly asleep on the chair where he sat. We closed the door again, and this time I *mentally sent* the order to wake up.

Another minute, and we opened the door, to find that G. P. had just awakened, and was preparing to smoke a cigarette, evidently unconscious of his short lapse into sleep.

On another occasion, when many friends and visitors had assembled in my house, among whom was G. P., I left the room suddenly. Owing to the great number of people present, no one really noticed my absence, except the friend I took with me to the other end of the house. G. P., meanwhile, was "all eyes and all ears" in the general conversation. Several closed doors and a long corridor separated us.

Now, then, I *mentally ordered* that G. P. should fall asleep in the midst of the reception room. I sent my friend there to see what happened, while I remained behind. In the space of one minute or so, my assistant came back, saying: "He is asleep."

I then had him return to the room. Then I *ordered mentally* that G. P. should wake. Scarcely had the space of one minute elapsed when my assistant came back triumphant, announcing: "He has awakened! Come and see!" It would have been most interesting to have conducted experiments of this nature from a greater distance. But personally I did not dare do so; my objection being that, owing to the great distance, even supposing that the experiment were a success, I would have had no means of ascertaining it. It would have been impossible for me, at the time, to have near the subject a controller to run to and fro, giving me information as the subject's state progressed. Also his presence with the subject would have caused the latter to suspect my intentions; and the one thing always to fear is that: "It is not you who willed him to sleep,

but he slept because he *suspected* you would make him do so."

It is very well known, however, that Pierre Janet, who in this respect was better equipped than I, has succeeded perfectly in long distance experiments, at Havre.

The series of these peculiar experiments would not be described completely if I omitted the following:

G. P. not only was by profession a mechanical engineer, but he also gave lessons in bicycle riding. It thus happened that at this time he was giving lessons to a member of my family, and the three of us often used to ride together in the train from Paris to the Bois-de-Boulogne, where G. P. gave the lessons.

During the journey, coming or going, and while the train was in motion, I often willed G. P. to fall asleep, although at times he was at that instant leaning against the window, looking out. I would then wake him after we had passed by several stations, two or three generally. And as he never was conscious of having been comatically asleep, he could not understand how he had passed by all these stations without seeing them.

In the presence of such facts, it cannot be said that the subject was under the anticipated influence of the sleep-idea: *the idea that he was going to be experimented upon. It is clear that these various comatic states were the result of* mental action *exerted from a distance, and unconsciously to him.*

CHAPTER IX

Telepathy

I

In former days, the word *telepathy* was used indiscriminately to designate the large family of psychic phenomena called *second sight, clairvoyance, divination, presentiments, mental suggestion,* etc. To-day, as a result of the painstaking researches conducted in American, French, and English societies for psychical research, *telepathy* is clearly designated to specify "the action of transference of thought from one person to another by the exercise of the will."

But the original meaning of the word was *to perceive, to feel from afar,* and therefore it included the general phenomena in which a human being perceived and felt at a distance the thoughts and will of another—events taking place in distant localities in the present, as well as events to happen in the future or having happened in the past.

It was in realizing the inappropriateness of the early application of the word *telepathy* to designate the ensemble of these essentially different phenomena, that I proposed to apply the word *telepsychism* as a more fit-

ting and appropriate term; telepathy being then relegated to its proper place as forming part of the individual classification.

So far as I understand it to-day, such cases are telepathic, in which Mr. A., for example, perceives spontaneously that which happens to Mr. B. while they are separated by a more or less distant space.

The following is a characteristic example of telepathy as recorded by a French author of the sixteenth century:

"While the King stayed in Avignon, Charles, Cardinal of Lorraine, died 23d December, 1574. The Queen Catherine de Medici had retired to bed earlier than usual, being assisted by two ladies of the Court who were witness to the event about to be described. When the Queen got into bed and was bidding 'good night' to them all, she suddenly uttered a scream, placed her hands to her face, and beckoned to her help those around her. With her finger she pointed; and there by the side of her bed, the figure of the Cardinal was standing with hand outstretched. She reiterated several times: 'Cardinal, what are you doing here? What are you doing here!' The King, startled, sent one of his gentlemen to the house of the Cardinal, and the messenger reported that the Cardinal had 'passed away' at precisely the moment the Queen screamed."

The results of investigations into numerous cases, similar to the above are to be found in *Phantasms of the Living,* by Gurney, Myers, and Podmore, who pre-

sided for many years over the destinies of the English Society for Psychical Research. In France, the *Annales des Sciences Psychiques,* under the direction of Dr. Dariex, also has accumulated a considerable amount of valuable data. The main desire of those who gathered these testimonies has been the laudable one of establishing them on the basis of strict authenticity.

From the mass of these authentic records one gains the impression—if not the conviction—that there seem to exist certain means of communication, inexplicable in the ordinary way, between individuals often situated at great distances from each other.

II

The circumstances in which the phenomena of telepathy are produced are most varied and different from one another.

Thus, they may take place during sleep; in this case it will affect the form of a dream. In another case, it may be more in the shape of a vision. Again, at times, the "seer" seems to be right on the spot where the scene, the event, takes place. At other times, on the contrary, the person—object of the vision—seems to appear in the "seer's" presence, in such a way that instead of a phantasm or an hallucination, he firmly believes it to be a real being.

The degree of precision in the perception of these things also varies; for instance, as in the case of the

spontaneous irruption of an idea—the idea of a deceased parent, of whom one had no reason to think at the time; this being accomplished by certain physical or mental troubles, more or less characteristic.

Evidently there must be a strong analogy between this kind of telepathy and what is termed *presentiment.*

At other times, it may be a real happening, unexpected and inexplicable in appearance, produced suddenly, and often being the *symbolic* telepathic forerunner of an accident, a death, or bad news. These happenings may take the form of queer sounds or noises, raps on the wall or in the furniture, the shattering of a mirror, the falling of a picture, etc., etc.

More often it is the subjective appearance of a person, who comes and goes, without the utterance of a word, after having taken a good look at the "seer." In other cases, again, the apparition speaks, asks for help, utters complaints or gives warnings. In the most striking of cases, the "seer" has the impression of witnessing, from afar, the scene, the event. Cases are on record where the "seer" beheld the visions of things happening in the other half of the world.

III

Such a statement of facts might raise in the mind of the listener a number of questions to which it is not easy to reply.

First. The event may be related long after the oc-

currence. It may come from second or third hand, when the imagination has had plenty of time to embellish the plain facts. There exist, however, sufficient authentic cases to meet all the objections as to unreliability.

Then comes the problem: Is there, truly, a rapport between cause and effect, between the telepathic vision and the objective occurrence? Or is it but coincidence?

Let us, then, suppose that the telepathic vision be but an hallucination, which happens to coincide with the real occurrence. In this case it will be remembered proportionately to the degree of exactness to the real facts. But if it does not tally with the exactness of the facts, it will be dismissed from the memory record. In the face of such a contingency, is it then possible that there exist in humanity all sorts of hallucinations, among which there are found but a few actually coinciding with reality?

It was to meet these objections that the Society for Psychical Research conducted a series of investigations bearing on hallucinations in general. Their findings are summed up as follows: Cases showing a probable rapport between cause and effect: one in forty-three (1/43). Cases due to coincidence: one in nine thousand (1/9000).

Second. Believing these to be true: What is the mechanism operating in the production of telepathic phenomena?

The answer to the query is framed in two hypotheses:

(1) Telepathy is allied to the phenomena of mental suggestion and distant action. (2) It is allied to the phenomena of lucidity and clairvoyance, so often observed by the ancient mesmerists.

Now if we go back to our generic name of *telepsychism* to designate the ensemble of these phenomena, we will find an *active* telepsychism and a *passive* telepsychism. In the former kind, the principal part belongs to the operator, the one who projects his will or his thoughts, while the subject is, in this case, a mere receiver. In the second instance, the subject is the principal actor, playing the rôle of perceiver. It is he who perceives the event taking place at a distance. Although these two forms of telepsychism can be found separately, yet in many cases they exist in a state of complete fusion.

Let us take, for instance, a hypnotic or magnetic subject who falls to sleep or wakes each time a mental order is sent him to do so, and who is able to guess, only then, the thoughts I am trying to communicate to him, but loses his ability to guess the moment I cease *willing*. Such an example would abundantly demonstrate the *active* telepsychic nature of the phenomenon. The same would apply to a subject who would be made to move his arms and legs, without the consciousness of these acts, by a series of *mental efforts* made by myself and known to myself only. And it is similarly to this that certain cases of telepsychism take place where an individual, object of a telepathic perception, seems to

have exerted a *positive* action over those or him who perceived the event.

It can be believed then, for instance, that certain people in the last moments of dying, concentrate the whole forces of their thoughts on the living ones dear to them. In spite of the distance, their intense mental concentration has produced a telepathic impression on the minds of the parents or friends dear to them.

This telepsychic action, it may also be supposed, can be produced spontaneously, without the action of the conscious Will.

This action not only may be effected in human beings, but also in material objects. For instance the picture, painting, photograph, mirror, etc., may, without apparent reason, fall or break under the very eyes of those present. There is, here, no hallucination, no telepathic vision! The picture falling is a real fact for all those who see it. Yet, it does so at the exact moment when the person is actually dying.[1]

It is that at the moment of death, under the influence of the thoughts of the dying, a peculiar discharge of force, analogous to that of an electric condensator, takes place, and being capable of covering tremendous distances finally is arrested by a material object.

[1] *Translator's Note.*—I witnessed with my own eyes, in the company of several people, the smashing of a glass-framed picture, within a few seconds of the fall of a window-cleaner from a fifth floor window in a Club House, Piccadilly, London (April, 1914). The man naturally was killed instantly.—W. de K.

It is an action similar to the Hertzian waves and wireless telegraphy.

On the other hand: Here is a magnetic or hypnotic subject in whose hands a glass of water or a crystal ball has been placed, and who sees—under the suggestions of the experimenter—certain events which actually take place, at a distance and unknown to any of those present, operator as well as sitters. In such a case there can be no question of an action being exerted by the things or the people who figure in the vision. This would, indeed, be a pure case of *passive* or *perceptive* telepsychism.

Does this faculty to see, to perceive at a distance, without the use of the five ordinary senses, exist in the latent state in a few privileged human beings? Or does it, perhaps, exist in every one of us? In this case, can this faculty be exerted spontaneously? Or can it be artificially developed under certain conditions, as yet imperfectly understood? [2]

In the event of the existence of this faculty, it nat-

[2] *Translator's Note.*—It has been my privilege to have conducted independently, as long ago as 1903, an extensive series of experiments with people of different races and nationalities. I have discovered, without the shadow of a doubt, that most human beings possess a telepsychic faculty of some sort, in different degree of initial activity or intensity. Also, in many cases, owing to the lack of knowledge on the subject, the majority of people are thoroughly unconscious of their powers; or else, battered down through prejudice, they refuse to be awakened to their undeveloped mental, parapsychic powers. It is but a question of methodical development.—W. de K.

urally intervenes in the production of telepsychic phenomena; as in such cases as those in which distant occurrences, objects of the phenomena, are distinctly perceived.

The combined effects of the two hypotheses—active and passive telepsychism—may be formulated in a mixed hypothesis:

First. The will or the thoughts, conscious or unconscious, of the dying, create an instantaneous telepsychic action which travels through space, as if oriented in a given direction. This is the moment of *active* telepsychic action.

Second. This action having reached, consciously or unconsciously, a determined object or individual, it awakes in his subconscious self the latent powers of the faculty which he possesses, to perceive and to represent to his mind the things which occur at a distance, and to determine in him such and such an hallucination more or less true. This is then the moment of *passive* or *perceptive* telepsychism.

The scientific attitude of mind asks, however, that, in the interests of science, too much importance should not be attached to the *explanatory attempts* made in the realm of such, as yet obscure if captivating, phenomena.

It is, indeed, imperatively more urgent to gather all the newest observations, and to direct one's researches in the same order of facts to which such experimenta-

tion is applicable. This means that experiments and their results, bearing on mental suggestion and lucidity, should be submitted to conditions admitting of the most scientific control and analysis.

CHAPTER X

The Relation of Telepathy to Human Magnetism

The problem of "animal magnetism" may be compared to a country which is alternately lost and rediscovered every twenty or thirty years. And this will be its position until science shall have decided to study it and exploit it definitively.

Every new researcher venturing on this unknown land makes precisely the same discoveries made long before him. Yet while doing so he may believe that he is the first to make them. Should he succeed in arousing public attention, he but incurs the derision of the so-called academical scientists. For some months or some years public attention may be sustained, but the time arrives when the question sinks into utter oblivion. However, if we take into consideration both derision and interest, we must agree that the question has undoubtedly progressed since the days of Mesmer.

In the first place, human magnetism is presented in more precise and definite terms. Mesmer and his successors indistinctly attributed to the unknown influence, radiated by the human body, more or less under the direction of thought, all the phenomena of catalepsy,

somnambulism, etc., which they produced. They ignored the existence of the two "little brothers" of magnetism: Braidism or hypnotism, and suggestion.

And as physicists, scientists, and medical men found that they could, by the use of spoken formulas or by the fixation of a brilliant object, produce to all appearances the same effects attributed to magnetism, the hasty conclusion was reached that no such thing as human magnetism existed. Prejudice against it has persisted until even the present time.

But the truth really lies in the fact that, if we may use a phrase from Stuart-Mill, we are in the presence of "causal plurality"; or, as Durand (de Gros) wrote in a remarkable article,[1] "these phenomena are *polyetic.*" They are susceptible to being produced, indifferently, by any one of several distinct causes.

In our opinion, the recognition of the truth of this statement constitutes the indispensable condition of success in all the researches in this order of things. Whoever starts with the preconceived idea that all the phenomena must proceed from one and the same cause will find it impossible to see the light.

Mesmerists, also, should be thoroughly persuaded that the two other agents—hypnotism and suggestion—also exist, either or both being capable of producing exactly the same effects as human magnetism. Starting from this premise their labor will then be efficiently

[1] See "*Les mystères de la suggestion*" in the *Revue de l'hypnotisme*, 1896.

conducted. The question for them resolves itself in the following manner:

1. Is it possible to produce most of the usual effects of hypnotism and suggestion solely by human-radiation and the will that directs it?

2. Is it possible to produce, by the application of this hypothetical agent, certain effects which hypnotism and suggestion are incapable of producing (admitting, of course, that these effects bear no relation to other causes)?

For my own part, I have always endeavored to pursue the solution of problem No. 1, as can easily be seen by the experiments described in another chapter. And if the problem has again been placed before us, in the present days, it is at least partly under the form of human magnetism.

It cannot be forgotten that official science—that which reigns in academies and universities—believed that it had dealt the death knell to the hypothesis of human magnetism with the words of Bernheim: "Suggestion is the key to all hypnotic phenomena." And by this he meant that the use of speech, or gestures, on the part of the operator implanted in the brain of the subject an idea capable of being imposed upon his nervous system.

But it so happens that there are certain subjects who actually obey the will or thoughts of the operator without word or gesture, sometimes doing so at considerable distances from him. The savants of Paris and Nancy, therefore, began to ask themselves if it were not just

to admit a particular form of suggestion, to which the name *mental suggestion* should be given.

English scientists go even a little farther in noting that this invisible communication between two brains can be spontaneous, as instanced in the many cases of telepathy. But what are these phenomena, if not a particular group of effects of human magnetism?

Both French and English scientists who are engaged in the study of these things do not as yet realize this. All they see in it is that they are extraordinary cases of suggestion, perhaps also hyperesthesia. They do not realize that the characterization of these phenomena resides in the possibility of the brain radiating from a distance, not only will and thoughts, but an influence capable of *transmitting* and *reproducing* will and thought, in the same manner as the electric currents sent along the wires reproduce, at the other end, the telegraphic messages received at one extremity.

If the brain of the operator sends nothing to the brain of the subject, and if the intermediary space contains nothing to place these two in relation with each other, then the communication between these two consciousnesses is a superscientific phenomenon which men may forever renounce understanding and explaining.

And when the members of these psychical research societies gravely oppose the hypothesis of *effluence* against that of *thought transference*—in other words, human magnetism against telepathy—we can but see in this an illusion produced by certain words on the best of minds.

For is it not evident that thought transference is but a particular form of effluence: that is, a mental and cerebral effluence necessarily more complicated than the simple nervous or vital effluence?

From my own point of view, I see a great many more inconveniences in approaching the problem from this side, than from that of human magnetism.

The partisans of telepathy seem to believe that the power to influence at a distance belongs uniquely to the brain when considered in its functional unity as the organ of will and thought. Whether they are aware of it or not, it is to the psychical element that they attribute this peculiar property; they abstract, even exclude, the functional elements of the nervous system.

Such a mental attitude toward the subject does not seem to me strictly scientific; for if this be the soul, which, as such, and independently from all mechanism, is capable of making its action felt at a distance, we may just as well say so. Of course we recognize that such a fact eludes every *scientific* (in the academical sense of the term) explanation; nay, every experimental research.

As Claude Bernard so aptly remarks: "Experimentation is alone possible where the phenomena are absolutely determined by their material conditions."

If we look at it from the philosophical viewpoint, there is nothing in the nature of the soul which justifies such an action. From the fact that a certain "thought" is in me (for instance, a principle of reasoning), I con-

ceive, logically, that another thought must necessarily follow—the conclusion of my reasoning out; it being understood that in this there is no intermediary space. But how could I explain that another thought, which is in my mind, should be reproduced in another mind, identical or not in nature, when both minds are separated by all sorts of intermediaries? From the moment we are dealing with space, we make our exit from the immaterial sphere of consciousness to fall into the domain of matter and motion.

The mechanical explanation of the phenomena, their experimental determination, are then two philosophical conditions becoming at once possible and necessary.

From the physiological point of view, however, this conception of telepathy does not carry conviction. *There is no doubt that the brain plays a unique and important rôle in the life of man: it is the organ of conscious life, of the moral and intellectual life. If we may say so, its psychological functions rest on the basis of the physiological properties of the elements composing it.* Neither sensation nor will power could possibly be, if the nerve fibers did not inherently possess the faculty of conducting *motion,* and the nerve centers that of receiving while at the same time reflecting and transforming it. But these properties are not solely peculiar to the elements of brain constitution; they are common to all the elements of the nervous system; they are the general properties of the neurons.

Hence, if will and thought can be communicated from

one brain to another, all analogies indicate in this phenomenon the particular outcome of some general property possessed by the brain or nerve cells, anterior in function to that of will and thought.

In what, then, could such a property consist, if not in a kind of *radiation* or expansion of the *nerve force,* as the phenomena of heat, light, and electricity enable us easily to understand?

Therefore, to our mind, the first principle to study, so as to be able to prove the existence and the laws of the phenomenon, is this general property to act at a distance called animal magnetism, but which we believe is attributable to the nervous system.

As in every science it is incumbent that a certain order should reign; for, so long as it has not been secured, students and searchers will only err on the path of probabilities. We do not wish to discourage any of them, but we fear that they have got hold of the question from the wrong end.

Let us suppose that the savants of the world ignore everything about the existence and functions of electricity. They may have heard that there exists a certain instrument, through which a few spoken words can be instantly heard at the greatest of distances. They may be told that they, themselves, may speak to their distant friends, if they so wish; they may converse and hear their replies. Will they believe? The natural attitude of most savants will be to smile and to shrug their shoulders.

A few, however, will hold an inquest. They will ask those who have seen it, probably spoken through it, to give them all the possible information, in order that they may find its secret workings. Then they collect numerous evidences sent to them from the many who spoke on the 'phone; they are given the details of the conversations but are unable to gather details of the secret mechanism of the instrument, because these have been ignored.

Is it not therefore evident that from such procedure of investigation no one could possibly discover electricity? In order to do so, one must start from the beginning; as, in the case of physical magnetism, observation will reveal that "friction" develops in certain material substances the property to attract other light material bodies; and, where electricity is concerned, it is known that a piece of zinc or copper placed in contact with some acid solution will give off a very particular kind of force, etc.

In the same way, when one day the phenomena of telepathy shall be scientifically understood, it will be due to the simple notation of the action which individuals exert over one another from a distance.[2] It cannot be achieved through the infinite collection of telepathic instances, more or less authentic, as is done by the various societies for psychical research.

[2] We cannot too highly appreciate the courageous book written by M. Gasc-Desfossés, *Le magnétisme vital*. Paris, 2nd Ed., 1907.

CHAPTER XI

Apparent Transposition of the Senses

It is a strange fact that in some of the writings of the ancient mesmerists is to be found the mention of a peculiar phenomenon which they described as "transposition of the senses" or "sense transference." They maintained that in certain cases of somnambulism, any of the five different senses of man could be transposed, or transferred. Thus, the organs of touch could exert the same functions as those of sight or of hearing. The somnambulist could, therefore, hear through the pit of his stomach, or see through the tips of his fingers, etc.

I have seen personally such a case in Paris. This was Madame V., who pretended to possess the faculty of reading with the tips of her fingers, instead of with her eyes, when in a state of somnambulism. How the experiments took place, I will now describe.

Preferably, the somnambulistic state was induced through "gaze fixation." Court-plaster or gummed paper was then affixed on her eyelids, so as to seal the eyes. They were then bandaged with a thick cloth, tightly knotted at the back. When these preparations were over, the members of the audience were asked to

send the somnambulist all kinds of written questions, tests, or printed papers they desired the subject should read. To begin with, she always asked for papers printed in large characters, such as newspaper headings. The subject would then place her fingers over the papers, or sometimes put these to her forehead or the pit of the stomach, when without hesitation she could easily read their contents.

Sometimes, however, she declared that it was impossible for her to see anything whatever. She would then ask that she be awakened and put to sleep again. Almost every time that a second trance was produced, the experiment was a complete success.

When once the somnambulist had begun to read, it was sheer child's play for her to read anything that was written, however small and illegible the writing, even when purposely badly written to deceive. She could see and describe photographs. If a watch were placed in her hands she could tell the exact time; in this particular instance she would wrap up the watch in a handkerchief, because if she did not do so the metal of the watch would inflict a sensation, as of scalding.

Usually, after fifteen minutes of experimentation she declared that her faculty became exhausted. She would then ask to be awakened. The bandage was therefore removed from her eyes, and it would be seen that the eyes had remained completely sealed.

A friend, Dr. G. D., to whom I had shown these ex-

periments, became much interested and recognized the case as one of "hyperesthesia of touch."

Although these experiments seemed thoroughly genuine, yet the apprehension remained that perhaps she might still use her eyesight in a manner that was unknown to me. With this idea in mind I decided to experiment with a brand-new subject never before hypnotized or mesmerized by any one, and thoroughly ignorant as to what he was intended to do.

Circumstances particularly favored me by placing in my hands L. S., a young industrial draughtsman, twenty years old. From my first experiments, I found him remarkably sensitive. After testing him, without warning, by Dr. Moutin's diagnostic (dorsal attraction from the shoulder blades), it was an easy matter to produce, by pure suggestion, catalepsy or lethargy of the arms, legs, etc. When the eyes were closed for a few moments I perceived that he lost all consciousness of what happened to and around him. When I said: "Your eyes are closed; you cannot open them!" or "Open your eyes now!" his eyes did exactly as commanded. Apparently he felt no fatigue whatever from the experiments.

One day, as we were talking of the experiments of Madame V., I asked him if he would be willing to attempt to do the same thing.

"And you think I could read with my eyes closed?" said he.

I replied that I did not know, but we could attempt the experiment nevertheless.

The requisite mesmeric state was then induced; and, taking a letter at random from the paper-rack, I told him to proceed as Madame V. did.

As a result of the first command to feel the paper with the hands, to place it to the forehead or to the pit of the stomach, he replied: "It is impossible; I feel nothing; there must have been some trickery with Madame V."

I then asked him not to become discouraged so easily; for at the beginning it required a longer time to succeed, etc.

As he again pressed the paper in his fingers with deep attention, he suddenly exclaimed: "It seems as if *Mon cher Camille* were written here."

It was not *Mon cher Camille* but *Mon cher Émile* which was written on the paper. Was this a coincidence? We shall now see.

Remembering that Madame V. preferred to start her experiments with large type characters, I placed a newspaper in the hands of L. S., saying: "Read the title of this paper."

He asked for the exact position of the title, so that he might put his fingers on it. Then, after a short while, allowing his fingers to run to and fro, he exclaimed: "Is it not the *Progrès de Lyons*?"

"Very well," I said; "but this may be a pure coincidence, for this paper is extensively read. Now, here, take this other one." And I handed him another paper.

"Is this not the *Moniteur des Tirages Financiers?*"

"Right!" I exclaimed. "You now see that you can read with your eyes shut. There can be no doubt about it."

To my surprise L. S. protested.

"No, sir; I do not read. I do not feel anything under my fingers, nor do I see anything before my eyes. But without my knowing how and why, it comes into my head, all at once, that it must be this or that, and I have to say so. I could easily believe that you are suggesting it mentally to me."

A week later he came again. For the occasion I had prepared a great number of small pieces of paper upon which I had written many kinds of words and phrases, some in pencil, others in red, black, or violet ink.

L. S. read all of these with remarkable ease.

However, I noticed that although he read the words, he could not perceive the differences in colors. He could not say which was the red ink, or the black ink, or the violet. Also, he could not read what I had written with a dry pen, inkless; nor could he read what I had written with a pen dipped in water. On the other hand, he recognized perfectly the designs of certain objects which I previously had traced in ink.

His impression that he was not reading, or seeing, persisted. He divined, as it were, through a kind of *mental intuition.* This latter expression seems to render his thought more exactly.

It was impossible for me, that day, to ascertain how

far I had influenced him by my thoughts or mind, in the production of the phenomenon. It was only during a third séance that I was enabled to do so.

To this séance a great many persons were invited. I first acquainted them with the phenomenon of reading with the fingers. Some one questioned as to whether the subject read in my mind or with his own eyes? My reply to this was that the subject himself thought he was reading my thoughts.

I decided that this was a fit occasion to verify the hypothesis. I therefore begged of my questioner to write a phrase of her own composition on a slip of paper. The slip was then folded several times; and of its contents I was completely ignorant.

I then took the slip and gave it to L. S. He opened it, and, with eyes blindfolded, read the sentence with ease. There was, however, one slight mistake made over an initial letter. The same mistake, as a matter of fact, could easily have been made by any one reading with open eyes.

A much more conclusive experiment was made during the same sitting. It proved irrefutably that the subject *did read* through his own powers and not as the effect of a transmission or of some foreign influence. To prove this, a member of the audience selected a book from an adjacent table, opened it at random, without looking at the page, and placed it in the hands of L. S. Without hesitancy, L. S. read the page where the book was opened. This time, no one in the audience had any

knowledge, beforehand, of the text he could read with such fluency.

The final conclusions, which I drew from the many months of experimentation, led me to ask the following questions:

What is the range of action of this special sensitiveness? We have seen that it is not affected by color, nor by a simple form to which a sufficient quantity of matter does not adhere. Yet we have seen also that the time on a watch could be read in spite of the glass; that the photographs were just as easily deciphered, although it is possible that the chemical salts decompose under the action of light. Again the phenomenon remains quite incomprehensible inasmuch as the subject could read the time through the glass of the watch, though he was incapable of reading a paper covered by another paper—although he might have succeeded in doing so with more time and patience. This series of experiments should be gone through again.

What is the nature of this special sensitiveness, and where is its organic center?

In the beginning we may remember that the subject described the phenomenon as being purely cerebral. He could not attribute it to the functions of sight or touch. But as time went on he modified his opinions. One day I asked him to put a glove on the right hand, and thus read blindfolded. After he had tried for over one minute he declared that it was impossible for him to do so. But I insisted. He again felt the writing

on the paper with greater animation. In a very short while he read the text exactly. Then, spontaneously, he remarked: "You must be right, about the feeling with the finger-tips. I cannot explain what I feel at the end of my fingers, but I certainly feel something that must help me to divine the written or the printed lines, and pages."

This impression that something existed at the finger-tips which helped divining, became more evident as experiments went on. And in a parallel way, the subject had gradually developed the consciousness of visual presentations, incorporated into his *mental intuition*. In other words, he gradually developed the power to see mentally what he was about to read. Perhaps if this evolution persisted the subject would develop the real illusion of reading mentally.

Therefore it would seem that the essence of the phenomenon consisted in an extraordinary degree of hyperesthesia (acute sensibility) of touch, or at least that this hyperesthesia is its primary condition. From this hypothesis, the phenomenon could be *analyzed* as follows:

(1) Owing to the extraordinary sensitiveness developed in the hypnoidal state, the nerves of touch are impressed by the "relief" of the writing, the printing, or the photograph, and this in turn is transmitted to the subject's brain in a series of extraordinarily delicate and precise pictures or impressions. To these impressions respond some *tactile sensations* of which the sub-

ject has no consciousness, but which are nevertheless real.

(2) Now must be supposed that these tactile sensations evoke a whole ensemble of visual representations, auditory, motor, etc., all corresponding to the letters of the alphabet, to their syllable combinations, words, phrases, etc.; finally to the intellectual significance of all these things. The whole of this ensemble of sensations would take place, as it were, in the subconsciousness of the subject; the intellectual significance, only, being the natural resultant emerging from the consciousness proper.

It can, then, be seen that a close analogy exists between L. S. and the blind, who also read with their finger-tips. With one as with the other, tactile sensations of "relief" (embossed characters, images) evoke verbal representations. But these purely fundamental analogies have some important differences: The blind has to learn how to read, necessitating much time and labor; the subject L. S. has read from the first attempt, almost. The blind knows how he reads and how he acquired the faculty to read; L. S. reads without knowing how he does so. The blind man has to use a sort of writing in relief; L. S. reads everything devoid of any kind of relief.

Many are those who will ask: "Can this hypothesis be verified?"

The answer is, "Certainly!"

It is thanks to the experiments conducted by the late

Colonel de Rochas, which led him to the discovery of the phenomenon of the *exteriorization of the sensitiveness* (sensibility), that we are able to realize the fundamental part played by "touch," in finger-tip reading.

This is how Colonel de Rochas proceeded:

The subject is in the comatic state, securely blindfolded and, most important of all, not previously told what is expected of him. A glass of water, three-quarters full, is placed on the palm of his left hand, held thoroughly outstretched. His right hand is now placed on top of the glass, and held thus. Several longitudinal passes are then made by the operator, along the *right arm and hand* of the subject, for a minute or two. At this stage and in order to test the sensitiveness to pain still lingering in the arm, the skin is pinched or lightly pricked with a pin. If certain signs of reaction are being shown, the passes should be continued until these are entirely absent. If at this moment the air zones surrounding the hand or arm are being pinched or pricked with a sharp twist, *bruskly,* a few centimeters above the skin surface, the liveliest reactions in the hand and arm will result. All these things naturally take place in perfect silence and in full light.

The first time I experimented with L. S. for the production of this phenomenon, following the above conditions, the manifestations took place almost instantaneously and very clearly.[1]

[1] This phenomenon may be called "Cutaneous endo-anesthesia with tactile exo-hyperesthesia."

In another instance, when the idea had come to my mind to verify if this *second-sight* were in reality allied to the sense of touch, I ventured on a new experiment.

The hypothesis was that, if it were so, every modification brought to bear upon the sense of touch, would naturally react on this second sight: if touch-sensitiveness could be *exteriorized,* second-sight would also follow in the exteriorization. These senses would be active not only in the skin, as heretofore, but at a short distance from the skin.

Was experience going to confirm my reasoning?

Having noted, at the beginning of the séance, that the subject had remained in possession of his faculty to read with the finger-tips as in ordinary conditions, I proceeded to exteriorize the sensitiveness, as in the former descriptions. Now, when I had ascertained that the right hand (that above the glass) had become insensible, and that the prickings and the pinchings were causing reactions with great liveliness, I then took a slip of paper, wrote a few words upon it, and held it a few centimeters from the fingers. At the same time I imparted a slow translational motion to the paper, so as to bring the strokes of the letters in a straight line projected from the fingers. Without a word of command from me, the fingers then assumed the motion as of the forelegs of a spider; and the subject read the text of the written lines perfectly.

I have controlled and verified this phenomenon an infinite number of times, always with identical results.

The other aspect of the question presented this problem:

Had the hand, when its sensitiveness was exteriorized, lost the faculty to perceive the writing when in direct contact?

And here again, experience confirmed reason.

When the paper was being placed in direct contact with the skin, it was impossible for the subject to read anything whatsoever. He could read, however, as soon as the slip was being held a few inches from the skin.

Several other experiments, conducted in complete darkness, in the attempt to prove that light had nothing to do with the results, revealed unquestionably that such was the case.

Should we suppose, in attempting to explain the psycho-organic mechanism of these phenomena, a hyperesthetic condition of touch determined by the hypnotic state, bringing to the brain certain sensations of great intensity to enable it to interpret them as verbal representations? Or, on the contrary, should we suppose a cerebral hyperesthesia permitting the brain to isolate and intensify the impressions of touch, while at the same time using them as the means of reading?

If the second hypothesis be admitted, one must then suppose that L. S., or any other normal being, receives through the intermediary of the nerves of touch, while feeling, blindfolded, for the characters of a written or printed page, a photograph, etc., certain impressions as distinct as those which would be left upon the retina

were he to look at them. But owing to a lack of a particular disposition of his brain, he is actually incapable of perceiving and also of interpreting them.

Experimentation in this explanatory attempt shows that the second hypothesis is the right one; although the inclination is toward the first.

For this purpose I placed two chairs, back to back. The subject, being put in the comatic state and blindfolded, occupied one of these chairs; and I sat on the other, my back to his. Extending my elbow straight behind me, I asked L. S. to grasp it in his right hand. This done, I took the newspaper lying on the table, and slowly allowed my fingers to run to and fro upon the script.

"Read!" said I.

And as I placed my finger upon each letter, L. S. would announce it. Thus he spelt "L'i-n-d-e-p-e-n-d-a-n-t—d-e-s—P-y-r-e-n-e-e-s—O-r-i-e-n-t-a-l-e-s."

"What are you reading there?" I asked.

"I do not know; I am paying no attention to the words," was the reply.

"Begin again," I said.

And this time he read the whole phrase as quickly as I passed my hand over the page.

As I supposed that this strange phenomenon could be telepathy, pure and simple, I then closed my eyes, turned the page of the newspaper and fingered over the print.

"Now, read again, please," I said.

And he read: "E-a-u-x—M-i-n-é-r-a-l-e-s." This was correct.

I directed my fingers to another corner of the page; when he read: "V-o-i-t-u-r-e-s—A-u-t-o-m-o-b-i-l-e-s."

I opened my eyes to find that this also was correct.

And so on through scores of experiments.

Let us now analyze the consequences which this phenomenon implies.

First of all: What happens in me, when, with my back turned to the subject, who tightly holds my arm, I run my fingers over the printed pages? In a way, nothing more nor less than what happens normally. Yet it must be that the imperceptible relief of the printed characters makes a distinct impression on my tactile nerves, since this is the indispensable condition for the subject's fingers to read. Therefore, normally, apart from hyperesthetic conditions, the organ of touch must be impressed by the smallest differences which may be existing in different objects; but these impressions, not being sufficient in quantity, are not perceived by the brain. Thus would be verified, once more, and in the most unexpected way, the celebrated theory of Leibnitz concerning "small insensible perceptions."

In the second place: What happens in the organism of the subject? In his case it is more difficult to answer; for our actual knowledge of physiology does not explain how his hand, in contact with my elbow, can receive through the clothes, the skin, the muscles, the nerves, vibrations which come through them from a

foreign organism. In this instance there would appear to be an action taking place similar to that found in an electrical contact. Perhaps, also, there are in the tactile nerves of the subject certain inducted currents which reproduce, by sympathy, the direct currents from another system. Be this as it may, the impressions arriving in my brain and becoming absorbed, as it were, without leaving any trace, alighting in the brain of the subject are immediately perceived, if but unconsciously.

How interesting it would be if the details of the mechanism of the communication taking place between operator and subject could be studied, so as to determine, for instance, the respective rôles played by the different nerves of the hand, and of the arm: cubital, radial and median.

We do not pretend to conclude from these observations that the apparent transfer or transposition of the senses, as it was presented by the ancient mesmerists, does not exist. In this class of researches, one should beware of the danger of generalizing at first sight, especially when one is dealing in negations. The phenomena which have been described here may be observed with other subjects as being the effect of thought transmission or mental suggestion. In other instances, and up to a certain point only, these results may be simulated. It is also possible that there are other means and mechanisms unknown or not analyzed which would be able to produce, in altogether different conditions, the same phenomena.

Summing up our observations, we would say that the transposition of the senses is but apparent. It would really consist in a supranormal subconscious interpretation of tactile sensations usually not perceived.

CHAPTER XII

The Colors of Human Magnetism

Fortunately, for the benefit of knowledge, a certain number of thinkers remained convinced that Mesmer's hypothesis was but the presentiment of greater truths, and accordingly seized every opportunity to verify it by experimentation. And in this particular direction, no one has done more to advance the solution of this problem than the late Colonel Albert de Rochas, whose personal method of experimentation we will now consider. It consists in the utilization of the superior sensitiveness with which certain individuals are endowed.

The only objection raised to it is that experimenters are obliged to take the word of the sensitives, as to the impressions they receive. When a subject says that he perceives the color of the emanations to be red, or blue, the question usually arises: "Are these impressions really true, or have they been unconsciously suggested? Or are they self suggested?"

But these difficulties are not insuperable, as demonstrated by Colonel de Rochas.[1] The following is a

[1] *L'Extériorisation de la sensibilité*, A. de Rochas. (Paris: Chamuel.)

résumé of his experiments dealing with the effluvia of magnets and electro-magnets:

1. By means of an electro-magnet we produce, suppress, or divert at will, and unconsciously to the subject, the poles of an ordinary magnet. Not only do the subject's descriptions of the effluvia tally, as they proved to do in twenty-two experiments, but the subject is able to describe the current passing through after the operator thought it suppressed.

2. The extremities of the fingers as well as the poles of a powerful magnet placed before the spectroscope reveal some very distinct colorations; taking the precaution to verify that the ocular position actually coincides with the description of each coloration perceived and is admitted solely into the corresponding field of luminous radiation.

3. The common axis of the two magnet bars is placed opposite the poles of a large magnet, being careful to have a black background to the field. The subject then will perceive in the field of the spectroscope that it is colored red above the south pole, and blue above the north pole. If the polarizer or analyzer is turned round, the subject will without hesitation and very clearly describe certain variations of intensity pertaining to these lights. Also it will be ascertained that the positions of the maxima and minima just described, correspond in fact to those resulting from the laws of polarization. If the apparatus is deviated in the direction of the poles, the subject will then see nothing more.

All precautions were taken to eliminate any possibility of suggestion affecting the subject. The operator took care of his subject, while his assistant took care of the instrument and of the various operations (magnetic induction, refraction and polarization of light); the subject and the operator alike being kept in ignorance of the proceedings.

The particular subject with whom the experiments were conducted possessed the valuable advantage of being able to draw and paint on the spot what he could see.

In such conditions, the objectivity of the effluvia are not to be contested. It will be remarked that the experiments bore accidentally upon the radiations of magnets and electrical currents, though but incidentally upon those of the hand; and in admitting that he observed the same strict controlling methods in the one as in the other, M. de Rochas' experiments can leave no doubt as to the fact that the hand emits effluvia, radiations, analogous to those emitted by magnets and electrical currents.

This discovery constitutes a fact of enormous importance.

Once thoroughly established, it will prove that the magnetic agent certainly exists in the human body, contrarily to the assertions of the hypnotists or suggestionists of Nancy, Paris or elsewhere. From this standpoint, to conclude that this agent intervenes in the majority of the phenomena hitherto exclusively at-

tributed to hypnotic or suggestive action, there is but one step. And this step, we believe, science, under the overwhelming evidence of the facts, will be bound to take.

HOW THE PHENOMENON OF EXTERIORIZATION TAKES PLACE

The phenomenon of the *exteriorization of the sensitiveness* opens an unlimited horizon to our suppositions and our researches. In our case, being limited by time and other necessary things, we have been obliged to confine these to a small number of tests. We specialized in those which would determine the degree of generality of the phenomenon.

Although M. de Rochas seems to have considered this as being produced exclusively among certain subjects and in a particular state, our observations have, on the contrary, helped to believe that *it is a general phenomenon, common not only to all "sensitives," but even to all individuals of the human species.*

It might further be said that it is a normal phenomenon; but, like many other such, it is condemned to remain *cryptoidal* (hidden) so long as the conditions of its *revelation*—as understood in photography—are not realized.

First experiment. Having once induced sleep into my subject L. S., securely blindfolded, I take in my

own hands a glass of water three-quarters full; my left hand receiving upon its palm the base of the glass, my right hand placed on top of the glass. I stand about two yards away from the comatic subject.

Having held the glass thus for a period of from five to ten minutes, I then draw closer to him and place in his hands the glass of water. The index and middle fingers of the subject's right hand are put into the water of the glass, remaining in this position for the duration of the experiment.

This being done, I leave my subject alone and return to my seat close to the assistant, to whom I have given previous instructions concerning what he himself has to do during the séance. (The subject is in complete ignorance of what has passed and is to pass.)

Every time that my assistant—without word or command—pinches or pricks me or inflicts whatever punishment *on any part of my body,* the subject L. S. reacts immediately to these pains, with visible energy. Everything, then, appears as if I had personally exteriorized my own sensitiveness in the glass of water, and as if every sensation produced in my nervous system were carried, along an invisible wire fixed in the water of the glass, into the nervous system of the subject.

Second experiment. The preliminary proceedings are the same as in the above. Now, instead of placing in the hands of the subject the glass of water in which I have exteriorized my own sensitiveness, I place it on a table by the side of one of the assistants.

At this stage I approach the subject and take him by the hand, in order to establish a contact between him and myself. Now each time that the assistant pinches, pricks, etc., the surface of the water, the subject reacts to these, in synchronic order and with an extreme vigor.

Again, everything seems to happen as if the concussions imparted to the water in the glass were carried, along an invisible wire, into my nervous system (which remains unconscious of them) and thence into the nervous system of the subject, *who translates them into conscious impressions.*

The marked success of these two tests induced me to attempt a third one, which would then establish the possibility of artificially creating a communication of the sensibilities between the subject and myself.

Third experiment. The subject is asleep, blindfolded; the audience is dumb. I place between the subject's hands the glass of water destined to receive the exteriorization of *his nerve force.* I take *a second glass of water* destined to receive *my own nerve force.* We both remain in the act of holding glasses until sufficient time has elapsed for L. S.'s sensitiveness to be exteriorized. Then I take his glass and place it beside my own on a nearby table. The table is three yards from the subject; the assistants and the operator also are three yards from both table and subject.

I now take a U-shaped copper wire, covered with gutta-percha but revealing the bare metal at both ends. Two assistants, previously instructed without the

knowledge of L. S., take hold of the wire, one at each end, and dip it into the water in the glasses. The wire thus plays the part of a conductor between the two glasses.

This being done, I now retire to my seat, by the side of a third assistant, also previously instructed as to the part he has to play. Complete silence is maintained throughout.

Every time that this neighbor pricks or pinches me, the subject reacts with great vigor, as if feeling the pain quite acutely.

Thus it seems as if the concussions produced in my nervous system—which remains unconscious of them—are transmitted along an invisible wire into the glass in which my sensitiveness has been exteriorized; thence it passes through the copper wire into the glass of the subject; once more through an invisible wire, ultimately to merge into the nervous system of the subject.

At one time, however, L. S. ceased to react, although the assistant had just been pulling my hair, with painful results to myself. I imagined that this stop in the transmission of my sensations was caused by the disappearance of the influence from the glasses. On looking round toward the two glasses, I found that one of the assistants had removed his end of the wire from the glass of water. He had thus, quite unconsciously, instituted *the cross-correspondence test of my experiment.* As soon as the wire was replaced in the water the transmission began again. The act of pulling my hair caused

in my subject a very painful sensation, extending over the whole length of his body. He, poor man, grumbled and protested, visibly impatient to terminate the sitting.

My neighbor, at this time, began less painful tests: taking my hands he stroked them softly. At once the face of L. S. lighted with a smile. "You can do this as long as you wish," he said.

"Why?" he was asked.

"Because the sensation is a pleasant caress."

Alternately, he felt the warm or cold, as the assistant by my side blew warm or cold air over the back of my hands. This he always felt in the shape of diffused impressions over the whole of his organism.

The sensations of taste appeared to become transmitted in a slightly different way.

As I sipped a few drops of Chartreuse, the subject, who imitated the act of swallowing, exclaimed: "What are you making me drink? It is very strong; it seems like brandy."

In silence, I sipped some more Chartreuse.

This was followed by a new act of deglutition, and L. S. ejaculated, "It is strong, but it is sweet. Is it not Malaga wine?"

Without reply, I took a few more drops; and at once the subject exclaimed, "Please stop! The stuff is going to my head!"

Judging at this moment that the experiment had lasted quite long enough, I ordered that the glasses be disconnected. At once the subject got up, shouting,

"Yes! Yes! Where is my glass?" and as he took a step in the supposed direction of the table he fell heavily to the floor.

The assistants and myself, somewhat scared, hurried to get him up and into a chair.

"What is happening?" I asked him.

"I am drunk," was the reply.

At this stage I removed the mask appliance from his eyes, and woke him. Every trace of intoxication had disappeared on the waking, and no trace of tiredness whatever was shown.

Thus ended one of the most typical séances for the experimentation of the exteriorization of the sensitiveness. It would be most interesting indeed to take up these experiments again, varying the nature of the liquid contents of the glasses, as also the nature of the ambient conditions.

In the course of the experiments conducted with this subject, several cases of thought-transmission were observed, and these should be entered along with the foregoing facts in the classification of telepsychical phenomena.

I shall, here, give simply their description without attempting their explanation; for, as yet, I cannot construe a sufficiently valid hypothesis which would submit these phenomena to regular *scientific* experimentation.

Hitherto, we had not succeeded in obtaining similar phenomena with any other subject. It was during the course of other experiments conducted in connection

with "the apparent transposition of the senses" that we had had occasion to observe three or four cases of thought-transmission.

1. The subject, asleep, eyes blindfolded, had a picture-postcard bearing the photographic reproduction of a friend, to decipher between his fingers. As he ran over the script with his fingers, I asked him if he knew whose face it was. His reply came in the negative, as he did not know the person.

"Give me your hand," I said. "I am now thinking of the name of this person. Who is he?"

"Monsieur S. L."—which was correct.

2. I placed now a photograph in the hands of the subject, asking him to give its description. This also was done quite correctly:

"It is a young lady. The photograph seems to be taken in a garden. I see behind her a wire netting, as one can see on the garden walls."

"Do you know her Christian name?"

"Not at all."

"Give me your hand, and I will tell it to you mentally."

"Jeanne," he said almost immediately. And that was correct.

3. A large photograph was placed in his hands this time. After a few moments of manipulation, he said:

"It is a group of three young children."

"Do you know them?"

"No."

"Be careful," I said.

"Oh, yes! They are your children—but much younger."

"Give me a description of them."

"To the left, your eldest son; he is eight years old. To the right, your second son, six years old; and in the middle, a little girl, four or five years old, unknown to me."

"Why do you say it is a little girl?"

"Because the hair is long."

"You are wrong there," I said.

"Ah, yes!"

"Where is he now?"

"He is dead."

"What was his name?"

In asking him this question, I took his hand, and he replied: "Pierre." This was perfectly correct.

4. The conditions of this test were of a more complex nature. As the subject had just been put into the sleeping state, Dr. D., whom I had summoned to examine my indisposed child, arrived. I notified the subject, therefore, that I must leave him for a while, and, pending my return, I handed him a magazine, saying: "There is an article in this magazine which will interest you. Read it."

The consultation over, I asked Dr. D. if he would witness a curious experiment. On his agreeing, we entered my cabinet, where we found L. S. fingering the pages very attentively.

"Well, you are finding the article interesting? What is it all about?"

And the subject began to give me a concise account of it.

I then asked him to read aloud the first lines of the article; which he obeyed docilely, to the amazement of Dr. D.

On a sign which I made, the doctor spoke aloud, calling L. S.'s name. But, as if the subject were deaf, no reply came. From the symptoms he presented I judged that he was in the "rapport" state—a state in which a subject remains totally foreign to whatever happens outside of the operator's movements and commands.

On another sign from me, the doctor again spoke to the subject, without result.

Then suddenly I touched the subject's shoulder while the doctor was in the act of speaking. The result was that L. S. was startled as if by a shock. He jumped in his seat, saying: "Who is there? Who is speaking to me? Are we, then, not all alone?"

"Do not be afraid," I answered. "It is my friend who has come back with me while you were not paying attention."

"Ah! Your friend has given me a fright, for once."

"Do you know who he is?"

"I have not the faintest idea."

"Take, now, my hand; I will think of his name."

"Is it not Mr. Bianchon?" (This was a disfigura-

tion of the name of a person whom L. S. had previously seen in my study.)

"No," I said. "Don't you try to guess, now!"

"I do not get it well, but it seems as if I heard. Ort —Ort—Ort——"

"Listen well now; I am going to think the name out, letter by letter."

"It seems as if I were to hear *Du—sort*. Is this right?"

"Yes, indeed! It is Dr. Dussort."

Such are the principal facts of thought-transmission which I observed with this particular subject. They are sufficient to demonstrate, together with the other telepsychical phenomena described elsewhere, the radical insufficiency of the explanations for all the phenomena of the same order *offered on the basis of suggestion pure and simple.*

At the same time, these point to the necessity for admitting, in whatever degree or form, the existence of a force, similar in nature to physical radio-active forces, and playing the part of intermediary between the nervous systems of human beings.

CHAPTER XIII

Strange Phenomena

"Blindness for the subject, and dumbness for the assistants."

This is the rule which we have endeavored strictly to apply, through all the tests conducted under my eyes during many years of active research. It should be rigorously imposed by the would-be future researcher, if he would give his experiments any value and have them recognized as such.

Three principal types of experiments, constituting the main solution to the problem of human magnetism, will be described in the present chapter:

1. The phenomenon of "magnetic rapport," so described by the mesmerists of bygone days.
2. The exteriorization of the sensitiveness.
3. Thought transmission.

The phenomenon known as "magnetic rapport" consists in the particularity presented by certain subjects of being in sole and direct relation, during the state of hypnosis, with one individual only: the person who induced them into the state. In other words, the subject presenting this peculiarity *hears* consciously the oper-

ator only; every other person present and around the subject at the time does not exist for the subject's consciousness.

The first instance which the subject L. S. gave me of this phenomenon was when one of my assistants, speaking spontaneously to him, received no answer.

"Why do you not reply to the question just asked you?" I said.

"What question? I have not heard any one else but you!"

After that occurrence, I always, by means of signs, asked one or several of those present to say a word or two to the comatic L. S.; but always the subject remained deaf to their questions. However, every time I came near the interlocutor while he was in the act of speaking, and placed my hand on any part of his body, whether the hand, shoulder, or back, the subject instantly turned round to where the voice came from, and answered. As soon as the contact ceased, he was deaf again.

The point in question now arises: By what internal process does the subject become conscious of the precise moment when the contact takes place? This is now a problem, the solution of which remains blank.

Do not forget that the subject is blindfolded, that the operator and assistants are usually far distant, that the phenomenon is never always the same, and that it presents itself with certain distinct variations.

For instance, on rare occasions are found certain

people who may enter directly into "contact" with the subject, without previous contact with the operator; certain others, being once introduced, as it were, into "contact" by the operator, will remain so for the rest of the sitting, being able to converse with the subject without the mediatory influence of the operator.

In a few cases, "contact" between subject and stranger is not even necessary, a certain proximity between the two being sufficient. It would thus seem as if there existed a sphere of influence of a more or less extensive radius. Every person outside the radius remains non-existent to the subject, but becomes more and more perceptible to him when drawing nearer the center. The following experiment demonstrates this assertion:

J. D., a young woman, sitting near me, began to recite in a loud voice a piece of poetry which the subject listened to with attentive interest. As she recited she drew farther away, until finally, as the distance grew greater, he exclaimed, visibly impatient: "Why do you speak in such low tones? Why do you whisper? Why don't you articulate the words better?" And as J. D. drew nearer, the subject heard more distinctly.

The same results would be obtained when J. D. and myself walked side by side to the other end of the room, sometimes close together, sometimes far apart. The clearness of the perceptions of the subject varied in direct proportion to the distance which separated J. D. and myself.

As one easily can grasp, the phenomena just described present the possibility of measurement; and it is, as we know, through weighing and measuring that science shall master the different orders of natural phenomena.

CHAPTER XIV

EXTERIORIZATION

OR DISSOCIATION OF THE MOTOR NERVE FORCE

FROM the general facts analyzed in the preceding chapter, the conclusion was reached that in the human body there exists a force capable of radiating at a distance; it can even be dissociated from the human frame.

This phenomenon we called the "exteriorization of the sensitiveness." We called it so because the force which was being projected at a distance was the very same as that which is the vehicle of the sensitiveness in the nervous system—the part played by it being to carry to the brain centers all impressions received from the periphery (skin) of the organism.

Carrying his experiments further, but following another direction, Colonel de Rochas proposed to prove that the motor nerve force also could be dissociated, or projected, at a distance, and could be made to produce certain movements, displacements, or levitation of objects. We know, of course, that the motor force or energy is that which transmits through the nervous system all movements and impulses from the brain centers to the periphery. In essence, it is no doubt identical to "sensitiveness."

In his book,[1] M. de Rochas defines this phenomenon as the "displacement of objects without personal contact, by means of a force emanating from the organism of certain individuals." The experimental proofs of this are divided into two groups: First, reports of all his experiences conducted with the subject E. P.; second, reports of all previous experiments and observations, collected from the Dialectic Society of London, 1869; Count Gasparin, 1854; Sir William Crookes and his experiments with Slade; those of MacNab; Pelletier; Dr. Paul Joire; also cases of "electrical women" and cases of "haunted houses," where the same force appears to be manifested.

The two descriptions given here are considered typical:

1. The subject E. P., whose hands and feet are held tightly by an assistant, announces that she will proceed "to draw the key from the cupboard door" placed high up and at an appreciable distance, where she cannot possibly reach it. The controlling assistant, Mr. de W., stands between the subject and the door with the key. There is enough light to see what takes place. Suddenly a screeching noise is heard in the lock; the key turns but as yet does not fall off. E. P. then takes with one hand the left wrist of her neighbor, Mr. S., and with her other fingers she seizes his index finger. Around this finger she makes certain rotary motions,

[1] *L'Extériorisation de la motricité*, A. de Rochas. (Paris: Chamerot.)

alternating synchronically with the motions of the key in the key-hole, girating in one direction one moment and in another the next.

A few minutes afterwards E. P. seizes the hand of Mr. S., holding it with her two hands and drawing it to and fro, in a motion indicating that of opening the door situated three feet distant and behind Mr. de W. At this moment a succession of noises are heard proceeding from the door as if efforts were vainly being made to throw it open. At the suggestion of Mr. de W. to disentangle the key from the lock, which the efforts of the subject's will were unable to do, the assistants agree unanimously and the key is made to unlock the door.

A new hand motion from the subject causes the door to open. Now, with feet still being held in check, E. P. places her hands on each cheek of her neighbor, and alternately smacks one cheek and then the other—a smack on the left cheek opens the door, another on the right closes it.

The hands are seen and felt; and the movements of the door are seen and heard, for as it is being flung open it comes butting on to the chair of Mr. de W., who now sits directly in front of the cupboard. The rapidity of the opening and shutting of the door are proportionate to the rapidity of the given smacks. Having done this several minutes, E. P. then gives a push to Mr. S.'s head in the direction of the cupboard and the door is flung back, shutting itself with a loud bang.

2. This is another very descriptive illustration of a phenomenon observed, under very satisfactory conditions, in the presence of Col. de Rochas, Dr. Dariex, Sabatier, de Grammont, and de Watteville.

In the middle of the room is a large and heavy table. The light is on full. The subject E. P. is in the normal state.

Mr. de G. asks the subject if, through the imposition of the hands from a distance, she is capable of acting, while in the normal state and in the broad light, upon a letter-scale which he has in his traveling-bag. The reply being indifferent, the members present decide unanimously to carry on the experiment, there and then.

The scale is brought and placed on the table in such a position that every one may witness the indications of the rotating needle. The degrees on the scale are from 0.00 to 50 grammes.

The subject, standing a short distance away from the instrument, vainly attempts to inflict a motion upon the scale by presenting one of her hands to within a few centimeters of it. Then, bringing her fingers together to a focus, she places her hands thus, one on each side of the scale-tray, and concentrates her will, the hands being held to within at least 4 centimeters of the instrument. There is no contact whatsoever.

At first there is no sign of motion. E. P. then, with a slight wave of the hand in the air, as if making "a pass" upon the invisible "double" of the scale, finally succeeds in imparting a very slight motion to the needle.

In a few seconds, this is followed by the movement of the needle to its maximum extension upon the graded dial.

Every controller present agreed that the conditions of the experiment were perfectly free from possible fraud. The table was not made to move, nor was the scale in contact with anything.

This experiment was repeated, for the benefit of a new-comer. The same results attended. In every instance the needle was brought so far as to point to its maximum of action.

The results are always obtained under the most exacting conditions. Sometimes the rigidity of the controlling tests are such as to exhaust the imagination of the most inveterate of skeptics.

CHAPTER XV

The Scientific Study of Spiritism

Can spiritistic phenomena-production be studied scientifically? That is the question.

First, it is advisable to establish the precise sense of the various terms which we shall employ during this examination.

The word "spiritism," in ordinary language, has various applications. In some cases it is used to indicate the existence of certain facts; in others, to indicate a proposed doctrine, an hypothesis, a theory or system to serve as an explanation of these facts.

In the first instance, spiritism would imply the comprehension of all facts apparently "objective," and where, seemingly, is manifest the intervention of intelligent beings usually "invisible" and which normally do not belong to our world. That such manifestations are being enacted every day, that they can be observed, described, classified, etc., is a point which cannot be contested. The question is, then: *To what extent* does this particular appearance *correspond to reality*—and to *what reality?*

As the phenomena produced are invariably with the

presence of certain particular individuals called "mediums," it has been proposed that they be called "mediumistic," "medianimic," or "medianic."

These phenomena present numerous points of analogy with other facts, which do not present the above appearance, and which are often produced in combination with them. They are the cases of suggestion, auto-suggestion, hypnotism, dissociation of the personality,[1] animal magnetism, thought-divination, thought-transmission, telepathy, exteriorization of the motor and sensitive nerve forces, etc., etc.

There are many people who, having little knowledge of the study, wrongly include under the denomination *spiritism* all the above-described phenomena. Spiritistic phenomena and those of hypnotic, animal magnetic, or suggestive source, form two distinct orders of phenomena. It is true, however, that a knowledge of the latter is indispensable, if one would progress toward the full understanding of the former; although reciprocity is not necessary.

These are the *spiritoidal* facts which the scientist engaged in their study has to gather under the best conditions of exactness and authenticity, either through observation or through personal experimentation. Again, he may collect these facts from the serious attestations of reliable witnesses. This being done, his next duty

[1] Astral projection, or dissociation (*dédoublement, extériorisation de la personalité, projection de l'astral*).

lies in their classification, comparison, and analysis, if he would discover the laws that govern them.

Unfortunately, the attitude of the general public (and, it is to be deplored, that of many scientists) is not one of resignation to the expectant attitude which such point of view imposes. The public wants, before all, an explanation of the phenomena. Is it really the work of *spirits?* Are these spirits really the souls of the dead ones? Or are they *demons?* Or elementals? These are the questions constantly asked, and which have to be elucidated.

Admitting that the question might be answered in the "subjective" sense, there would still remain two kinds of spiritism: (1) Spiritism as a hypothesis, scientific or experimental; and (2) spiritism as a philosophic or religious doctrine, which, having once been apparently proved by these facts, would give to mankind a systematic solution for all its social, moral and metaphysical problems. It would seem advisable, therefore, to use the word *spiritist* to designate those who profess this latter attitude; such a name being thoroughly inapplicable to those who, admitting the reality of spiritoidal phenomena, have decided to study them experimentally in the same manner as they would astronomical, chemical or biological phenomena.

The physician-scientist does not waste his time in discussing whether it is *God* or *matter,* or any other supra-phenomenal cause, which produces the phenomena of heat, light, electricity, etc.; rather are his energies

directed to the discovery of the laws which produce them. Similarly the biologist considers that it is not incumbent to his sphere of study to seek which is the "intimate nature of life" in its relation to matter, soul, or God. His business is to determine the conditions in which these vital manifestations take place.

And the same attitude of mind should animate the scientist who would study these spiritoidal phenomena; he should discard those eternal and sterile discussions relating to the speculative existence of "spirits" as instigators of the phenomena produced. His efforts should be directed to the discovery of their unknown causes, regardless of the supposition that these may be spirits, departed souls, demons, elementals, etc.

No doubt, the fact of knowing that an invisible world exists around us, distinct from our own world, yet very, very close to us; a world peopled with intelligent beings who could, in certain cases, enter into communication with ourselves, and among whom could be recognized our lost parents and friends, would be extremely interesting. But we cannot lay too great an emphasis upon the assertion that, even assuming that such a knowledge were a fact, it would leave intact the *scientific* aspect of the problem of spiritism.

Believers as well as disbelievers in the *subjective* form of spiritism remain but stuck by the metaphysic wayside of psychism. It is high time that the *positive* side of the question be taken up.

Must we believe in spirits, or must we not?

This is the everlasting topic of discussion. Those who believe accumulate a mass of "stories"; and those who do not believe reply—by a mass of stories, too. And so the situation is likely to continue. What really happens is this: each obeys impulses of an extra-scientific, religious, or anti-religious order; it is a satisfaction of one's faith which is sought after.

The spiritists seek to prove the immortality of the soul, and life in the Great Beyond, when it is not a question of reincarnation or soul progress through the stars. They accept the most palpably tricked revelations, and when willing to submit to controlling tests, it is with *parti pris* attitude, bent on hindering the measures taken which alone constitute effectiveness of control.

The anti-spiritists, who profess the doctrines of "materialism" and "metaphysical atheism," imagine that if it were proved that something remained after the death of man, their doctrines would be dissipated. In the triumph of spiritism they seem to feel the retrogression of science, the return of the ancient superstitions; and therefore they struggle with all their might against such threatening disaster. Hence their refusal seriously to consider the so-called spiritistic facts. In their own minds they say: At first sight these facts are impossible, unreal; therefore they are false. Such a mental attitude is naturally deplorable. After all, their mental state is about the same as that of the savants who would refute the admirable experiments of Pas-

teur, arguing that while contradicting the doctrine of "spontaneous generation," these experiments may place dangerous weapons in the hands of the partisans of "the supra-natural origin of life." Likewise, it is the attitude of the theologian who defiantly looks upon the researches of the historian and geologist as being dangerous to the longevity of Biblical stories and doctrine.

The objection may be raised that it is impossible to proceed with the methodical study of these facts without being either *for* or *against* the doctrine of spiritism. Our reply to this is that such an objection always proceeds from the same erroneous conception which many entertain as to the part played by "doctrines" in experimental scientific research. Strictly speaking, "doctrines" are non-existent in this order of research. True, there are "hypotheses"; but these are of temporary admission only. They merely help to adjust one's orientation in the labyrinth of facts, and permit one to progress in the direction of fertile discoveries and useful applications. It is in this sense, only, that the scientist can use the hypothesis of "spirits," in parallel with all other hypotheses, so long as the observation of such facts warrants it, yet without ever attributing to it any definite and absolute value.

Contrarily to the phenomena produced by suggestion, hypnotism, and animal magnetism, the spiritoidal phenomena cannot be said to be obtained at will, through experimentation. The term *experiment* is in such case thoroughly inappropriate.

In his *Psychic Phenomena,* Maxwell says: "The curious character of psychic phenomena is their complete independence. Experiments lead and guide us; we do not conduct them. One is often under the impression that these experiments obey a will foreign to that of the experimenters."

Maxwell also warns the would-be seeker against the supposition that psychic phenomena can be observed at will. He states further: "A sure fact about these paranormal phenomena is their apparent irregularity. I have experimented with many medical scientists and others, anxious for an exact solution; several experiments were conducted, and I have observed that many weeks would often elapse without our obtaining any good result. At other times the force was so strong and plentiful that results were obtained quite spontaneously and unexpectedly."

The whole history of science in the past half-century has proved that the "impossible" can and does happen, in justification, as it were, of the utterance of Arago: "He who pronounces the word *impossible* outside of the realm of pure mathematics is lacking in prudence."

Ignoring this warning, physiologists declare *impossible* the existence of beings capable of feeling, seeing, yet having no nervous system, no material cerebral system: in a word, not being in possession of an organism such as the living.

True, such an existence of beings appears most unreal, when we reason in the light of our material ex-

perience; but, may I ask, in what manner can we be justified in asserting dogmatically that such is *impossible?* However wide our knowledge and experience may be, these but cover an infinitely small part of the Truth. We are not, therefore, in the possession of infallible means to detect, a priori, what is or is not possible.

If spiritistic facts exist, it is then our bounden duty to submit these to the most rigid control or tests, and to exact from them all the guarantees of authenticity and precision. No one has the right to reject such facts, with a waving of the hand and without examination, under the pretense that they do not exist.

With perfect justice has it been declared that *the duty of science is to adapt itself to facts and not facts to science.*

I remember full well the short-sighted remarks of a well-known physiologist, who wrote in an article: "The phenomenon of thought-transmission is impossible, for this would necessitate the existence of a material link between the two brains, exactly as a metallic wire is necessary to establish a communication between two stations." Naturally, this "savant" had not the sense to foresee the advent of wireless telegraphy.

The study of life itself, in the organism, seems even to point to a psychic action, entirely independent of the action of brain and nerves, if not of all material substratum. Do not the similar vital functions in all other animal branches of creation—breathing, circulation, nutrition—take place through vastly different sys-

tems of apparatus belonging to extremely varied types? Are there not, also, indications of sensitiveness and instinctive activity in certain plants, perhaps in all, in spite of the complete absence of a nervous system?

The "spirit" hypothesis, as it is usually formulated by spiritualists, in no way excludes the possibility of a material substratum for the manifestations of a psychological order, of which these spirits are the supposed authors. This hypothesis, in spite of all contrary appearances and prejudices, may be sustained by the metaphysics of materialism just as easily as by the metaphysics of spiritism, if it be true that the "spirit" possesses a subtle body which is very nearly a duplicate of the physical body. This ethereal body, astral or fluidic, subjects, just as the material body does, the psychological life of the spirit to the material conditions of life; although this appears inconceivable to our senses.

Although still controverted, certain facts are too numerous and too rigidly observed to be ignored indefinitely, or to be rejected at first sight as being worthless; they would seem to indicate that our own mental activity (since we are incarnated spirits) depends upon this order of invisible material conditions. Such facts as telepathy, mental suggestion, thought-transmission, exteriorization of the motor and sensitive nerve forces, indicate the existence of a determinism of the psychic functions more delicate and more profound than that which has its seat in the brain and nervous system.

Before the discoveries of Pasteur, no one suspected

the existence of microbes, nor the important part played by them in the phenomena of life. The atmospheric gases, argon, crypton, neon, etc., Hertzian waves, Roentgen rays, radium, etc., etc., are so many unexpected revelations which have come to remind the savant of the fallacious popular utterance regarding nature's secrets: "If these things exist, everybody would know about them."

As we advance in the domain of scientific discoveries, the existence of cryptoidal phenomena (those which nature has systematically abstracted from our means of investigation) becomes all the more evident, thus clearly revealing the imperative necessity of adopting a conciliatory attitude of perception toward their apparent reality.

There was in the history of our planet a very long period during which life was non-existent; then it appeared. How did it take place? No one knows. Indeed this is true; for no one as yet has ever been capable of observing or provoking life, without recourse to life itself. The old adage, *omne vivum ex vive,* remains incontrovertible.

All hypotheses entertained as to the transformation of species are but childlike utterances. We may observe the infinite variations of life; but the sources of life itself remain still buried in ignorance. Hence we cannot, without sinning against the veritable scientific attitude of mind, reject without due consideration all

the facts which are not as yet catalogued in the pigeon-holes of our theories.

From all the races and peoples of the earth, and of all times, there have been handed down to us, historical or other stories, so-called miraculous or supernatural, exhibiting symptoms analogous to spiritoidal phenomena.[2] The proper course is, not to admit them as authentic and real, nor to reject them as apocryphal or imaginary, but to submit these stories to the strictest and most rigorous of criticisms while suspending definite judgment in regard to their nature.

If "spirits" truly exist, it may be quite possible that they entertain some very definite and constant relations with our world; and that the aberrant nature of their interventions may be but accidentally apparent. It would be as if it were an optical illusion due to the insufficiency of our means of information. And, this being the case, it would then be truer to say that they also enter into the general scheme of nature, and that they do not really constitute a world apart or separated from our own; no more so than are the comets and meteorites foreign or outside of the planetary and sidereal universe to which we belong.

Is the so-called contradiction which is supposed to exist between the "spirit" hypothesis and the principles of science so irreducible as all that?

No doubt, this hypothesis obliges us to admit that *if* the spirits intervene in the production of such and such

[2] The story of Joan of Arc, for instance, among many others.

phenomena, certain inexplicable perturbations due to the laws regulating their production may then be the result. But, may we ask, what has this to do with the spirits?

Is this not the same as the intercurrent causes, known or unknown, always susceptible to enter into conflict with the proper causes of any other phenomenon? A law of nature can never be stated in absolute terms. A law is stated in affirmation of the fact that the production of a phenomenon is due to the presence of certain definite causes; but always under the expressed condition that contrary causes are supposedly absent.

Stuart-Mill has already stated that the enunciation of a law is the formula of a tendency, rather than that of a result. Thus, bodies tend to fall through space under the law of attraction; but they only do so providing that their action is not counteracted by another law contrary or antagonistic to the former. Heat expands material bodies, unless they are submitted to the action of a contrary law. And so it is with every other stated physical law.

Regarding "spirits," it will be seen that, once and for all, if they would evade the possibility of contradiction, their presence must be placed among the number of counteracting causes. It may be remarked also that the counteracting causes are known at least always to act in a particular direction and regularly, according to laws just as constant as in the former, from which they do not differ in nature; whereas the so-called spirits

would be causes of unknown origin and essence, characterized by a most capricious and anarchistic action.

Yet, it is on the same plan as that of our voluntary and intelligent activity that the spirits are conceived; we find, it should be recognized, an evidence of such *causes* in ourselves. Should we even go so far as to say that the possible intervention of human beings in the production of natural phenomena (with whatever disorder and fantasy such intervention entails) is incompatible with the laws of nature, and thereby ruins the very foundations of science?

Let us imagine the impossible: a savant who lived prior to the appearance of human beings upon the earth; unconscious of humanity, yet firmly attached to the scientific principle of universal determinism. This savant, if he were to conceive the hypothesis of the future existence of human beings, would he not declare this impossible, a priori, as entailing the introduction into his world of a permanent cause of obstruction to the existing laws of nature?

It is that in reality, man, in spite of the arbitrary appearance of his actions, obeys, as everything else does, a set of definite laws. Whatever solution is given to the metaphysical problem of free will, it must be confessed, after all, that our freedom or liberty, real or false, is co-existent with universal determinism or cosmic determinism.

Therefore, that which is true for man is also true for "spirits" conceived after the manner of man. If they

intervene in the production of natural phenomena, there must also exist certain laws which serve to regulate this intervention. These laws may in many cases be ignored by us, but we have every interest in knowing them; for this knowledge would place us in the position of influencing natural phenomena, and thereby reproducing their most astounding feats.

In conclusion, it would appear from this discussion that the spiritistic hypothesis, however handicapped it may be on account of its apparent unreality, should be given a chance in the field of observation and scientific experimentation.

Science has the right to exact from any hypothesis that it should present its proofs; and, equally, science cannot refuse it a hearing.

CHAPTER XVI

Human Radiations

Can the human being exert, beyond the visible limits of his own organism, a radiating influence more or less comparable to that of the source of heat, light, or electricity?

We already know how the Mesmeric theories were received by the academical pedants of the time, and how it was that many thought the discovery of hypnotism, and later of suggestion, would forever dispel the hypothesis of human radiations. But in spite of the disintegrating influence of time, this hypothesis has survived, being every now and then resurrected under various forms, when allied to the phenomena of mental suggestion and telepathy. More recently still, with the discovery of the "N" rays of Blondlot and Charpentier, the question received an impetus, although, it is true, contested by the majority of physicians and physiologists.

The great difficulty to be met with, when attempting to establish its existence, is the intervention of "suggestion" during the process of experimentation. This difficulty can be eliminated by the adoption of the method outlined in a former chapter. Operating under these

given conditions, the following conclusions are reached. Of course it must be understood that these conclusions are given here purely as hypotheses, in the hope that they may lead to new experiments, which by them may be rendered more complete and more precise.

In the first instance, it will be observed that certain individuals emanate, principally through the hand, an influence seemingly capable of radiating from a distance; and when directed upon the nervous system of a subject it causes (often unconsciously to him) the various effects of anesthesia, muscular contractions, involuntary movements, etc. When this action is brought to bear upon the brain, it causes a state of numbness which develops into sleep.

One would be tempted to suppose that such a radiating influence may be common to all beings; but such is not the case. Numerous experiments have proved that among certain people this influence is so insignificant as to be considered almost nil; and from this view-point the bulk of *human beings may be divided in two classes:*

1. *The active or radiating.*
2. *The passive or non-radiating.*

Let us for a moment consider an individual of the first class. Shall we suppose that his radiating action takes places when in the presence of a subject? This would be as if we were to suppose that a magnet radiates actively only when in the presence of iron. In reality, when an experimenter conducts his tests for the first time, on a certain number of individuals, he is thor-

oughly ignorant of those who will be refractory to his influence. *Experience alone will reveal that.*

If, hypothetically, I belong to the active or radiating group, and I cause my hand to be near the body of another, or an object, or if I put it in contact with that body or object, I will then be sending a constant current of radiations; an influence, as it were; just as a magnet which radiates its effluvia upon all environing objects, although only certain of those objects will be susceptible to receiving them.

The question then arises: If this radiation really exists, how is it that its action is felt appreciably only in certain special circumstances, and in most cases everything happens as if it did not exist, without seemingly appreciable difference between the so-called radiating-active and the passive-non-radiating?

In order to give a reply to this we must consider those who receive the influence instead of studying those who exert it.

Two suppositions can be made in the consideration of this problem:

First: The passive or non-radiating individual is, as it were, impermeable to the radiating influence of the active person; or he repels it.

Second: This radiating influence penetrates him so thoroughly and completely, with such facility, that it instantaneously goes through his organism and out of it, without producing therein any reaction worth speaking of.

Of these two hypotheses, we will now examine that which is verified by actual facts.

Consider A the radiating individual; B the supposedly non-radiating, and incapable of being influenced by A's radiations; and C, a third individual, who, on being directly subjected to the radiating action of A, exhibits all the symptoms of contraction, anesthesia, etc. If now A be made to act upon B, nothing will be produced, apparently. The same will occur if B be made to act upon C. But if we make B act upon C while the action of A is upon B, we will see that the reactions produced in C are exactly as if A had been acting directly upon him.

Therefore everything happens as if the influence of the active radiator went through the insensible subject —insensible in appearance, but in reality permeable and conductible.

From this it can then be seen that human beings are divided into two groups, from the point of view of "receptibility": (1) The *conductors* or *permeable* persons, who form the majority of cases, and (2) the *non-conductors,* or *isolators,* who, being impermeable, stop or repel the influence, requiring intensity and time to create any appreciable result.

Since human-radiations ordinarily do not produce any apparent effects when directed upon material objects, it is permissible to suppose that *the influence constantly radiated by certain human beings is diffused and lost throughout the whole field of surrounding material ob-*

jects with which they are found to be in rapport of absolute conductibility.

Perhaps one may be astonished at the existence of a force capable of acting permanently, yet without revealing, in the ordinary way, its existence and its action through the production of any appreciable effect.

Fortunately, the more recent scientific discoveries have enabled scientists to become familiar with the existence of such forces: electricity; Hertzian waves, which always accompany an electrical discharge, and penetrate every material object with an inconceivable rapidity; Professor Branly's demonstrations of the electrification of scrap-iron by these waves, the principle of which served to discover wireless telegraphy.

In the absence of the reaction-agent which manifests them, these waves possess the property of penetrating right through our physical bodies without any means of perception on our part. *In the same way do the alternating high frequency currents, studied by Professor d'Arsonval, penetrate the various material objects and our own physical bodies in conditions such as to render their detection impossible. Yet it would be sufficient merely to modify the conditions in which these are produced, instantaneously to electrocute the individual experimented upon.* Their presence can be revealed by placing in the hands of the subject an electrical bulb, which immediately becomes luminous under their influence.

Therefore, the supposition that the human body ema-

nates such similar radiations is not in the least contrary to *scientific analogy.*

What, then, happens when the radiations meet an organism which, instead of acting as conductor, is refractory, as in the case of those called "subjects"?

We can suppose that, not only have these radiations been stopped, but that they have been transformed, more or less, in the manner in which a ray of light is being refracted or diffracted while passing from one field into another. The problem, however, which remains to be solved is: What is the nature of this transformation? Since the original and normal state of the force emanated by human radio-action consists in absolute fluidity, it would seem as if this transformation consisted in a modification of this fluidity. In other terms, from *fluidic* in nature, which it was at its emission center, this force becomes more or less *viscous,* or less fluidic, in virtue of the reaction produced by the subject who receives it.

Part of the effects observed in mesmeric experimentation seem to justify such an interpretation. For instance, in the case of Dr. Moutin's experiment, the contact of the hands of the operator with the subject's back gives an impression of "adherence": the subject qualifies it as "being drawn backward by invisible threads." In the same way, the hand of the operator placed at some distance from the subject's hand, foot, knee, or elbow, causes upon these parts various movements of *attraction*

according with his own; and this after the exclusion of all possible simulation or suggestion.

From these considerations it would appear as if the subject, unconsciously having arrested the radiations of the operator, changed their modality, and transformed them from the fluidic to the viscous state, would impart to them some entirely new properties.

The indubitable facts, observed by many scientists in the course of spiritistic séances consisting in the displacement of objects without contact, would lead the student to ask himself if their nature were not identical with the other facts described above.

When a medium, having placed his hands upon the table or other object, causes this to be levitated, keeps it suspended in the air by the sole adherence of fingertips, and imparts to it various movements which correspond to those of the hands, he acts toward that object exactly as the mesmerist does with a subject.

It would be right, then, to suppose that the table or object thus actuated were previously impregnated with the *viscous force* generated by the medium. It could not be supposed, here, that the inanimate, material object is as the animated human being, the principle of transformation of the force from the fluidic to the viscous state. The evidence, from all sides, is that this act of transformation is the work of the medium and not that of the inanimate, material object.

And here is the important deduction: *Those individuals called mediums, capable of producing phenom-*

ena such as described above, do not belong to the category of "operators" or "subjects." Rather do they constitute a classification apart from the rest, because they appear to combine in the one organism the fusion of two individuals: one, the operator, capable of incessantly projecting the fluidic force; *the other, the subject, whose work it would be to transform this force into the viscous state.*

The fact which appears to confirm such an hypothesis is that in the majority of spiritistic séances, the medium always asks, at the beginning of the séance, the presence, even the coöperation, of certain persons, themselves incapable of producing the phenomenon, but exerting, nevertheless, a most favorable influence to the development of the faculties of mediumship.

In any of the "chains" formed by spiritistic sitters, some are found to emanate the *fluidic force,* others play the part of simple *conductors,* while others *accumulate and transform it.* If among them there be *really* a medium, his production of *viscous energy* will, in a certain manner, be multiplied by the *quantity of fluidic force* constantly received from the circle in which the medium is placed.

Perhaps, with the help of this hypothesis, it will be possible to produce experimentally the phenomena hitherto fortuitously observed in the course of spiritistic séances.

If, hypothetically, the medium be the *natural unifier* of an operator and a subject, it should then be possible

to create an *artificial unity* by the union or coöperation of a subject and an operator.

For instance, let us suppose a subject already tested and proved to possess a keen sensitiveness to magnetic influence. He is made to place his outstretched hand upon the top of a small table. Now let us suppose an operator tested and proved to exhibit all the necessary powers to exert magnetic influence. He is made to superimpose his own hand upon the subject's, and to keep it in this contact for a certain length of time. What should be the result according to our hypothesis? The radiation incessantly emitted by the hand of the operator is incessantly arrested by the hand of the subject; in it, the force is being accumulated, transformed, and *becomes viscous.*

At a given moment, however, when the hand of the subject has become saturated, part of the radiation, thus transformed, is absorbed by the object in contact with the hand until, little by little, the surface of the table becomes thoroughly impregnated with the *viscous force.* If at this moment the operator slowly lifts his hand, not only will the hand of the subject be attracted, but also the table will be drawn. This, we believe, is the simplest experiment to conduct in order to verify the extension of our magnetic hypothesis to the phenomena of spiritism.

The following phenomenon, of which, at the time, we failed to grasp the full importance, is that which led us to the conception of the foregoing hypothetical ex-

periment. It occurred in a small society of psychical researchers in the town of Amélie-les-Bains during a short vacation.

Being very skeptical of the pretended "spirit" communications which formed the general nature of the investigations, I proposed the production of certain *physic phenomena*. Without further explanations I then asked the members of the circle—consisting of the school-master, his wife, his two daughters, an aunt, and the wife and family of the assistant school-master—to place their hands on top of an octagonal, three-legged table. Having done this, I then placed my own hands, outstretched, some distance above theirs. After a few minutes of expectation, I abruptly lifted both my hands while I beckoned the mediums, by a sign, to do likewise.

Marvel of marvels! The table actually left the ground, completely, as if adhering to the hands of the mediums. It lasted but the space of a few seconds and fell to the ground, as we uttered exclamations of surprise.

No one had tricked, it was quite evident. But when we attempted to repeat the experiment, our efforts remained fruitless. The table did tilt on one of its legs; but that was all. It did not leave the ground again.

At this juncture, I said: "Let us try another method."

Once more the hands were placed on the table, with the understanding that at a certain sign which I would

give, all the sitters would slowly raise their hands and hold them a few inches above it.

When I thought the time right, I signaled; and as the sitters lifted their hands slowly, I brought mine to one side of the table. Then I began to make with my hand the movement of drawing the table toward myself, from a distance. To my profound surprise, it glided in my direction, and did so every time I repeated the movement. The mediums were standing and followed the movements of the table with their outstretched hands a few inches above it. Several times this same phenomenon was produced in the course of this séance, as also in several séances which followed.

I then decided to take the table to my own house, in the hope of being able to experiment with greater precision of control.

On the floor I traced, in white chalk, a ring around each leg of the table, and a larger circle around the table itself; so that the table was quite isolated. The mediums were told to keep well out of the chalk line, and a man was placed where he could observe the movements of their hands.

Our séance took place at two o'clock in the afternoon, therefore in broad daylight. The table left its place and actually traveled some two yards away, the distance being measured from the smaller chalk rings around the table's legs.

Such experiments clearly demonstrate the exclusion of spiritistic influences; and it would be well to repeat

these experiments with an operator and a magnetic subject.

We repeat, here, that in this proposed hypothesis should be seen, not simply a theoretical hypothesis destined to explain an ensemble of facts, but an experimental hypothesis useful in the various combinations for experimentation.

CHAPTER XVII

The Conductibility of Psychic Force

We already have attempted to explain that the presence of "suggestion" does not, as were the contentions of Mesmer, necessarily exclude the presence of another force. This force we call "psychic force"; and we wish to draw the attention of researchers to one of its most remarkable properties: namely, its *conductibility.*

Future discoveries may show that, where we see to-day but one agent in psychic force, there may be several in existence of which we do not know. Thus, the so-called mesmeric or magnetic agent may be quite distinct from the telepathic agent; and all of these may be quite distinct from what we may look upon as purely the psychic force of which such distinguished scientists as Sir William Crookes, Professor Lombroso, and Dr. Charles Richet, speak as the factor responsible for the innumerable instances of levitation, materialization, displacements of objects, etc.

However different from one another these agents may be, they all seem to obey the great law of "conservation of energy." Therefore it seems permissible to consider them as so many modalities of the "universal energy."

They are necessarily related to one another and more or less convertible between themselves; or even transformable in the more frequent and general modalities called heat, light, electricity, etc. In any case, whatever differences exist between them, they appear to us to possess in common the property of *conductibility*. This will form the object of our present study.

Mr. Pierre Janet, whose competence in this field is universally recognized, said, in an article upon the work of Dr. Baréty,[1] that the question of animal magnetism had never been scientifically solved, and that it still called for the attentive examination of scientists. Maintaining that the phenomena of anesthesia, attraction, etc., produced on certain subjects by the mere presence or contact of the operator, without the slightest trace of suggestion, were still as striking as ever, and having observed that the "magnetic chain" in séances bore certain signs of suggestibility, he devised the following rigorous method of control:

1. Always experiment with subjects in the waking state.

2. Make it impossible for your subjects to see anything that happens around them, during the whole proceedings of the séance, by blindfolding them.

3. Keep the most rigid silence during the whole period of experimentation, and impose this condition upon every assistant.

4. Under no account must the subject be touched; as

[1] *Le Magnétisme animal étudié sous le nom de force neurique.*

the sense of touch might, in the subject, replace his senses of sight and hearing and thereby enable him to guess what is taking place.

5. The experiments should be so arranged as to make it impossible for the operator himself to foresee the results (at least for the first time of experimentation), leaving this to the ultimate issue of the experiment.

All these precautions have been devised to *isolate* the subject, mentally and physically, as completely as possible. He must, in a measure, be treated merely as an instrument in a laboratory, and as such give reactions.

In this field of research, experimenters will always meet four principal causes of illusions and errors:

1. *The simulation on the part of the subject. This may be voluntary or involuntary; fraudulent or complaisant.*

To simulate, the subject must know or guess what is expected of him, whether he has seen the phenomenon exhibited by other subjects or whether the operator has, prior to experimenting, mentioned what he expects to obtain. This is why the so-called experiments in *suggestion* lend themselves so easily to simulation, a fact which the School of the Salpêtrière has strongly objected to in the School of Nancy. This is also why experiments in *magnetism,* to be convincing, must be so combined as to make it utterly impossible for the subject to guess the nature of the phenomenon which is expected to be produced.

2. *The most important source of error is the influence of suggestion proper.*

The subjects are very sensitive to its influence, and the majority of operators exert it unconsciously in their looks, their words, gestures, personal and general manner of conducting experiments, etc. Hence the value and the necessity of imposing silence upon all alike before, during, and after experimentation. The influence of indirect and of auto-suggestion becomes eliminated if the operator determines that the subject shall not be touched, however slightly. The nature of the experiment, also, may be varied each time; and in using subjects in the waking state, the possibilities of indirect suggestion will be minimized to their least degree, for subjects are then less suggestionable than when placed in the hypnotic, comatic state.

3. *The extreme sensibility of the subjects; for their hyperesthetic state causes them to perceive some extraordinarily fine impressions, too fine to be perceived by an ordinary sensitiveness.*

It may be said that, when the hand is placed to within a few inches of the skin of the subject and 30 or 40 seconds afterward anesthesia, contraction, or other modifications, are produced, it would be wrong to conclude that the hand sends forth radiations; these things being explained through *hyperesthesia* of the subject, who, having felt the heat of your own hand, has suggested to himself these states of contraction and anesthesia. If it is not possible entirely to lay aside this

objection, a priori, it is at least possible to weaken it by replying that *hyperesthesia* exists only in subjects under hypnotic sleep, and therefore it is going too far to suppose that such is the case with the subject in the waking state. His condition has not deviated from the normal; for the subject's sensibility, on being tested, is found to be the same as that of every other ordinary person.

4. *The acute perspicacity of the subjects, which might be called* intellectual hyperesthesia, *a state which enables the subjects to guess or divine the intentions of the operator.*

It is very important to define the nature of these two states of perspicacity. The first kind, generally admitted, might be called *hypnotic perspicacity;* the other, still contested by the majority of scientists, although the members of the Society of Psychical Research are inclined to see it everywhere, should be called *telepathic perspicacity.*

As to the ability to control *hypnotic perspicacity,* there is little to add to what already has been said. It would be wise from time to time, however, to test this perspicacity by means of cross-correspondence, when it will be found that this condition of the subject's mind is really less in evidence than is supposed.

In regard to *telepathic perspicacity,* we have personally found that while experimenting on a given line of research, it has never been possible for us to suggest a determined idea to any of our subjects, although we

have often tried to do so. We succeeded once in causing hypnotic sleep, by the sole effort of the will, and in waking the subject in the same manner, but we have never been confronted by the actual spontaneous divination of our thoughts and ideas not expressed in words. On the other hand, the instances when we produced the phenomena of contractions, attractions, anesthesia, etc., by the sole presentation of the hand without contact, are innumerable. By what miracle could we have realized, unconsciously and without personal effort, the phenomenon of mental suggestion which we never before had produced?

The telepathic perspicacity of the subjects appears to us, until further discoveries, something rare and exceptional. Where such a factor exists, the experienced experimenter will have no difficulty in recognizing its presence, and in learning how to select those subjects who present the unimpeachable signs of good faith. And as it may also happen, as in our own case, that certain tests do not respond to expectations while experimenting with the same subjects, in identical conditions, it will then be deemed useful to apply the fifth rule of our method:

5. *Try so to conduct the experiments that the operator himself shall be entirely unable to guess the results. Let results be your sole informants.*

Having purposely for the second time insisted on adhering strictly to the rigidity of this method, so that the phenomena obtained during these experiments will

not be subject to refutation as imperfectly controlled, we will now pass on to the description of conductibility of the psychic force.

We already know the various degrees or states manifested by subjects under the influence of this force. For the student who may not remember these, we will briefly enumerate them. They are generally found in the following order of importance:

1. Phenomena of anesthesia, contraction, attraction, etc.; produced locally, and often accompanied by various sensations: cold, warmth, shivering, prickling sensations, etc.

2. Development of the suggestibility of the subject, each time that the action of the psychic force is directed to the brain or extended there.

3. Production of the different states of hypnosis: lethargy, catalepsy, somnambulism, accompanied by the various characterizations of these states, notably that of rapport as it was described in earlier days of research.

4. The phenomenon of the *exteriorization* or *dissociation* of the sensitiveness (especially described by Colonel Albert de Rochas and by Dr. Paul Joire, of Lille, France).

5. The phenomenon of thought-transference, telepathy, mental suggestion.

6. The action exerted upon material objects: movements, noises, levitations, materializations, etc.; the so-called phenomena of spiritistic and mediumistic source,



EXTERIORIZATION OF THE SENSITIVENESS

A photograph of the sensitive was taken and the negative (plate) was then held by her for a few moments. The operator, with a pin, scratched the hand on the plate. Instantly the sensitive ejaculated with pain, and a small red spot appeared on the back of her hand. This rapidly grew into the blister shown in the above photograph.

The experiment was conducted by the translator, some years ago, in the company of Dr. Forbes-Winslow, the late well-known English alienist.

produced by mediums more or less deeply imbued with spiritistic beliefs.

The above enumeration would be complete were it to contain mention of the therapeutical effects of this psychic force: such, for instance, as magnetic healing, psychic healing, etc.; also the phenomenon of lucidity or second sight. These we have purposely omitted; because of their greatly complex nature, they lend themselves too difficultly to experimental analysis, and, for the moment, they can be studied only through the obscure method of "observation." Also, we possess as yet little personal information; and their relation to the conductibility of the psychic force is not yet clearly determined.

Holding, therefore, these two kinds of phenomena in reservation, we are now in a position to affirm that all other phenomena are susceptible to being *conducted;* that they are capable of being produced from and at a distance, through certain intermediaries, and that thus the power to produce them can be transmitted by those who possess the force to those who do not.

Furthermore, it has been found that the intermediaries through which this force is conductible are of two kinds: First, they may be material substances, such as an ordinary iron or copper wire, in nature identical to that used in the conductibility of electricity for telephonic or telegraphic purposes. Second, they may be human beings. It is especially this kind—organic or living conduction—which will be described here.

The subject with whom I experimented for the demonstration of this phenomenon of conductibility was G. P., of whom mention is made in a former chapter. He possessed this special peculiarity, which I have not found in others, that my right and left hands produced contrary and different effects upon him. If my right hand was being held some distance from his forehead, for any length of time, it had the effect of producing a deep hypnotic sleep. My left hand, on the contrary, had the effect of waking him up. This took place each time with the subject blindfolded; without the utterance of one single word on my part; and with careful elimination of indirect suggestion.

When I placed my hand, under the same conditions, opposite any part of his organism, it produced the various phenomena of attraction, contraction, pricking, hitching, etc. The two hands presented simultaneously, in this case particularly, had the effect of combining the various sensations, usually neutralizing them.

It was in the course of a séance at which I had the assistance of my colleague, L. B., professor of physics at the *Lycée Carnot,* that I obtained the first proofs of the material conduction of psychic force. We took an ordinary copper wire, isolated with gutta-percha, the kind used for the purpose of connecting electric bells. I held the raw metal extremity of the wire, went back some paces, as far distant as the length of the wire permitted, while my assistant held the gutta-percha extremity of the wire, which he had taken the precaution to iso-

late from his own influence by twisting part of the end around an ordinary wooden rule. On presenting his end of the wire some distance in front of the subject's forehead, we witnessed the same phenomena as those obtained by the direct presentation of my right hand, placed at the same distance: the phenomena of *attraction*.

I now reversed the process and placed the wire in my left hand. From the same distance, held opposite the forehead or knee or hand of the subject, the extremity of the wooden ruler produced the same *pricking* sensations which the bare hand would produce.

On to this wire I now grafted a second wire, and held the two extremities, so as to transmit simultaneously the action of the two hands. The effect produced in this case was as if I had proceeded directly with my hands: *pricking* and *attraction*.

The following year, I undertook the same experiments, this time with a student in philosophy, Mr. L. V. During several months these experiments were conducted in the closest of scientific collaboration.[2] Twice a week these séances were held. Another student in philosophy, Mr. B., filled the part of secretary, and a friend, Mr. C., acted as assistant.

[2] An account of these is to be found in the *Annales des Sciences Psychiques*, under the title *Une nouvelle méthode d'expérimentation pour vérifier l'action nerveuse à distance*. In his review, *L'Année Psychologique*, Mr. Binet says he regrets that, for the sake of more precise control, a prestidigitator should have been invited!

At this time, and contrary to what I had observed in G. P. in the preceding years, my subject failed to be sensitive to the different influences of my right and left hands. The right hand, as well as the left, produced the same effects of anesthesia and contraction. For instance, attraction of the foot, the hand, the arm, or the leg of the subject could be obtained only when the hand of the operator, which was held some distance in front of the organ, executed the movement desired. When holding the raw end of either copper or iron wire while the other extremity, twisted round a glass rod, was being presented to the subject by C., the same effects were obtained through this means of *conduction* as were obtained by the bare hands. I have even obtained partial, localized anesthesia, spreading over an area of some millimeters, right under the very point of the wire.

When, as described in an earlier chapter, I presented my hand around the fingers of which was fixed a wire appliance so as to form a wire-fingered hand, the action of the psychic force became considerably intensified. The subject, who, it must be borne in mind, still was blindfolded, suddenly thrust himself back and exclaimed painfully that he felt as if being burned with five red-hot claws, which had sunk into his skin.

A copper wire wound round my arm from the wrist to the elbow, and upon which I grafted another wire, the end of this being presented opposite any location of the periphery, produced the same actions as if it had been held in my hand or twisted round my finger.

It would appear, therefore, as if really the psychic force of the operator, emanating from every portion of his body, although with greater intensity and quantity from the fingers, could be accumulated and conducted at a distance through a material intermediary, such as, for instance, a metal wire.

Numerous experiments, analogous to these, have been conducted by Dr. Barety, who has given a complete description of them in his book, *Le Magnétisme animal.*

He cites the instance of an experiment made with three steel knitting needles, placed in a triangle on top of a biconvex lense; when held by the doctor at some distance from his subject's skin, they produced three deep and distinct pricking sensations, felt in one.

Dr. Barety claims to have gone farther than this: he has even measured the speed at which psychic force can travel. Conducted along a flax string, the magnetic rays covered a yard in one second.

In the more recent work of Dr. Crocq, Jr., of Brussels, *L'Hypnotisme scientifique,* the following experiments are related:

"The subject is in the sleep state. I lift his right arm and it remains stiff, in the position assumed. Taking a magnet, I now put it near his left arm. In a few seconds, the right arm inclines downward while the left comes upward, and assumes the horizontal position of the other arm. Success attends every similar experiment —with the lower limbs, as well as with the arms. When

the magnet is placed at the back of the head, this causes the arms to go up; first the right, then the left.

"It could almost be believed that the subject is guided by my presence on one side or the other of his body, and, although blindfolded, seems to know on what side I am holding the magnet. You see, gentlemen, that the 'transfer' has been produced as the code signs M, R, K, are made, and while I spoke in the opposite direction.

"A witness, Mr. G., thinking that it may be a case of mental suggestion, asks me to turn my back on the proceedings, and to remain in the distance. It now being utterly impossible for me to know what may happen, the transfer is again successful.

"All this would seemingly indicate the presence of a real action of the magnet on a subject in the hypnotic state. If, however, I use my fists instead of the magnet, the same phenomena are being enacted.

"It might be objected that if Charcot, Luys, etc., attributed somnambulism to certain special actions of the magnetic fluid, then Luys, Charcot, etc., believe, on the other hand, that man generates a similar force.

"Therefore, when my fists are close to the subject, the fluid which is being generated acts in the same way upon him. Now, if I use my stick, instead of my fists or the magnet, the transfer again takes place; and the same will take place with any other object.

"The conclusion to come to would be that all bodies (?) are good conductors of human influence, and that

this influence is analogous to the fluid emanating from a magnet.

"*I do not think I am in the position to accept such a theory,* and *I really prefer* the conclusion that my subject is in a state of hyperesthesia, and that therefore he feels the presence of an object nearing him; that he possesses, in a word, an acute sensibility, a sort of *pseudo*-exteriorization of the sensitiveness." [2]

It is natural that the mode of conduction of the psychic force which appears to be the most interesting, from the point of view of new applications and processes in experimental research, is through the intermediary of the human body.

But does every one possess the faculty of radiating the psychic force?

At first sight, it may appear to be so. Yet if we consult past experience, the answer will be that this radiation is of such feeble nature that its effects are not manifested to any appreciable degree. For instance, in the conditions of control as prescribed by our experimental method, any number of people, from ten upward, will place, in succession, their hand opposite any part of the body of the subject that it may please them to choose.

[2] The italics and the interrogation-mark are ours. The author, who recognizes that his subject is "anesthetic," since he can be burnt, pricked, etc., without showing any reaction, pretends that this general state of anesthesia does not hinder his special state of hyperesthesia. The quotation of this passage shows a typical example of the manner in which the partisans of "suggestion" argue and experiment.

It will then be noted that, of those ten operators, a certain number of them will with more or less rapidity and intensity, produce the same effects of contraction, attraction, anesthesia, etc., that I personally produce; whereas the others will produce no appreciable effects, even after ten or twenty minutes. The same results will prevail throughout every séance, keeping the same individual characteristics. Therefore, among the assistants are to be found some people who radiate this magnetic influence and others who do not, yet without our possessing any previous indications to that effect.

I have also found, while experimenting with a widely known French philosopher, Professor A. F., that *if the non-radiating individual remains a sufficient length of time in contact with the one who radiates, he will absorb —accumulate, as it were—in his own organism, part of the influence. When once sufficiently charged with the radiating influence, he can for a certain length of time operate on others with success.*

Thus the natural deduction is that the psychic force is not only conductible, but also capable of accumulation.

We have observed the same phenomenon of *conduction* when employing the process of Dr. Moutin as described in his thesis, *Le diagnostic de la Suggestibilité.* This consists in the application of the hands of the operator, one on each shoulder-blade, both thumbs meeting on a knot of the spine. Very often it happens that when experimenting in this way with an individual sensitive

to magnetic influence, the subject is drawn backward with such force as almost to lose his equilibrium. When resisting the inclination to fall backward, he will walk backward. The attraction can be exerted without contact, at a distance from 5 to 6 yards.

What is most significant, however, is that the above results can be produced by placing another, non-sensitive individual between the operator and the sensitive subject.

Many times I have been able so to influence a friend of mine, Dr. S., very sensitive to this process, through the body of another person, thoroughly incredulous and uninfluenceable; this non-sensitive lightly touched his shoulders with her fingers, while my hands transmitted the force to her when placed upon her shoulder-blades.

We have now seen that the *physical* and *physiological* effects of the psychic force, of the most elementary and simple order—attraction, contraction, anesthesia, etc.—can be transmitted by conduction. Others more complex and delicate, in which the *psychological* element intervenes, obey the same law.

If directed upon the brain, the psychic force determines in it, in a general way at first, an exaltation of the suggestibility. Then, if its action is sufficiently intense and prolonged, it produces the various states which Charcot was the first to designate as catalepsy, lethargy, and somnambulism.

When I placed my hand for half a minute opposite

the forehead of my subject G. P., he fell into a state of extraordinary suggestibility (called also state of credulity), though manifesting outwardly all the signs of being awake. While in this state, if one of the assistants gave him suggestions to produce hallucination, paralysis, anesthesia, etc., the subject, although hearing these, would ignore them entirely, refusing to obey. But if the assistant held my hand, the subject (blindfolded) obeyed instantly, as if the suggestions had been given by myself.

Thus the power to make suggestion effective can be transmitted from one individual to another.

As to the conductibility of catalepsy and lethargy, I have not as yet had the opportunity to conduct tests in that direction. But many opportunities have been given me to test curious phenomena of somnambulism.

To induce G. P. into the somnambulistic state, it was sufficient for me to make a few passes from the vertex to the epigastrium. Then, being solely in rapport with myself, no other individual had the power to make suggestion effective. G. P. simply ignored them when spoken to. I, only, seemed to be in communication with him, and this without the previous use of suggestion on my part. Yet, another person could be put in rapport with him by taking his hand, or—and this takes us back to the phenomenon of conductibility—by taking my hand.

Another example which demonstrates this point: I was some distance away, my arm resting on a table,

close to which stood the interlocutor. Each time that the latter pressed my hand with one of his fingers, the subject (blindfolded) heard him and gave adequate replies. As soon as the contact ceased, the subject ceased to hear him; in the middle of a phrase, even, the subject clearly showed by his attitude that he had ceased to hear the voice.

In order to give greater rigidity to the experiment, while combining physical and physiological (living) conductibility, two nails were driven into the ends of the table. They were then connected by an isolated wire, with the bare ends protruding a few inches. Sitting at one extremity, I held one end of the wire, while each of the assistants sat opposite me and touched, with one finger, the other end of the wire, at liberty to suspend contact whenever desired. It was in those conditions that we were able to watch the instantaneous production or prevention of the state of "rapport," each time that one or the other assistant contacted the wire.

In other cases we produced certain variations of effect which I could not always explain. For example, to establish the position of rapport between the subject and an assistant, it was often necessary for me, as operator, to contact the subject first, and then the assistant; or to contact both at once. This is no doubt the case which E. Gasc-Desfossés, who had assisted at one of these séances, relates in his work.[4]

[4] *Le magnétisme animal*, Ed. Gasc-Desfossés.

Many others have written extensively on the subject of rapport in the somnambulistic state.

Omitting mention of the ancient exponents of mesmerism, we find a contribution in the *Revue de l'hypnotisme,* Paris, 1888, from the pen of Dr. Barety, *La force neurique,* in which is cited a series of experiments bearing the same significance as our own.

Dr. Barety and his colleague, Dr. Planet, experiment with a subject, L., 32 years old, hemianesthesic, who, when in the hypnotic state, sees and feels but three people. He can, however, be placed in rapport with other individuals, with animals, and other objects by means of contact with the finger, or at a distance by means of an intermediary, or by the gaze, or by directing the extremities of the fingers in the direction of the person with whom it is desired to place him in rapport. *This is all the more effective when the extremities of the fingers are being directed toward the image of the individual, reflected in a mirror.*

Dr. Barety says: "Any person whom I place in rapport with my subject, L., can influence him, as I do, directly, but only so long as I maintain the state of rapport. In this condition the subject can be put to sleep, awakened, and suggestioned at will; but if the assistant attempts to act without my influence, as intermediary, no results can be obtained."

Dr. Marot, of Paris, in reply to a questionnaire sent him by Dr. Crocq, of Brussels, stated that as a result of certain experiments outlined by Barety, which he

conducted, *he found that the hypnotized subject could see an object or an individual (though blindfolded) as soon as the operator touched these things with his fingers.* It must be understood that every precaution had been taken to prevent the subject from being influenced in any way by suggestions. He could not see, and his replies were given independently of any question on the part of the operator.[5]

The following year, 1889, the *Revue de l'hypnotisme* published, without commentary, an article by Dr. Mesnet, *Troubles fonctionnels des sens dans l'hypnotisme* ("Functional Troubles of the Senses During Hypnosis"). His remarks may be summed up as follows: "The subject hears or does not hear an assistant so long as the latter is or is not in contact with the operator."

The phenomena of the exteriorization of the sensitiveness,[6] although still very little known or understood, despite the remarkable experiment conducted by Colonel A. de Rochas, testify to the conductibility of the psychic force.

The subject with whom I experimented was my young Pyrenean domestic servant, J. M., and the notes which follow are textually as I find them in my experimental note-book.

"I try with J. M. the 'transfer of the sensitiveness' from operator to subject by the intermediary of a glass of water. Success attends from the start. He feels in-

[5] *L'hypnotisme scientifique*, Dr. Crocq, Jr.

[6] Also understood as the dissociation of the sensibility.

stantaneously every pain inflicted upon me by pinching, while he is holding in his hands the glass of water which I held before."

The most amazing side of the phenomenon which I observed then was the *continuation of the transfer to other individuals.*

"Madame B.'s sensations of pain when pinched are instantaneously communicated to the subject when she holds my hand.

"A chain of four people is being formed, of which I am the first link. The painful sensations of pinching inflicted upon any of the links in the chain are immediately felt by the subject. This fact was all the more interesting because we all stood behind the door of the room in which the subject was in the comatic sleep. We could see that his contortions were due to the pain inflicted each time any of us was being pricked.

"Another evening, in the presence of the director of the public school of A., Mr. M. C., and of his family, I induced J. M., the subject, into the usual state of coma while a glass of water was being placed in his hands. Having held the glass just a few seconds, I demonstrated to my visitors that the subject J. M. felt every contact which I inflicted upon the glass. (I must emphasize, here, that I never give my assistants any idea of what I am about to demonstrate.) As Madame B. had now *touched the base of the glass* held by the subject, I discovered that she was in communication



EXTERIORIZATION OF THE SENSITIVENESS

After holding a glass of water sufficiently long to impregnate it with his own sensitiveness, the operator places it in the hands of the subject, who, blindfolded and in a comatic state, is unconscious of everything about her. She now shows by violent reactions that she feels every pinch or other pain inflicted upon the operator, notwithstanding the distance between them.

with J. M. through this intermediary. Any pain inflicted upon Madame B. was felt by the subject.

"We then formed another chain, of which Madame B. was the first link. The reactions were now so violent that we found it necessary to break up the experiment."

Confirmation of these facts I was very happy to find in the experiments which Dr. Paul Joire conducted in Lille, the reports of which he published in the *Revue de l'Hypnotisme* (January, 1898). This is what Dr. Joire says:

"A glass of water was placed in the hands of the subject in a state of somnambulism, and then became charged with his own sensitiveness. As soon as an ordinary steel needle was plunged into the water, the subject at once resented a painful sensation, as if being pricked. My assistant, M. Leuliette, kept his eyes fixed on a chronometer-watch, while the other assistants notified him, instantly, of the moment at which I plunged my needle into the water, and of the corresponding grimace of pain expressed on the face of the subject. It was discovered, thus, that no appreciable space of time elapsed between these two actions, the prick and the reaction.

"Now, I beckoned to an assistant to take the glass in his own left hand, and with his right hand, to take the subject's left hand. It was then noticed that a fraction of a second elapsed between the two actions.

"When a chain of two or three persons was being interposed between the glass of water and the subject,

there was to be noticed a marked delay in the transmission of the pain-sensation from the glass to the subject. When five persons were interposed, the delay in the transmission amounted to almost two seconds."

The work of Professor Ochorowicz, of the University of Lemberg, entitled *La suggestion mentale,* and the researches conducted by the Society for Psychical Research in London have had the result of calling the attention of the general public to the phenomena of telepathy and thought-communication or thought-transference.

It was expected that this group of psychic phenomena would give up its secrets to the multitude of seekers; but, alas! it does not seem that we are to-day any more advanced in the knowledge of its mechanism. This may be due entirely to the fact that these phenomena lend themselves badly to the experimental method; except, of course, in such simple cases as those delineated by Dr. Joire.[1]

For my own part, I am still in the position of asking whether it is a mere chance which is accountable for my never having met a telepathic subject, or whether it is that the production of these phenomena necessitates in us the presence of a special faculty? I must confess, that, having attempted over a considerable period of experimentation to obtain unquestionable proofs of

[1] These may be read in their entirety in an article entitled: *De la suggestion mentale: experiences nouvelles,* in the *Revue de l'hypnotisme,* October, 1897.

"mental suggestion" or of "thought-transference," all my results have been in the negative.

Yet, I have been able to produce a similar phenomenon. That of provoking hypnotic sleep in subjects not previously warned of my doings, and of waking them up, *from a distance,* by a simple effort of the will, more or less intense and prolonged.

Such experiments, however, I do not regard as absolute proofs, nor can they be considered in the light of thought-transmission.

Thought-transmission really consists in having the brain of A when acting upon the brain of B create in the consciousness of B the appearance of an idea *or of a* series of ideas, identical in nature *to those which occupy the consciousness of A.*

What was sent from my physical brain to that of my subject G. P., during the hundreds of experiments with him, was not the *idea* of sleep nor the *idea* of waking up; it was a purely physical influence which produced sleeping and waking, independently of any idea. Only such an interpretation seems to me to account for all the peculiarities of the phenomenon.

Thus, each time that I attempted to "suggest mentally" to my subject (in the waking state): "Lift your right arm," "Put your left foot forward," etc., he became more or less rapidly influenced through my states of cerebral concentration and of nervous tension. But the reactions were always of the same order. The subject invariably ended by going to sleep. If, on the other

hand, I experimented with a subject in the sleeping state, he reacted by waking up.

There is, however, a fact of greater significance:

My subject G. P. had a friend, whom, judging from his facial expression, I supposed to be a sensitive. While these two were one day deeply attentive to the conversation going on in the reception-room, which was filled with numerous people, I concentrated all my thoughts upon G. P.'s friend, and *mentally commanded* him to sleep. Both G. P. and his friend had their faces turned away from me. The young man appeared in no way to reflect my mental suggestions; but G. P., whom I had forgotten, fell asleep, then woke up, slept again and woke again—and so on, indefinitely, as long as I kept up the action.

Seemingly, the effect produced by my will, or rather the tension of my brain which accompanied the efforts of mind-concentration, was purely a physical action, entirely independent of all communication, transference or suggestion of "thought." When the subject was in the waking state, this cerebral tension, being transmitted, as it were, to his brain, caused him to sleep; whereas, if he were in the sleeping state, it would cause him to awake.

For the present we will lay aside any attempt at defining this phenomenon; rather should we take due consideration of the fact that it obeys the same laws of conductibility as do the other phenomena of which we have spoken.

To conclude our study of this subject of conductibility and of the effects of the psychic force, it remains for us to show that the power of influencing material objects at a distance can be transmitted, by conduction, from one individual to another.

This power seems to belong, as is shown by recorded facts, not to *operators,* as in former experiments, but to a class of individuals called *mediums,* whose psycho-physiological qualities, in many respects analogous to those possessed by *subjects,* form a rarer and more exceptional expression of the psychic force.

All the examples given to illustrate this phase of psychic phenomena are borrowed from manifestations of this force produced by the medium, Eusapia Paladino.

To our mind, it seems that the attention of those scientists who experimented with her has not been brought to bear upon the phenomena of conductibility. For in their experimental sittings can be traced some decisive proofs as evidence of this faculty of psychic force.

First may be mentioned all the cases in which Eusapia has produced, from a distance, the displacement of objects, by extending her hand toward them, or by holding the hand of one of the assistants to which she imparts certain movements.

These few instances, taken from the report published in the *Annales des Sciences Psychiques,* 1896, relate to the experiences of Agnelas:

Page 25. "The hand of M. de Gramont is taken by Eusapia, who holds both her own hand and his above her head. At

once the curtain, some distance behind her head, shakes violently.

Page 31. "Eusapia takes M. Maxwell's right hand, and holds it the distance of one foot above the table. The table first rocks sidewise, and then rises from that side.

Page 46. "Eusapia, who has seized both hands of M. Sabatier, imparts to them a to-and-fro motion, as if wanting to open the door of the side-board, situated to the left, three feet distant, and behind M. de Watteville. At once the side-board door is heard to rattle and seen to move as if in the act of being forced open, the lock being closed."

Then follow the various cases where Eusapia imparts to the assistants her psychic power of causing material objects momentarily to depart from the law of gravitation.

Colonel de Rochas wrote in the *Annales des Sciences Psychiques* (1898): "In Montfort-l'Amaury, as elsewhere, the sitters abruptly terminate the séances when the medium is utterly exhausted, after two or three hours' sitting. Notwithstanding this fact, Eusapia remains always strongly charged with psychic force. It is in the full light that she produces various phenomena, which she repeats several times at the request of the assistants. For instance, she will ask you to place your hand on a table or on the back of a chair. She puts her hand on top of it, and then lifts her own hand. Your hand and the piece of furniture underneath it follow Eusapia's hand, and rise in the air, where they remain suspended during 40 to 50 seconds. Then the

furniture falls to the ground, and Eusapia sighs deeply, as if relieved from a violent effort."

To my mind, from the point of view of the conductibility of the psychic force, the experiment would have been greatly more conclusive if the hand of the medium had been placed on the shoulder, instead of on the hand, of the operator.

Maxwell, in his *Psychic Phenomena,* cites the following lines which show that certain phenomena of supposed spiritoidal order also obey the law of conductibility. The citation deals with the question of "raps": that is, of knocks and rattling noises heard on walls, furniture, boards, etc.

"A table is placed to within 3 or 4 feet of the medium. The experiment takes place in the broad light. The experimenter takes the hands of the medium in one of his own, and places his other hand some distance above the table. A few seconds suffice to produce the most convincing raps. At other times it is sufficient merely to touch the medium with one hand and to wave the other above the table to obtain the loudest of raps."

This same author states also:

"It is not always the medium who obtains the best results, without direct contact, in the production of such phenomena as levitations, attractions of objects, and raps; I have seen certain assistants obtain some very marked results. But this fact is not generally the case, although it is not rare. It is disconcerting enough, because those who manifest this force cannot obtain, alone,

any result. The presence of a medium is necessary to obtain the supra-manifestation of their psychic force."

What are the deductions to be drawn from the fact that all the psychic phenomena, the simplest as well as the most complex, obey the same law of conductibility?

The consequences are of two kinds.

First of all, the conductibility of the psychic force will enable us to explain the difference, as yet unfathomable, which exists between those individuals called *subjects* and the rest of humanity. The term "subject," it must be understood, comprises all those who are sensitive to the action of the psychic force.

It can be argued that all men may be more or less influenced by this force, as it is also said that we are all subject, in various degrees, to being hypnotized or suggestioned. Nevertheless, it is perfectly true that among us some reveal themselves *active* or *operators,* whereas other are *passive* or *subjects,* and that the vast majority are *neutral, inefficacious,* or *insensible.*

To what must we attribute these differences? How is it that one individual is more rapidly and deeply affected by psychic influence than another, who, having been subjected to such influence, feels nothing whatever?

The hypothesis regarding the first would be that he is *permeable,* or open to its action; whereas the second is *impermeable,* or closed to its action. And one may understand these two opposed states, when trying to imagine that the vital radio-action of the first allows

itself to be repelled and penetrated by the stronger radio-action of the operator, to which the second, on the contrary, opposes the resistance which equilibrates it or annuls it.

This is the hypothesis which, unconsciously, we have admitted for a long time. But the phenomena of conductibility suggest to us a totally different interpretation.

Those who are permeable—that is, who are good conductors of the psychic force and are being permeated by it without resistance and without diminution—are actually the active and the neutrals: in a word, those insensible to its effects.

On the contrary: *those who receive this psychic action, who oppose and repel it, those who are impermeable, accumulate and conserve it in their own organism, in which it finds all the time to produce its effects are "subjects," therefore passive.*

A comparison with electricity imposes itself. It may be said that the "subjects" correspond to the class of bodies which are bad conductors of electricity, or isolators. The others, the non-subjects, would correspond to the class of good conductors. As long as electricity passes through the good conductors which it meets on its way, invisibly, silently, in a manner not to be suspected, everything happens as if it did not exist. It is only when electricity meets certain bad conductors that it is arrested and accumulated; and then is the time when it manifests its existence through the production of phe-

nomena. Turn an electric current upon a metallic wire, and the luminous, caloric and other effects which you will observe will be in direct relation to the resistance met in the wire. The greater the resistance, the greater will be the effects.

The same applies to an operator whose magnetic or psychic force (by hand imposition or by making "passes" upon a normal individual), not meeting any resistance in the subject's organism, is immediately dispersed and reintegrated into what may be called the universal reservoir of nature's forces. If, however, this same action be exerted upon a subject whose organism is impermeable, it accumulates within him to the extent of producing certain perturbations, more or less profound and lasting according to the intensity with which it has been developed.

Of course, this must be regarded as an hypothesis only. But it must be stated that it is logically deduced from the conductibility of the psychic force; and therefore appears to us worthy of being introduced into the psychological laboratory, where it may be verified experimentally.

The second important consequence of this law of conductibility is that *it explains the reason why the magnetic and the psychic phenomena are relatively rare and exceptional, whereas the existing force which produces them appears, on the contrary, very widely distributed and continually active.*

Inasmuch as this force is naturally conductible—tend-

ing, normally, to pass through all organisms, and, without doubt, through all inorganic substances, without producing in them any noticeable effect unless meeting impermeable bodies—the general rule will be that its effects will appear rarely and exceptionally, although its action is regular and constant.

Here, again, comparison with the electric force is imposed. So long as the genius of man did not succeed in artificially producing and accumulating electricity, electrical phenomena had to be considered as mere accidents and natural curiosities. To-day we know that every physical, chemical, or biological phenomenon in existence is in some way associated with the generation of electrical force.

From all sides, then, we are confronted with phenomena of a cryptoidal nature.

In the face of these facts, it will be seen how easily the objections of academical scientists fall down, when, to justify their attitude, they say: "These phenomena are too capricious and unreliable, too scarce to be studied; if an ordinary experimenter cannot reproduce and observe them at will, and always in the same conditions, they are of no avail to science. They are not *scientific* phenomena; and he who pretends to study them places himself outside the realm of science. He is unworthy the name of scientist."

This, of course, is a most strange sophism. We would cheerfully apply to it the qualification of *sophistic lazi-*

ness, if metaphysicians had not already used the term to qualify another type of error.

Cannot those who have this mental attitude see that the duty incumbent upon science is actually to *make these phenomena scientific?* That is, to discover their general and invariable conditions, their determinism? Can they not see that science fails to fulfill her mission when refusing to study these phenomena because their laws do not reveal themselves to them at first sight?

The whole question lies in the fact of knowing whether or not *a phenomenon is real.*

If it is, it matters little whether it be frequent or scarce, capricious or stable, normal or exceptional, durable or not. If the phenomenon exists, it belongs to the order of Nature. It *is,* therefore it *exists.*

It is the duty of scientists to discover, if they can, the mechanism in virtue of which it is being produced. They may rest assured of the fact that when they shall have discovered its mechanism, the phenomenon will then be a scientific one.

If the phenomenon allows of human intervention, they will be able to reproduce it at will as often and as infallibly as they may wish to do so.

Perhaps they may grumble at Nature because she does not do the work for them by placing before them ready-made and ready-solved phenomena so as to facilitate their observations and experiments. Reading the history of electricity, as outlined by Priestley, should be sufficient to convince them that their first task should

be to render the cryptoidal phenomena easy of observation and of experimentation.

In order to do this, they should endeavor by patient study to gain a fuller knowledge of these phenomena; or at least they should not excommunicate from Science those who seek to do so.

GLOSSARY

GLOSSARY

AMNESIA. Loss of memory.

ANALGESIA. Also called Analgia. Insensibility to pain in any part of the body.

ANESTHESIA. A condition of insensibility to pain, combined with the loss of the sense of touch.

APPERCEPTION. That art of consciousness in which the mind is conscious of perceiving.

ASTRAL PROJECTION. The action of projecting, by the action of the will, consciously or unconsciously, the human "double."

AUTOMATISM. The doctrine which assigns all animal functions to the active operation of physical laws. Automatic action.

AUTOMATIC WRITING. Writing without the presence of consciousness.

CATALEPTOIDAL. Of a nature similar to catalepsy. Apparent suspense of voluntary or conscious sensation.

CRYPTOIDAL. Of a secret or hidden nature. Phenomena as yet not explainable through the known laws of nature.

CRYPTOPSYCHIC. Pertaining to cryptopsychism in nature.

CRYPTOPSYCHISM. That part of psychism still remaining undefined. The hidden, secret, unfathomed aspect of psychic science.

DETERMINISM. A system of philosophy which tends to define and study the genus, species, quality, character of things.

DISSOCIATION. The act of separating certain psychological or psychical elements from the body through psychological methods and devices.

DYNAMIC. Also kinetic. Pertaining to forces not in equilibrium. That branch of mechanics which treats of the effects of force in producing or influencing motion.

EFFLUENCE. That which flows or issues forth; for instance, the emanations from the human body and particularly from the hands.

EFFLUVIA. Plural of *effluvium*. An invisible emanation. Effluence.

EFFLUX. The passing out. The action of passing or flowing out and away.

EMPIRICISM. Observation of facts or phenomena apart from scientific knowledge.

EXTERIORIZATION. The act of projecting outside. Externalization. In this book referring to the projection out of the body of the motor and sensitive forces.

FIBRILLARY. That which consists of minute subdivisions or fibers.

FLUX. A flow out.

HYLOSCOPIC. Pertaining to hyloscopy in nature. Hyloscopical phenomena; for instance, the flight of cattle before a storm, earthquake, etc.; the action of subterranean currents upon the divining-rod.

HYLOSCOPY. The science which treats of the study of the phenomena in which matter appears to exert upon organic beings—particularly human beings—an action inexplicable through its physical or chemical known properties.

HYPERAMNESIA. Beyond the state of amnesia.

HYPERESTHETIC. A state and condition of being in hyperesthesia, when the imagination, the senses, the feelings, are considerably intensified. Extreme acuteness of perception.

HYPNOTISM. A method of inducing a trance-like sleep.

HYPOTHESIS. Something assumed for the purpose of argument. A theory to explain some fact which may or may not prove to be true.

HYSTERIA. A state of violent emotionalism. A nervous affection. In women often characterized by chok-

ing sensations, paroxysms of laughter or weeping, and frequently simulating other diseases.

HYSTERO-HYPNOTIC. An hysterical condition produced or emanating from hypnotic manipultaion or hypnotic in nature.

IDEOPLASTIC. The faculty of thought to give form. So-called thought-photographs are ideoplastic in process.

IDEOPLASTY. The power of thought in the process of giving form.

INFLUENCE. Electrical or magnetic induction. The energy or potency emanating from man and tending to produce effects insensibly and invisibly in another.

INTRACORTICAL. Within the cortex, in cortices, or in nature cortical.

INTRAPOLYGONAL. Belonging to the sphere within the polygon.

KINESIA (Adj. kinetic). Pertaining to or imparting motion.

KINETICS. That branch of dynamics which treats of the action of forces in causing or influencing motion.

LETHARGY. The hypnotic state during which the body is drowsy, limp, in appearance lifeless.

LEVITATION. A series of existing phenomena in which material objects appear to be raised in the air without contact.

MAGIC. The so-called art of working by or through the agency of unseen forces, supernatural beings, sorcery, witchcraft, enchantment, etc.

MAGNETISM. Human and physical, psysiological or animal, also organic magnetism. The property which is possessed by objects as well as by human beings. Attraction or repulsion according to certain physical laws. Supposed effluvia emanating from the body.

METETHERIC. Of a nature similar to etheric.

MILIEUX. The surroundings in which things find themselves. French for ambient.

MONAD. An ultimate atom. A simple primary con-

stituent of matter. An elementary organism or cell.

MONISTIC. Pertaining in nature to monads.

MOTOR. That which produces motion or power. In the human organism, the motor nerve force is that which presides over muscular motion.

MOTRICITY. A word freely used by French scientists in relation to the force or ensemble of forces presiding over motion in the human organism.

MYSTICISM. The doctrine of the Mystics who professed a pure, sublime, and disinterested devotion, and who aspired to a more direct communion with God, through the inward perception of the mind, than is afforded by revelation.

NEURON. A nerve-cell with its attached fiber.

NEUROPATHIC. Pertaining to or suffering from nervous disease.

NEUROSIS. A nervous disease.

NOUMENA. Plural of *noumenon*, meaning essence. In this book, used to denominate the substance, the real existing under the phenomenal.

OCCULT. Invisible, secret, hidden.

OMEN. A sign of some future happening. To portend or prognosticate.

OMINOUS. Foreboding evil. Inauspicious.

ORACLE. A prophetic declaration. Among the ancients, the response of a deity or inspired priest to some inquiry.

PANTHEISM. The doctrine that the universe in its totality is God.

PANTHEISTIC. Pertaining to or imbued with pantheism.

PARANORMAL. Phenomena or conditions presenting aspects diverging from the normal.

PARAPSYCHICAL. Pertaining to parapsychism.

PARAPSYCHISM. That branch of psychism which has lately been born, apart from the empiristic psychism of old days.

PERCEPTION. The faculty of receiving knowledge through the senses.