

LESSONS
IN
HYPNOTISM
AND
THE USE OF SUGGESTION

BASED UPON
THE NEURON MOTILITY HYPOTHESIS.

BY
LESLIE J. MEACHAM.

CINCINNATI, O.
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*Yours truly
L. J. Meacham*

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PREFACE.

It may appear presumptuous for a layman to offer a book intended primarily for the use of physicians, but a perusal of the literature upon the subject of Hypnotism and Suggestion, a large experience in teaching the art of producing hypnosis, and its application in Therapeutics, the earnest inquiries of physicians for practical literature upon the subject, have convinced me that there is a field for a work that tells the "How to do" of Suggestion.

The theory offered is in the main an elaboration of that first presented by Dr. F. X. Dercum, of Philadelphia. It has been carefully considered in its application to all phenomena arising from suggestion. It has been accepted by leading physicians and psychologists. It satisfactorily accounts for all phenomena, and no other hypothesis does account for them. It affords a basis for the hitherto scattered principles and reconciles the apparent differences of the various schools.

I have endeavored to make this little work as practical as possible, to have it contain the essentials of hypnotism, and only such speculations as are necessary. I have given no lengthy description of cases and scenes. No two subjects, no two patients, were ever exactly alike, and I have sought to teach principles only. Every effort has been made to prepare something short enough for the

busiest, and clear enough for the simplest. I have simply hinted at the anatomy and physiology of the neuron. Works of scientists should be consulted upon that subject.

Every experiment described, every treatment prescribed, every principle elucidated is the fruit of years of observation, conversation and contemplation. I have gone into detail in the matter of framing oral suggestions that may seem trivial to many, but have been no more precise than experience in teaching has shown me to be necessary. This book has not been prepared for specialists in the use of suggestion, but for the physician in general practice, who has to cover every class of cases from hives to hysteria, from lupus to laparotomy.

I have placed the work in the form of lectures that it may be as near as possible to personal instruction, that it may be more direct and forcible. It is really my course of personal instruction.

I am under many obligations to Dr. F. W. Langdon, of Cincinnati, for advice, criticism and material found in his papers, "Epilepsy and other Convulsive Disorders," *Journal Nervous and Mental Diseases*, September, 1896, and "Locomotor Ataxia," *Cincinnati Lancet-Clinic*, September 13, 1897, to Dr. F. X. Dercum, of Philadelphia, for papers on the movement of the neuron, published in *American Journal of Medical Science*, August, 1896, and *American Medico-Surgical Bulletin*, April 25, 1897. Upon these and the excellent article, "The Neuron," by Dr. Aloysius J. Kelly, in the *University Medical Magazine* for January, 1897, I have drawn very fully. I am also indebted to Dr. E. W. Mitchell, of Cincinnati, for criticisms, and to Dr. E. P. Adams, of Avondale, Cincinnati, who has given me valuable aid by his painstaking work in securing pictures of correct positions in making tests.

For my practical knowledge of hypnotism I am chiefly indebted to Dr. Herbert L. Flint, of Chicago. I have also gained ideas from the following books: among others, *Isis Revalata* (Animal Magnetism), Colquhoun; *Animal Magnetism*, Binet and Feré; *Hypnotism*, Moll; *Hypnotism*, Cocke; *Hypnotism*, Bjornstrom; *The Law of Psychic Phenomena*, Hudson; *Psycho-Therapeutics*, Tuckey; *Suggestive Therapeutics*, in *Psychopathia Sexualis*, Schrenck-Notzing; *Telepathy and the Subliminal Self*, Mason; *Hypnotism or Psycho-Therapeutics*, Felker; *Hypnotism, Mesmerism, and the new Witchcraft*, Hart; *Hypnotism*, Kraft-Ebing; *Sexual Neurasthenia*, Beard; *Experimental Hypnotism*, Luys; *Mental Suggestion*, Ochorowicz; *Hypnotism*, Sextus; *Hypnotism, etc.*, Wetterstrand; *The Anatomy and Physiology of the Nervous System and its Consistent Neurons*, Barker; *New York Medical Journal*, May 15, 22, June 19, 26, September 18, *et seq.*; *Diseases of the Cerebro Spinal and Sympathetic Nerves*, by James Hendrie Lloyd, in Vol. XI., *Twentieth Century Practice of Medicine*.

The cases that I refer to as having treated were almost invariably handled under the direction of a competent physician, and have been incidental to public performances or courses of instruction.

I lay no claim to any original ideas. If at any time such a thought has entered my mind I usually found upon further reading that others had offered it before me. I have collected from hypnotists the best methods of producing hypnosis, and from the many physicians that I have met, some approved methods of presenting suggestions in treatment.

Cincinnati, O., Jan. 24, 1898.

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LESSONS IN HYPNOTISM.

LESSON I—THEORY.

The word hypnotism is commonly applied to two things: an art and a state. In this work I shall limit it to the art.

Hypnotism treats of the principles of Hypnosis and the art of producing it.

Hypnosis is a state of artificially induced nerve relaxation, usually characterized by increased impressibility. While this definition is not perfect, it seems to describe the state better than any I have seen. It eliminates the idea of sleep that has been so confusing to many. It preserves that of increased suggestibility.

Formal hypnosis is the state produced with the knowledge of the subject. It is often spoken of as "Hypnotism."

Informal hypnosis is the state produced without the knowledge of the subject. The use of this state is commonly called "Suggestion." These states can not be distinguished so far as principles are concerned.

It seems to be a mere matter of degree and of the subject's recognizing the state and the means employed to produce it.

Informal hypnosis is manifested in the extreme confidence of patients in the physicians of their choice, pupils in favorite teachers, children in beloved parents and other relations. It is recognized by law under the name of undue

influence, sometimes in police circles in relation to what is called a confidence game. It should be utilized by all who seek to influence others.

To *hypnotize* means to produce hypnosis.

An *operator* is a *hypnotizer*, one who produces hypnosis.

A *subject* is one who is hypnotized. These three expressions are usually limited to formal hypnosis.

Suggestibility is a term used to designate susceptibility to suggestion.

The word "*suggestion*" in relation to hypnosis has a peculiar use which I shall attempt to limit as: Any means employed to produce hypnosis or to affect the subject while in that state. It may be a touch, gesture, look, word, electrical current, or even a thought.

As regards nature, a suggestion is either *physical, oral* or *mental*.

A *physical suggestion* is one not directly or necessarily involving mental activity upon the part of the operator.

It includes all means except speech and thought, from the passes of the mesmerist, and the bright object of Braid to the placebo of the physician.

An *oral suggestion* is one expressed in speech. It is sometimes called a mental one.

A *mental suggestion* is one expressed in thought only, though the thought may not be exactly recognized. The subject may simply appreciate the fact that some influence is being brought to bear upon him.

The idea of mental suggestion, telepathy, thought transference, may appear far-fetched to many, but not to the earnest investigator. The careful work of the British Society for Psychical Research, and the almost daily occurrences to many individuals, present such strong arguments that it seems to me to demand far more credulity to call all

that class of phenomena coincidences, than to admit them to be manifestations of physical force.

An *auto suggestion* is one either originating or mainly developed within the subject's consciousness. The hallucinations of hysteria are common examples of these. Impotency and the other ailments arising from "quack ads" are also illustrations.

A *pre-hypnotic suggestion* is one given while the subject is in a normal state but acted upon while entering or during hypnosis.

A *pre-hypnotic suggestion* is sometimes the basis for an *auto suggestion*, or rather the pre-hypnotic suggestion requires the aid of auto suggestion to make it effectual. A casual remark that gazing for two minutes at a silver ball will invariably produce sleep may be followed by that result in a sensitive person, though ordinarily far greater time would be required. It also accounts for the similarity of results in different subjects, obtained by many operators who have assumed that all hypnotized subjects have the same symptoms.

A *post-hypnotic suggestion* is one given during hypnosis, but acted upon after a period of apparent wakefulness. This is the form of suggestion most used in therapeutics, though many seek immediate results. I will consider the question again at greater length.

A *neurotic* is one possessed of a highly evolved and delicately balanced nervous system. I use the word in this sense rather than as a synonym for neuropathic as is sometimes done.

Leaving out of consideration oriental work in curing by manipulations inducing sleep, passages from Solon, Plautus, Martial, Tacitus, Suetonius and other Greek and Roman writers bear witness to similar methods and results. The

latter two authors mention magnetic cures performed by the Emperor Vespasian at Alexandria.

Commencing with the Italian professor of philosophy, Pomponatius, about 1500, a numerous school of physicians and philosophers related cures by so-called magnetism and theorized extensively upon the subject.

Most interesting among these is Von Helmont, the discoverer of gases, who in 1621 published a work "On the Magnetic Cure of Wounds" in answer to some writers who condemned that method of treatment as proceeding from the devil. He said: "Magnetism is an universal agent and it is a paradox only to those who are disposed to ridicule everything and who ascribe to the influence of Satan all those phenomena which they can not explain." He explains further that magnetism is conveyed by means of an universal fluid, pervading all nature, an ethereal, pure, vital spirit, which permeates all bodies.

A few years later Valentine Greatrakes, an Irish gentleman, made many seemingly miraculous cures by laying on of hands, though nothing is said of his inducing sleep.

There were many others in various parts of Europe who performed cures in a similar way during the next century.

Gassner, a German priest, who was a contemporary of Mesmer, conceived the idea that most disease arose from demoniacal possession, and cured his patients by holding up a cross and loudly demanding that the devil depart. Many patients passed into a hysterical state, accompanied by trance or convulsions, and some were well when restored to a normal condition.

I recognize three distinct schools of psychical treatment.

Mesmerism was primarily a theory of fluid force, originally being considered magnetic, but many of Mesmer's disciples discarded the idea of magnetism after the adverse report of the Committee of the French Academy in 1784.

The fluid was transmitted to the patient by passes or through an act of volition. They really relied mostly upon mental suggestions, also using physical, but seldom oral ones.

The second school is that of Braidism, or peripheral stimulus, sometimes called that of Neurosis, since its followers depended upon "physical" suggestions almost entirely, and attributed the results to grave changes in the nervous system.

The third school is the so-called "Suggestive" one, first made prominent by the work of Liebault and Bernheim at Nancy. Most of its followers depend upon oral suggestions principally.

To Ferdinand Antoine Mesmer, a Swiss, must be given the honor of first attempting to evolve a set of principles governing cures by what he called "animal magnetism." Accounts of his methods may be found in the older works upon "animal magnetism," also in the elder Dumas' novel "The Queen's Necklace."

He first gained general attention after his arrival in Paris in 1778, and while he did much to attract the world to the facts of cures through mental action, his mystical methods, savoring much of charlatanry, awakened prejudices that have not yet disappeared, since some of his followers have perpetuated his mistakes.

He taught that there existed between the earth, human beings and heavenly bodies, a reciprocal influence, the medium being a very subtle fluid pervading the whole universe, penetrating and controlling all bodies and all beings.

This fluid had properties similar to those of the magnet. Like Fortunatus' purse, it lost nothing by its flowing. It could be reflected by mirrors, and was increased and commu-

nicated by sound. The force could be accumulated, concentrated and transported. Its effects were similar to mineral magnetism. It cured nervous diseases directly and others mediately.

The apartment devoted to the treatment contained a covered vessel called a "*baquet*," filled with bottles of magnetized water, and vessels containing iron filings. Sometimes water covered the whole. Cords were connected with the cover; rods of various substances projected from the sides of the vessel, like the bars of a ship's capstan. The light was dim, faint perfumes were wafted through the air. Occasionally the soft strains of a harmonica broke the silence. Some patients grasped the rods. The cords were wrapt about the afflicted members of others. An attendant touched them with a bundle of iron rods. There was a pre-hypnotic suggestion that hysterical convulsions, called *crises*, must precede a cure. Some one was seized in that way. The influence spread until possibly all were affected and some were cured.

In 1784 two committees, one of scientists and one of physicians, examined into the work.

They were looking for the magnetic fluid, reported its non-existence, and that the cures were the result of the patient's imagination and unworthy of further investigation. The eminent physician D'Eslon was suspended from the Society of Medicine for one year, for advocating the use of animal magnetism and writing a book upon the subject.

The arrogance of Mesmer, who asserted that "There is one health, one disease, one remedy," intensified the prejudices. The adverse report of the committees injured Mesmer's prestige with the scientists, but he retained his popularity with the people. Some of his many pupils discarded the idle ceremonies.

Marquis de Puységur discovered the trance state in 1784. The *baquets* were gradually discarded. Passes, magnetized trees and other means were relied upon. Patients in the trance condition diagnosed their own diseases, those of others, and prescribed the necessary treatment.

Mental and physical vigor of the operator were considered the essentials to successful treatment. The passes, stroking movements from head downwards, were made with heavy contact, light contact, or at a distance of from two to six inches. Fixing the eyes and exercising will force, *i. e.*, mental suggestions, were also used. The general effects of the treatment were soothing and strengthening, with some influence upon secretions, largely the result of pre-hypnotic and auto suggestion.

Six stages were recognized, the first four being different degrees of sleep, the fifth, one of internal clairvoyance in which the subject described his own ailments, and the sixth, and last, being one of general clairvoyance, in which the subject had a clear conception of the external world, of distant objects without the aid of the eye.

By 1825 so much progress had apparently been made in producing this last stage that after some discussion the Medical Section of the Academy appointed a committee of eleven of its leading members who for five years examined into the phenomena of somnambulism and clairvoyance, and after the most rigorous exclusion of all opportunities for collusion and coincidence, they reported the actual existence of these conditions in some subjects that had appeared before them. They made a very exhaustive report, recommending the practice of animal magnetism to physicians. But the bigots were too strong in the Academy and the report was filed but never printed, while wide publicity was given to an adverse report made upon very slight investigation.

The early American investigators, Grimes, Bovee Dods and others, accepted the principles and methods of mesmerism with little change, though Grimes rejected the magnetic theory, returning to the universal fluid of Von Helmont, which he called ætherium.

They incorporated the methods of Braid; taught that only sick or weak people, about eight percent of all, could be affected, that consent was unnecessary, that they were mesmerists by virtue of their superior physical and mental vigor, that the volition and consciousness of the subject were wholly suspended, and that he was a mere automaton, governed by the will of the operator. They said that the subject, while mesmerized, had no knowledge of what he was doing, no recollection of what he had done. This was not true of many subjects. I have met men who disclaimed a belief in hypnotism because they as boys had "faked" for some traveling mesmerist. They knew that they had not been mesmerized simply because they recalled all that had transpired, and would not be convinced that it was an ignorant operator instead of a dishonest subject who was to blame for the misunderstanding.

By their ignorance of oral suggestion the mesmerists failed to cure many cases suitable for suggestive treatment, but by their persistent use of mental suggestion, under the idea of forcing out magnetic currents, they accomplished some wonderful work in telepathy and, occasionally, clairvoyance.

Dr. James Braid, of Manchester, England, in 1841, first demonstrated that it was possible to produce artificial sleep, independently of the personality of the operator, and that there was no magnetic or any other fluid concerned.

He found that the state could be produced by having the subject gaze upon any bright object, and was the originator

of what may be termed the "peripheral stimulus" school. He was a firm believer in phrenology, and after putting his patients to sleep, affected their faculties, functions and emotions by rubbing the various bumps of the head. He seems to have used oral suggestion without recognizing its value in therapeutics, and depended upon the sleep, pre-hypnotic and auto suggestion (unrecognized), rubbing of the scalp, and changes in circulation caused by partial catalepsy, for his cures.

The modifications of mesmerism put forth by Bovee Dods, who, upon invitation, had lectured before Congress, were taken to England and proved more attractive to the public than the ideas of Braid. Hypnotism, as Braid had termed it, was allowed to remain in obscurity until 1878, when Charcot revived it and made Braid's work the basis of his famous experiments. Braid's writings were republished in Paris about this time, and these are now the only obtainable editions.

Charcot is said to have become first interested in the subject through being a member of a committee of the Academy of Medicine, appointed to investigate the work of a colleague who had been laboring along the lines of "Braidism."

Charcot concluded that all phenomena were the results of peripheral stimulus, that hypnosis was a form of hysteria, and that only hysterical people could be hypnotized. It is fair to presume that if he had taken up the question as a matter of independent research and not to test the value of another's work, he would have reached a somewhat different conclusion. He was correct in calling the particular states that he secured analogous to hysteria, and in saying that they could have been best gained in hysterical people, but erred in assuming that he had covered the whole field of

hypnotism, and that peripheral stimulus (physical suggestion) was the only factor concerned in producing hypnosis. His methods, such as gazing at a bright object, at revolving mirrors, flashing of a Drummond light, hearing pistols fired, and gongs beaten, etc., are familiar to all, and were adopted by many of his colleagues and pupils.

He erred also in assuming that catalepsy was an essential stage of hypnosis; also that because a subject was asleep and on awakening did not remember what had been said, that he could not hear and did not understand the remarks made by the operator to those present. The effects of auto suggestion, mental suggestion, and imitation were not sufficiently recognized. These must serve to account in some degree for the uniformity of results in different subjects, for the ever-constant catalepsy, for the effects of drugs in vials when applied to the subject, such as the rigid contraction of muscles from the contact of a vial of strychnine, a movement of the bowels from a vial of croton oil touching the abdomen, and others even more peculiar.

Charcot recognized three stages of hypnosis. The first marked by sleep and general relaxation was the lethargic.

The second was produced from the first by opening the subject's eyes, when he became cataleptic, upon the right side if the right eye was opened, upon the left side or both sides, or relaxed as the corresponding eyes were opened or closed.

The third, or somnambulistic stage, was produced after the method of Braid by stimulating the scalp, emotions and hallucinations appearing and disappearing according to the areas touched.

The Charcot school described these phenomena as characteristic of "Le Grand Hypnotisme," and called the work of the suggestive school "Le Petit Hypnotisme." The

"little hypnotism," however, won the contest for public favor. Voisin, Charcot's successor at the Saltpetriere, uses "suggestion," *i. e.*, "oral suggestion," with satisfactory results in treating some forms of insanity. The fact that Charcot experimented almost wholly upon the deranged is additional excuse for the narrowness of his views and the meagreness of practical results.

The first European advocate of "oral suggestion," "simple suggestion," or "suggestion," as it has been variously termed, was the Portuguese, Abbe de Faria, who, after extensive travels in the Orient, came to Paris about 1815, lectured upon mystical questions, produced hypnosis by oral suggestion and performed cures at his seances. A man who had imposed upon the careless operator by feigning somnambulism, made known his imposition, and de Faria soon lost favor. Those who knew him best, and among these was Gen. Noizet, scholar as well as soldier, pronounced him earnest and honest, despite some traces of charlatanry.

The next of note is Liebault, the real founder of the school of suggestive therapy, and treatment by oral suggestion. He began his experiments about 1860, publishing his book entitled "Du Sommeil et états analogues, etc.," in 1866. He then depended upon "fixed attention" to produce sleep, holding that the subject was not capable of independent thought, and retained any idea, any position, until a change was "suggested" by the operator. He worked quietly for twenty years, treating the poor free of charge, relying mostly upon oral suggestion, using little or no medicine even in organic disease.

The principles and methods were first brought to general notice by Bernheim, who, upon investigating Electro Therapy, became convinced that the chief value of this method of treatment lay in its suggestive effects. He

observed the work of Liebault, and published his first treatise entitled "Suggestive Therapeutics," in 1884. The enlarged work, that appeared two years later, was translated into English, and is still the most elaborate treatise upon the subject accessible to those who read only English.

In this school oral suggestion is made the essential element, physical suggestion being lightly considered and mental suggestion entirely eliminated.

The truth is established that hysterical people are less easily hypnotized than well ones, instead of being the only ones to be affected. It is indeed true that neurotic people are most easily hypnotized, and also most subject to hysteria, but they are most easily controlled when in a state of perfect health.

Bernheim says "Hypnotism is the induction of a peculiar psychical condition which increases the susceptibility to suggestion." There may be suggestibility in the waking state, and the hypnotic sleep differs from natural sleep only in the matter of rapport according to the Nancy school. In hypnotic sleep the subject is in rapport with the operator, and responds only to his suggestions; in the lighter stages he may awaken spontaneously. In natural sleep he is in rapport with himself.

Suggestibility, it is recognized, does not always increase with the depth of the sleep, though usually the suggestions for improvement and cure are given after securing as deep a degree of hypnosis as possible.

The German and Scandinavian interest in hypnotism dates back to Hansen, the Danish hypnotizer, who gave public exhibitions through continental Europe from about 1875. The methods employed in other European countries are similar to those of the Nancy school, save possibly there is a little more reliance upon physical suggestion.

English and American physicians have followed chiefly after Liebault and Bernheim in their efforts to utilize suggestion as a therapeutic agent, though few if any have secured such marked results, especially in organic disease, as it is claimed are secured at Nancy. The long years of treatment by suggestion at Nancy, the common knowledge of many cures, the fact that parents and grand parents have been benefited by similar treatment, makes auto suggestion a strong factor to which the markedly neurotic type of the people greatly contributes.

None of the schools heretofore mentioned formally recognize mental suggestion, though all, and especially the mesmerists, unconsciously exercised it. While oral and physical suggestion accounted for many phenomena, they utterly failed to explain telepathy, clairvoyance and similar occurrences.

A subdivision of the suggestive school, which might be termed a metaphysical one, came into existence, theoretically at least, largely through the influence of the able work of Hudson, "The Law of Psychic Phenomena," which has done much to dissipate the mist enshrouding many of the conditions allied to hypnosis. He clearly shows the relation existing between hypnotism, spiritism, trance telepathy, and other psychological phenomena.

He recognizes the value of all forms of suggestion, something none of his predecessors had done. His views were partially accepted, at least, by most American observers, many of whom thought, as Dr. A. J. C. Skene has written, that the hypothesis was as correct as any.

Hudson's first proposition is "*that man has two minds,*" which he terms the "objective" and "subjective."

The second is that "*The subjective mind is constantly amenable to control by suggestion,*" and the third, a subsidiary

proposition, states that "*The subjective mind is incapable of inductive reasoning.*"

The difference between them is that

"The objective mind takes cognizance of the objective world. Its media of observation are the five physical senses. It is the outgrowth of man's physical necessities.

"It is his guide in his struggle with his material environment. Its highest function is that of reasoning.

"The subjective mind takes cognizance of its surroundings by means independent of the physical senses. It perceives by intuition. It is the seat of emotion and storehouse of memory. It performs its highest functions when the objective senses are in abeyance. In a word, it is that intelligence which makes itself manifest in a hypnotic subject when he is in a state of somnambulism."

The subjective mind, according to this hypothesis, is possessed of clairvoyant power which can be exercised if the "objective mind is in abeyance." It is a distinct entity, independent of the physical brain, and is the "soul."

There are other differences between the "objective" and "subjective" mind. "The objective mind, man in his normal condition, is not controllable against reason, positive knowledge, or the evidence of his senses by the suggestion of another."

"The subjective mind, man in the hypnotic state, is unqualifiedly and constantly amenable to the power of suggestion," except when prevented from so doing by 'auto suggestion.'

This last is the means by which the objective mind of a man controls his subjective mind. "The objective mind

“is capable of reasoning by all methods, inductive and deductive, analytic and synthetic. The subjective mind is incapable of inductive reasoning.”

“The subjective mind never classifies a series of known facts, and reasons from them up to general principles; but given a general principle it will reason deductively from that down to all legitimate inferences, with marvelous cogency and power.”

This is an excellent description of the conditions sometimes found in hypnosis, but I am constrained to the belief that it is not necessary to dispense with a body, temporarily even, to exercise the subjective mind.

I am unable, with my limited understanding, to accept as a logical conclusion of its suggestibility that “The subjective mind has the absolute control of the functions, conditions and sensations of the body.” A co-effect of suggestion seems here distorted into an alleged cause of a condition.

If hypnosis is a species of divorce between soul and body, good morals as well as good logic would suggest that they no longer live together.

The phenomena probably arise from the relaxation of some areas preventing general communication between all the parts of the brain, and thus preventing comparison and obstructing the exercise of reason and judgment.

Hudson most happily expresses the relation existing between the two minds, which we may accept as describing types and conditions of mind rather than distinct entities :

“True genius is undoubtedly the result of the synchronous action of the two minds, neither unduly predominating or usurping the powers and functions of the other. When the subjective is allowed to dominate, the resultant acts of the individual are

“denominated the eccentricities of genius. When the
“subjective usurps complete control, the individual
“goes insane.”

Partial brain relaxation accounts for this condition of affairs even better than the hypothesis of two minds.

A strong objection to Hudson's hypothesis, with many, is its purely metaphysical character. There is a further objection, that the soul would be destitute of volition, as it is controlled by the objective mind which perishes with the physical brain, and it would therefore go rolling aimlessly on through space, like the “tumble weed” of the West over the broad prairies.

Another objectionable deduction is the one made by the author in maintaining that the greatest effects are produced when the objective minds of both subject and operator are in abeyance, the latter acting through a pre-hypnotic suggestion which dominates both minds. He offers the theory that the ideal conditions for suggestive treatment exist when both physician and patient are in a natural sleep. This removes the possibility of forcible suggestion.

The operator of extensive and varied experience knows that positiveness, earnestness, are essential elements of success, and that while a condition of calm placidity may be a beautiful conception, it does not control refractory subjects. It may answer for a man who seeks only diversion in psychological experiments, but it does not promptly cure all patients needing suggestive treatment, does not produce satisfactory results for the man whose livelihood depends upon his facility in obtaining hypnosis.

I do not wish to detract from the value of Mr. Hudson's work, only to criticise some of its principles in their application to practical work in hypnotism.

A better understanding of the anatomy of the nerve system, and the consequent deductions as to its physiology, enable us to offer a reasonable hypothesis for hypnotic phenomena based upon physical rather than metaphysical laws. It is not perfect, but appeals, nevertheless, to the reason of those to whom it has been presented.

I shall briefly summarize some of the generally accepted ideas concerning "neurons," relying largely upon the excellent paper of Dr. Kelly, of the University of Pennsylvania. Further and more particular information can be gained from some of the authorities cited.

It is no longer generally accepted that the so-called nerve cell is the sole organ of nerve action, and that the attachments are merely means of conveying nerve energy.

The nerve cell with its attachments is the anatomical nerve unit, and is called the "Neuron." There are about 3,000,000 neurons in the human body, 1,200,000 being in the brain. A neuron consists essentially of three parts, the nerve body, formerly called cell (Plate 1), the "neuraxon," or simply the "axon," and the distal termination of the axon or "tuft end." Nearly all neurons also have dendrons or treelike processes of which there may be more than one. End-tufts or "arborizations" are the brushlike extremities of axons and dendrons.

There are two principal types of "Neurons."

1st. Those with long axons which may subdivide at a greater or less distance, and

2d. Those whose axons at once break up into irregular branches.

In the higher mammalia the neurons almost invariably possess but one axon. The axon always ends in a free extremity, usually tufted. Axons vary greatly in length; those from the spinal cord to the feet may be more than a yard long; some from brain to spinal cord are two feet long.

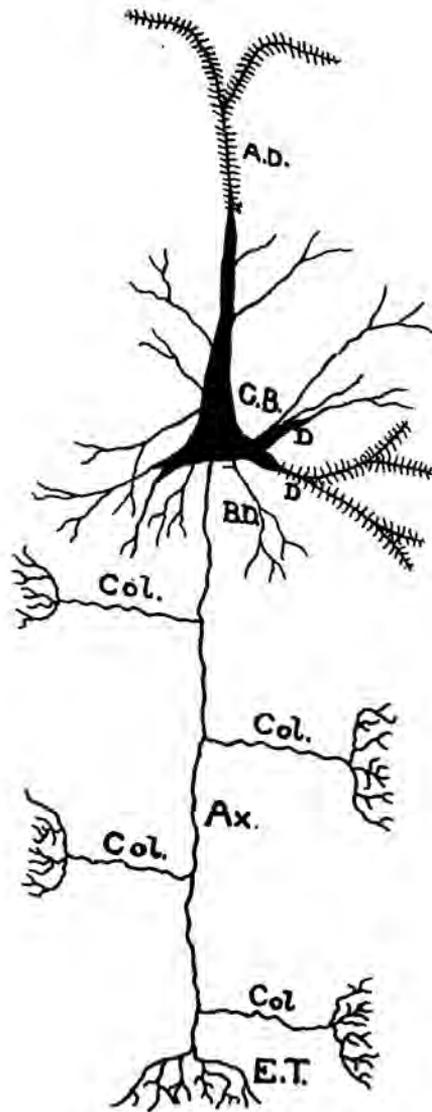


Plate 1.—Large pyramidal cell of cortex (diagrammatic). Golgi's first type. C. B., cell body; D., dendrites; A. D., apical dendrite; B. D., basical dendrites; Ax., axon; Col., collaterals; E. T., end tuft.

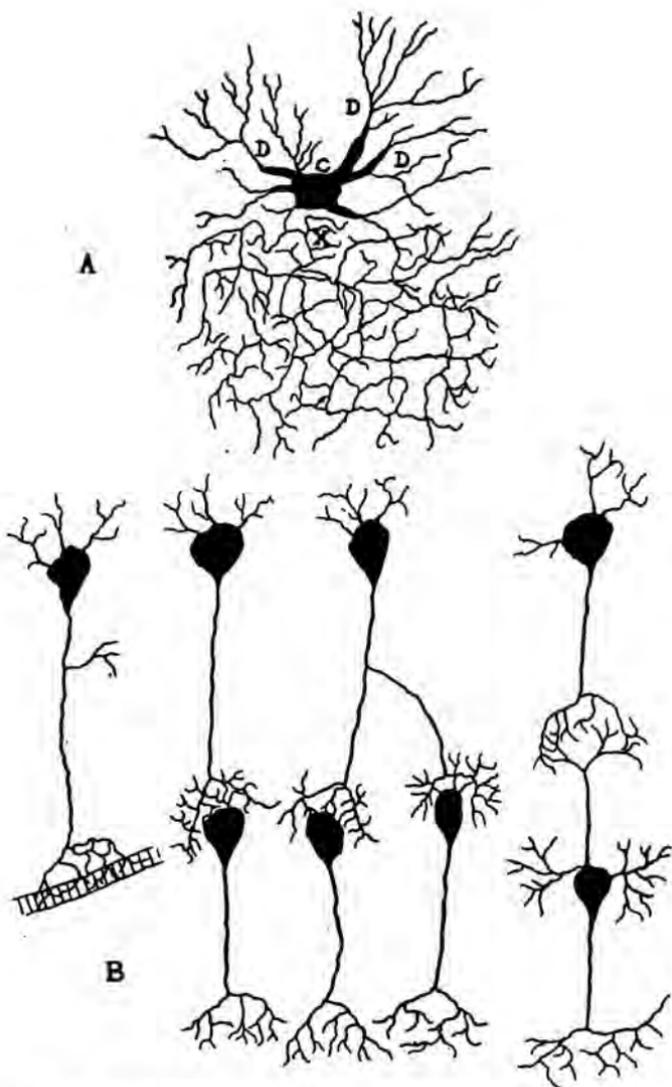


Plate 2.—A, Golgi's second type; C., cell body; D., dendrites; X., axon, greatly subdivided. B, different modes of neuron termination.

In the "pyramidal" neurons the axon proceeds from the base, other processes extending from the nerve cell are called protoplasmic processes, dendrons or dendrites. The process opposite the axon, in pyramidal neurons, is called the "apical dendrite." Those originating from near the axon are called "basical dendrites."

All pyramidal neurons of the cortex, and many of the irregular neurons have projections upon the dendrites called gemmules or lateral buds, though in the lower part of the apical dendrite they appear simply as roughened places, becoming more distinct further away from the cell. Upon the thinner branches of the dendrites the gemmules lengthen and assume a feathered appearance. The dendrites assimilate to the nerve cell in structure, being an extension of its wall, and decrease in size as they divide, like the boughs, branches and twigs of a tree.

The axon differs from the nerve cell in appearance, and preserves its size until it divides into the tuft end; it loses little or nothing in the collaterals that it sends out. The tuft ends and gemmules are unsheathed. The tufts end variously:

- 1st. Free in periphery as in muscle or skin.
- 2d. In contact with a nerve cell, or more than one if the axon divides, or if there are collaterals.
- 3d. In contact with the dendrites of another cell, which may communicate in like manner with still other cells (Plate 2).

A neuron in contact with the periphery is called one of the first order. Those related to this are said to be of the second order.

The gemmules are efferent, or cellipital processes, and receive impressions. The axon end tufts and collateral end tufts are afferent, or cellifugal processes, and convey impressions.

The stimulus may be communicated directly to the cell body without the mediation of the dendrites, as when the end tuft ends at a nerve body. There are also, in some cases, fibres emerging from the nerve body near the axon that probably act cellipitally and are concerned in execution of reflex action. Through this contact of end tufts with nerve cells and dendrites all parts of the nerve system are brought into relation. In the layers of the cerebral cortex they form an intricate network by their ramification, the processes passing from one layer to another.

Two neurons are concerned in muscular activity. A large pyramidal neuron is in the cerebral cortex, whose axon, possessing but few collaterals, passes down through the cord and terminates at a large multipolar cell in the anterior horn of the spinal cord, communication being established by the arborization of the axon coming near to or in contact with the dendrites of the neuron in the horn, which is the peripheral cell, and whose axon ends in the muscle.

On the sensory side three neurons are necessarily employed. The peripheral cell body is in the spinal ganglion of the posterior root of the spinal cord. It sends out a common axis cylinder which divides into two parts, one of which passes to the epidermis, and conveys sensations from the periphery to the cell body. It performs the functions of a dendrite, and is considered such by many, though its appearance is that of an axon. The other division of the axis cylinder passes up to the secondary sensory neuron in the medulla oblongata, sending forth collaterals at intervals. The axon of this secondary neuron passes up to the central sensory neuron in the thalamus, whence communication is had with the cortex (Plate 3).

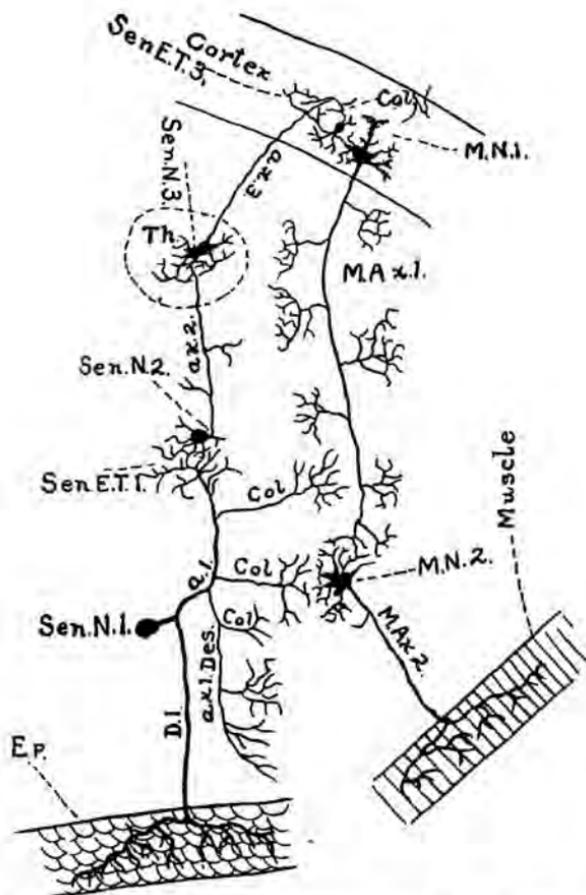


Plate 3.—Hypothetical sensory-motor arc, after Déjerine. Ep., epidermis; Sen. N. 1, neuron of first order in posterior horn of spinal cord; D. 1, dendrite (?); A. 1, axon ascending to secondary neuron; Ax. 1, Des., descending branch of axon for collateral connection; Sen. E. T. 1, end tuft of N. 1; Sen. N. 2, secondary neuron, in medulla oblongata; Ax. 2, axon ascending to brain; Sen. N. 3, third neuron in thalamus; Ax. 3, axon to cortex; Col. N., collateral neuron connecting sensory and motor neurons; M. N. 1, motor neuron of cortex; M. N. 2, secondary motor neuron in anterior horn of spinal cord.

A neuron probably does not react to all sorts of stimuli that may be brought near it, but is predisposed to certain kinds. Otherwise there could be neither cessation nor harmony of action in consequence of the multiplicity and close connection of the processes. The best authorities suppose that motion proceeds from one neuron to another, in an undulatory manner, the motion not necessarily being the same in the second as in the first. This wavelike motion of the neuron contents increases the pressure in the distal end of the axon, and causes the terminal tufts to extend, and thus come into contact or proximity with the cell body or dendrites of the secondary neuron, just as the waves of the seas toss the wreckage upon the shore. The alternating impulses are like unto the rise and fall of waves. This idea prevails over that of an anastomosis of fluid.

Mental disease is thus explained by Berkley: "Once the gemmules lose their vitality or in any way become diseased, conduction of nerve impulse is no longer possible and the co-ordination of the cellular elements ceases. Confusion of thought is at first the result, then as the morbid process grows deeper and more widespread, co-ordinated thought almost entirely ceases, and a terminal dementia follows as a natural result." The same results would follow if axons or end tufts were affected.

The true value of this better knowledge of nerve anatomy was only made manifest when an application was made to nerve and psychological phenomena, of the movement of the neuron processes.

Rohl-Ruckard, in 1890, first offered the theory of amoeboid movements of the neuron without arousing any interest, though Wiedersheim in the same year actually observed movements of the cells in the œsophageal ganglion, which

answers for a brain, of an entromoscan, a small, almost transparent crustacean.

Four years later, Lepine and Duval advanced the theory of neuron movement, each apparently unaware that others had offered the same idea. Dercum conceived the same theory, and found upon investigation that it had been given to the world by three others. He is the first to offer an absolutely satisfactory working hypothesis for all hypnotic phenomena, and I have borrowed his ideas freely.

Previous to my acquaintance with it, I had accepted most of the principles of the Nancy school, as modified by Hudson, but had clung to the essentially mesmeric practice of intense volition, *i. e.*, mental suggestion.

Some phenomena, such as catalepsy, defied explanation. A careful study of the neuron theory, in its application to hypnosis and allied conditions, brings me to the conclusion that it does for psychology what the law of gravitation does for astronomy and the atomic theory for chemistry. The apparently irreconcilable differences of hypnotic theories and methods become reconciled, and it is seen that each school has been observing only a part. It is the old story of the knights and the shield, and Dercum's hypothesis enables us to see both sides of the shield. Most so-called occult phenomena become clearly understood and their physical basis is shown. That of thought transference is as intelligible as the circulation of the blood, though not so demonstrable in all its particulars.

The hypothesis possesses all the elements necessary for its acceptance. It accounts for all phenomena, and nothing else does.

Nerve action goes on, is created and transmitted by the axon or collateral end tufts of one neuron coming in proximity or contact with another, either directly or mediately,

by means of its dendrites. The infinite number of combinations possible in the brain with its numerous neurons, each with its many processes and gemmules in their intricate network, and the varied manner of coming into contact, will account for the innumerable movements, ideas and sensations possible to man.

The old theory of action existing only in the nerve body could not accomplish this. Neither could Cajal's of movements in the neuroglia cells.

The process movement theory, however, renders psychological problems, that hitherto have seemed unexplainable, as demonstrable as the simplest proposition of Euclid.

An explanation of hysterical paralysis will possibly make other phenomena more clearly comprehended. I will follow that of Dercum. An axon from the motor areas of the cortex passes down through the various parts of the brain, medulla and cord, terminating at the motor neurons in the end tuft. The cortical neuron is thus brought into relation with the motor neurons, and an impulse from the brain results in motion, say of the arm, in consequence of the end tuft coming in contact with the motor cell or its processes.

A physical or psychical shock may cause "the neurons of the arm centers of the cortex to retract their processes in such a way that their end tufts no longer bear their relation to the spinal neurons." There is no connection between the brain and the arm, and the power of voluntary motion is lost. "As a result of suggestion, either with or without hypnotism, or spontaneously, the paralysis disappears." The nerve impulse has caused the processes to be extended, the end tufts again come into contact with the nerve cells in the anterior horn of the spinal column, and control of the arm is regained.

The author of this ingenious and eminently satisfactory

theory seems to believe that all the processes, end tufts, collaterals and dendrites have some mobility.

A retraction of the processes in the areas of the brain, controlling the senses and voluntary motion, whether arising from loss of cell contents or voluntary relaxation, will produce unconsciousness or sleep. The neurons have become insulated so that nerve impulses are not received or transmitted.

The blow of a bludgeon, by its violence, causes sudden retraction of all processes, may suspend all functions. Life may return if the nerve structure has not been destroyed. A succession of slight shocks will produce the same result. The man who becomes unconscious under the dentist's automatic mallet and the one who is soothed by the pounding of machinery, are both in a state similar to the man who has been sandbagged, save that in the latter case the escape of blood from an injured vessel may prevent the neuron processes from coming into proper relations and prevent or pervert one or more functions according to the area invaded. The delicate processes have retracted as the sensitive plant wilts beneath the rude touch of the careless or curious.

Catalepsy, on the other hand, is probably owing to the opposite condition. Whether artificially induced or existing as a nerve disorder, this state has appeared a paradox. A prime objection to every theory of mesmerism or hypnotism heretofore offered, is that it in no way served to account for catalepsy. The metaphysician and mesmerist alike sought to ignore it. When the neuron movement was first called to my attention through Dercum's second paper on the subject which contained no reference to catalepsy, my first impression was to try to fit it to that condition. I could readily see the application to most other hypnotic phenomena, many of which were mentioned, and saw that the hypothesis was vastly more satisfactory than any I had studied.

An unconditional acceptance required an explanation of catalepsy. That I could not at first find. The increased power and steadiness of limb, the usual absence of fatigue under crucial tests, the feeling of levitation as though the body were floating in the air, all demanded a decrease in the consumption of nerve nutriment.

Suppose the end tufts are so forcibly extended that they remain in contact with the secondary neurons and muscle cells instead of oscillating, as occurs from the constantly recurring nerve impulses of voluntary motion. There is less or no neuron movement, the condition of the muscle remains fixed, but there is increased steadiness owing to the lack of nerve rhythm, and less fatigue as there is decreased expenditure of nerve tissue from lack of motion, the waste being nearly or quite the same as when the body is at rest.

After working out this theory, I found that Dercum had offered it in his paper before the American Neurological Society, session of 1896. I regard the explanation of catalepsy as one of the strongest proofs of the correctness of this theory of hypnotism.

Many facts go to corroborate this explanation. There is less expenditure of nerve force than with like rigidity of muscles voluntarily produced, otherwise the subject would awaken, or relax the muscles from exhaustion of neuron contents.

But I have seen a patient who had lain in a state of catalepsy for more than five years without voluntarily awakening or becoming greatly emaciated, and she may still be asleep, as I have heard nothing of her for some time. She was usually aroused once daily for feeding, half an hour being required to accomplish it, and when through eating she promptly went to sleep. I may say that catalepsy is not an essential stage of hypnotism, as many observers have

concluded, nor is it rare in its production. The simplest tests of hypnosis are based upon partial catalepsy. Neither is unconsciousness necessary. Witness the people who have been prepared for burial, knowing all that was passing about them, but unable to move.

The unconsciousness of catalepsy may, I am convinced, arise from either of two causes, relaxation or contact of the processes. In either case there is a loss of neuron motion, of mental activity.

The subject in whom catalepsy is induced by hypnosis rarely becomes unconscious without a special suggestion to that effect, where relaxation of course follows the suggestion of sleep. The unyielding extension of cerebral processes may account for the unconsciousness of catalepsy arising from disease. The cataleptic muscle is not necessarily firm and hard. In fact, the subjects having the greatest power of resistance, and experiencing no after effect, under cataleptic tests, are those whose muscles do not become set but remain pliable. It is noteworthy that the best cataleptics are invariably of slight physique, frequently frail, but of highly developed nerve structure. Many good somnambulists can not be "stiffened out," while other people slightly built may be placed in a state of catalepsy, though no other satisfactory tests can be made with them. The greatly increased muscular power is strong proof that the neuron processes remain in contact. Dr. Herbert L. Flint, with whom I was long associated, has made a special study of this subject and presented some remarkable experiments. Many who beheld them declared that they could be presented only by the aid of mechanical appliances, though opportunity was always afforded for the strictest investigation. I have seen a ten-year-old boy, as he lay, supported by ankles and shoulders, sustain the weight of two men, each weigh-

ing two hundred pounds, or a man weighing three hundred pounds. I have seen a subject lie similarly supported for more than forty minutes with scarcely perceptible yielding. I once saw a slight girl placed upon the backs of two chairs, one just catching the shoulders and the other the ankles. A three-inch plank was laid across her abdomen, and eight men of average weight stood upon the plank, a weight of more than 1200 pounds; still the subject experienced no discomfort on awakening. Many times have I beheld a rock of from four hundred to seven hundred and fifty pounds laid upon a subject while cataleptic, and shattered by a heavy sledge, twenty or more blows by a powerful man being sometimes required. Another remarkable test frequently given was that of a three-hundred-pound man standing upon a subject supported upon the backs of chairs, and flexing the body by springing upon it, until it passed through an arc of twenty degrees, finally returning to and remaining in a straight line. In such cases there appears to be yielding of the neuron processes without contact being lost. The same elasticity is observed in the rock-breaking test, and it probably is that condition which protects the subject from injury by the violent blows. The most remarkable test in that line has never been given satisfactorily with but one subject, a young colored man, now a professional ball-player.

The pulse and respiration would be carefully taken by physicians. The man would then stand, arms folded, upon a common kitchen chair, the back of the chair just catching him behind the knees. A heavy man would sit upon the subject's feet, firmly grasping the back of the chair, others would stand upon its rounds, their hands resting upon the sitting man's shoulders, to keep all steady and firm. The subject was then hypnotized and made catalep-

tic, the muscles not set too hard. The operator standing back of the subject made passes, bringing his hands toward himself, the subject slowly following every movement until his body was horizontal, the legs forming a right angle at the knees. Five minutes in this position, and a resumption of the passes, and the subject slowly bent downward until his head almost touched the floor. Another five minutes elapsed and upward movements raised him until he was finally brought into a sitting posture, kept in position only by the back of the chair at the knees. After remaining another five minutes thus balanced he was awakened, and the respiration and pulse would be almost absolutely the same as before the test, there rarely being a difference of more than a single count. During the fifteen minutes required for the test, one which no athlete has the endurance to accomplish in a normal condition, there would be no unsteadiness, no irregularity of action, no evidence of any effort being required; and after restoration there was no complaint of soreness or fatigue.

Further corroboration of the lessened waste and continued contact of processes lies in the pleasurable sensation experienced by many in catalepsy. I speak of those who remain wholly or partially conscious. They describe the sensation as one of unspeakable lightness of body, as if they were floating through the air. Local sensation is lost, as well as voluntary motion. The feeling seems to be central in its origin, and indicates a suspension of nerve impulse, and that there is even in a state of rest an appreciable effort required, that in catalepsy there is sometimes a greater degree of rest than in ordinary relaxation, and that Mitchell's rest cure might possibly be improved upon by leaving the patient much of the time in a state of catalepsy.

I can account for this class of phenomena on no other hypothesis than that of continued contact of processes. The same condition of process contact possibly obtains in tetanus, and also, to a greater or less extent, in some forms of convulsions, where muscular power is much increased and the capacity to become fatigued is seemingly lessened.

The physiology of the perception by sound, as described by Dercum, leads us easily into an understanding of psychic processes. Sound waves impinging upon the nerve cells in the spiral ganglion of the cochlea cause an impulse to be conveyed by means of the axons, first to the auditory area of the medulla, and thence to the neurons in the auditory area of the cortex, so as to cause a change in the relations to each other of the processes of the various nerve cells of that area. The same sound vibrations will produce the same changes in the cortical neurons. Each sound is represented by a different arrangement of processes, lasting only as long as the vibrations reach the ear.

“An act of perception therefore consists of changes
“in the relation of cortical neurons with one another,
“these changes corresponding to and depending upon
“certain physical impacts upon the sensory organs.
“As a corollary, the combinations among the neu-
“rons so formed, bear a definite and fixed relation to
“the external world.”

The physiology of a conception is similarly explained. The same combination of processes that enters into a percept is formed in the brain independent of physical stimulus.

Memory is simply the recognition of the combination as having previously existed, and possibly may be awakened by a train of associated ideas, since all parts of the brain are in touch.

" At first a given sequence of musical sounds suggests merely a familiar air, but a moment later, when the movement has diffused as far as the visual areas of the cortex, old combinations are reformed, which now give rise to visual memories, and instead of merely the memory of a familiar air we have in addition a visual memory of an instrument, or a person with whom the air is associated, or perhaps of an operatic performance."

" Memory is not due to any constant condition of structure, but merely to the forming anew of old combinations among the neurons."—*Dercum*.

In sleep, the areas affected by the senses and controlling voluntary motion are at rest, the degree of retraction of processes varying with the person and degree of sleep. By means of external stimulus, a centripetal impulse from suggestion or auto suggestion, or in consequence of the renewed supply of cell contents, processes are protracted, those of the auditory area usually acting first, and the man awakens. His mind is usually first concerned with sense perceptions, later with conceptions of especial interest, unless novel impressions are made upon the senses, when new combinations of neurons may follow. Two or more old combinations may unite through collateral connection in forming a new one, partaking somewhat of the nature of each; a continual course of this may result in a train of reasoning, the development of an invention, or more purely a work of the imagination, as a poem, a picture or musical composition. A combination may present itself whose origin we can not account for. It may prove to be an intuition if it is one common to most men, or our race or family. It may be telepathic, if it comes through the thought of one with whom we are in relation, or an inspiration if it comes from a wholly untraceable source.

A mere conception, whether centripetal or peripheral in its origin, may become so firmly fixed through the permanency of the combination or the suspension of action in related areas, that it is no longer recognized as fictitious, without physical basis, and the result is an hallucination.

An extended period of wakefulness or labor consumes the neuron contents, a natural result will be a shrinking of the cell envelope, a shortening of the axon and dendrites. The relations to other neurons are so disturbed that an increased effort is required to complete any given combination, and occasionally the desired one fails and another allied one is secured. Not the wished-for word or motion results but one something alike. Stronger impulses are needed and more rapid waste ensues. Let the stimulus, the incentive be strong enough to enable the man to abstain from sleep, until he comes to a point where sleep is impossible. The overstrained processes have lost a portion of their elasticity and now refuse to retract. The great destruction of neuron contents, however, has produced an instability of action from the decreased firmness of cell envelope affording an unstable support to dendrites and axon. Co-ordination is more difficult. Increased exertion is necessary to accomplish any task. If sleep fails to fill the nerve bodies, and this depletion becomes chronic, the patient may be termed neurasthenic.

Owing to the disturbance in the normal relation of the processes, an impression may be changed in transmission and a sound or sight be wrongly registered in the brain and the result is an illusion, though of course not all illusions are results of neurasthenia. Drugs and organic disease also play their part. From this condition of the nerve system may arise the uncertainty of process motion, the improper, irregular, uncontrollable and undesirable combinations that manifest themselves in hydra headed hysteria.

A pain has caused a certain combination. That arrangement may be reproduced by central activity and the patient suffers just as much as though it were caused by a disturbance of the peripheral sensory nerves. A retraction of processes in the sensory areas of the cortex would produce anaesthesia in the part connected with the neurons affected. An irregular combination might cause a confusion of ideas, and render heat mistaken for cold, and vice versa. Again, a function might be disturbed by an effusion of blood or serum, by inflammation or a deposit of gumma. The cause is healed by time or treatment, but the processes do not recover their usefulness. There is a similar condition to the hysterical paralysis before mentioned, but it may affect a special sense or mental function. Suggestion either by the physician, an event, or auto suggestion, restores the processes to their normal function, and a cure has been effected.

Dercum argues, also, that delirium is the result of a transient diseased condition, due to some toxic effect, but if it is structural, the neurons acting wildly and irregularly, making erroneous combinations, confusional insanity is manifested. Mania and melancholia are opposite results from a similar pathological cause, generally a toxic disturbance of nutrition; on the one hand an unusual number of neurons acting with excessive activity, while on the other a smaller number are employed and the movements are restricted. I am induced to believe that in the latter case as much, or more, depends upon the areas affected as upon the number of neurons concerned and the nature of the movements.

Hypnosis has been defined as an artificially induced nerve relaxation, usually characterized by increased impressibility. I can not endorse the idea that it is partial

sleep differing from true sleep only in fewer neurons being affected. The difference lies more in the seemingly increased elasticity of the neurons, and again there is usually a higher degree of retraction in the areas affected.

This phenomenon of increased elasticity probably arises from the fact that areas are relaxed which insulate the ones remaining active. There are fewer or no disturbing cross-currents of nerve rhythm through collaterals, and the desired or suggested impulse is not weakened thereby. When a new area is called into action only such neurons are used as are needed for carrying out the principal idea.

I meet a patient, place him in an easy chair, talk soothingly, but positively, using all possible mental suggestion, or volition as the mesmerists termed it. I fix his eyes while talking to him. He becomes absorbed in my words. His attention is given wholly to me. He gradually forgets the presence of others, recognizes no other sounds than my voice. In the lessened consciousness the condition is related to sleep, but when my words have caused a placebo to act as a specific might, a different element has entered, that of seemingly increased elasticity of neuron bodies and processes. Fewer neurons have been affected than in sleep, for the patient has been steadily conscious of my personality, but unconscious of having experienced any abnormal conditions, though by manner, look and thought I have produced informal hypnosis.

I take another patient, naturally more impressible than the former, tell him to relax himself, close his eyes and think of sleep. Neuron after neuron becomes relaxed, processes more retracted than in any sleep, for in that they are usually not so much separated but that a sharp impetus will bring them into relation. Area after area follows my suggestion, becoming as deeply affected as I

wish. He becomes conscious of nothing but my voice (and thought). In sleep he might dream, but now even that is denied him, save with my consent. At my suggestion, however, almost any former combination may be called into existence.

Those seemingly long forgotten, perhaps never recognized, become fresh and vigorous. He may pass even to a stage where my voice has no power to awaken him, for I have seen subjects that would awaken only upon a mental suggestion. More areas are affected than in sleep, for involuntary mental activity and reflex action are suspended. The great difference between the hypnotic state and wakefulness or sleep is in the marked increase of process pliability, in the ease and celerity with which changes are produced, and the vigor of the combinations that appear in response to suggestion.

A like condition of suggestibility also appears as a neurosis, in what is sometimes called hypotaxy or a charmed state. It occurs frequently enough in some races to be recognized as a nerve disorder, such as the *latah* of the Malay, or the "jumping disease" of Canada and this country. The afflicted are normal in every respect, save that of being exceedingly susceptible to sharp suggestion. I shall speak of it again in connection with the states analogous to hypnosis, and only mention it now as confirming the theory of "process pliability."

Sleep is a condition of neuron plasticity. Hypnosis is a state of neuron elasticity, marked by ready re-action in certain areas, while sleep is characterized by lack of re-action (to moderate stimulus) in most areas.

A habit, good or bad, is caused by the repeated formation of certain combinations until they recur automatically, independent of volition or peripheral stimulus, and the

patient unaided, frequently is unable to prevent this recurrence. Owing to the greater flexibility, habits are easiest formed in youth, and more often among those of a neurotic tendency, especially if we except those habits which are more purely physical and are typical of what is commonly called "nervousness." The oftener the combination has been repeated, the longer the time since its first formation, the older the man becomes, the less elastic are the processes, the greater the difficulty of effecting a cure. The employment of more areas, an increase in general culture, is usually the best preventive of evil habits.

The teachableness of youth results from neuron elasticity, and naturally the neurotic is the precocious child.

The less elastic processes may only yield to repeated impulses, but the combination once formed is less easily lost, hence the frequently better memory of the plodding, phlegmatic student.

The reluctance of age to acquire new ideas, the slight impression made by recent events, the clearness with which the occurrences of early years are recalled, all are accounted for by the gradual hardening of nerve tissue, preventing the formation of new, but readily allowing the reproduction of firmly-fixed, oft-repeated, earlier combinations. Let an idea become deeply implanted in the mind of the aged, however, it can scarcely be removed.

A habit can only be cured, a hallucination removed by gradually breaking up the improper combinations, and replacing them with proper ones.

Hypnosis here plays an important part. The more passive the patient, the greater the nerve relaxation, the fewer and weaker the existing combinations and the better is the opportunity to form new ones. This principle has long been recognized and acted upon by those experienced

in the use of suggestion, but its scientific basis could only be established since the exploiting of the neuron motility hypothesis.

Hypnotics and sedatives act by causing retraction of processes. They cure insomnia, hysteria, hallucinations, habits by causing retraction for so long a time that nerve force is recuperated. The improper combinations are restrained for so great a period that possibly they may not return again.

No argument is necessary to demonstrate the value of systematic suggestion in controlling nerve action, and restoring a normal condition, whether used in connection with drugs, with placebos, or informal hypnosis. A cure of a functional disturbance may result without proper suggestions; it usually must result with them. Argument, coaxing, so-called moral suasion, are mild forms of suggestion, and with it constitute the only available factors in eradicating evil habits and cultivating good ones. All these act more surely and rapidly if the patient is in a relaxed condition, whether the relaxation reaches to such an extent as to be recognized as hypnosis or not.

The mind in activity may be compared to a tangled mass of various colored silks from which it is desired to form a beautiful design in embroidery. The mind at rest is represented by the same silks, separated, neatly wound, arranged in order of colors, ready for the artist's hand.

LESSON II—THEORY CONCLUDED.

Much of the physician's and hypnotist's success must depend upon the readiness with which he recognizes suggestibility. It is as necessary in diagnosis as in treatment.

In general terms, the typical neurotic is the typical subject, provided he is truly neurotic and not neuropathic. An idea prevails that nervous people are most suggestible. This probably originated with the mesmerists who fancied they could affect only invalids, was strengthened by the conclusions of Charcot, who taught that only hysterical people could be hypnotized, and was furthered by incompetent investigators, whose field of labor lying in hospitals did not enable them to experiment with the physically and mentally sound. My ideas were formed while engaged in the public work. Much of the time the curious were permitted to call at our hotel, ostensibly that they might gratify their curiosity as to susceptibility, really that we might observe experiments upon classes differing from the usual stage volunteers. Necessarily little time was given to each individual, frequently just enough to determine the possibility of producing hypnosis, and not the degree. This custom, in connection with the stage work, enabled me to test, and see tested, more than three thousand people in one year, and seven to eight thousand in four years, few of whom were invalids. They were of both sexes, all ages, all professions, creeds, and stations in life; Indians, negroes of all shades from

ivory to ebony, nearly every European race and all the American mixtures, cooks and clergymen, doctors and draymen, students and servants, society ladies and street laborers, college professors and charity patients, pettifoggers and pugilists,—every class and condition of men passed before us. I entered the work absolutely unbiased. I learned the outward type before I recognized the inner difference.

This work has been supplemented by the experience of intelligent observers, who have been engaged in the profession of public hypnotists for more than twenty years, and whose success largely depended upon their judgment in selecting from each evening's volunteers those who from their appearance seemed most susceptible and who should therefore receive the most attention.

Those of the highest type of nerve development, in a state of physical and mental vigor, have almost invariably proved the better all-round subjects.

In a state of health a man's susceptibility depends upon his nearness to the neurotic type. This naturally makes him more liable to suffer from too great expenditure of nerve energy and consequently neurasthenia, a moderate degree of which does not materially effect his suggestibility, which does not depend upon the nerve starvation, but exists despite it. With those of a tendency to the physical type, a condition of slight neurasthenia and its attendant letting-down, relaxation, will contribute to suggestibility. The true neurotic is the most suggestible in a state of health, since every deviation therefrom affects the control of process movements.

We can therefore best study the principles of suggestion with that class of subjects. This is one reason that many investigators have not been broad enough in the generalizations, since most of their experiments were

upon hysterical and neurasthenic patients and with a view of presenting some particular phenomena rather than of seeing what ones could be produced.

In hysteria when there is a lack of normal co-ordination between the neurons, when owing to neurasthenia, shock or emotion, there has appeared great instability of processes, irregularity of movements and combinations, greater force and more powerful influences are necessary to produce relaxation, to secure co-ordination, and the violent means employed by Charcot and others of the same school may be required. Even these may fail in producing the desired effect and other measures must be relied upon which will be discussed under therapy.

The neurotic individual with his complex and delicate nerve structure may be said to have "ball-bearing" processes, yielding easily to the slightest impulse, a blessing or a curse to the possessor, according as the impulse and surroundings are good or bad.

According to circumstances he may become an orator, a poet, painter, inventor, one who confers the choicest blessings upon his fellow men, or a liar, a hypochondriac, an invalid whose nerves are like the poplar's foliage, ever oscillating at the slightest impulse. He may be excited beyond normal activity into a state of delirium, the wildest ravings of a maniac, or depressed below it, into the deepest depths of melancholia.

Recognizing that the neurotic man is the suggestible man, that the suggestible man is the most subject to functional disorders, it is well to consider the types as indicated by experiments in hypnosis.

Beard long ago called attention to the fact that the neurotic with a highly evolved nervous system were more subject to general functional nervous diseases, the muscular

type to local functional disease in consequence of functional excess, and that a neurotic man whose organization permitted any irritation in any part of the body to be telegraphed to every other part, can not be sick without becoming sick all over, but it is for this very reason difficult to excite in him local organic disease.

Few physicians in general practice recognize a neurotic temperament, though they may recognize a neuropathic by the irregularities in muscular action. In reply to my questions concerning patients whom I have not seen, but whose difficulty as to being organic or functional I am expected to know from an indefinite description of symptoms, it will be said that the patient is fleshy or thin, pale or sallow, tall or short, has blue eyes or black, but seldom will anything be offered that affords a clue as to the nerve development or suggestibility.

The same difference exists between the neurotic and physical types that there is between a thoroughbred and a cart-horse. The head is usually well shaped, rather largely developed in the upper part, there being considerable height above the ear; forehead high and full, but not bulging; apex of head under rather than over normal so that the head slants down from the crown to the apex; chin moderately developed; lips flexible, neither too thick nor too thin. The eyes are large and prominent with considerable space between them, the brows arched. The eyes are steady and have a deep, mild, dreamy expression. They may have an abstracted appearance as if the individual was looking past near objects and into the distance, the future. The skin is thin and delicate, the hair fine and soft. Perspiring hands, either cold or warm, and other disturbances of the vasomotor system are frequently noted. The disposition is normally mild and equable, observation quick, imagination active.

Men with low retreating foreheads, bullet-shaped heads, widest in the region of the ears, little, deep-set, shifting eyes can rarely if ever be hypnotized. A brutal man is never a good subject. The neurotic is never a murderer, except through excitement or insanity.

An active imagination and acute perceptive faculties are the neurotic's birthright. He is usually emotional, kind-hearted, charitable. He is a safe man to approach when seeking a favor. He is an extremist, does everything quickly, well, or not at all. He will excel his companions in the class-room and on the campus. He will be guided largely by impulses, impressions, intuitions often of so marked and extraordinary a character as to seem inspirations. He becomes so absorbed in reading or thinking that a second or third dinner-call may be necessary to arouse him. This power enables him soon to master a subject, for no disturbing thoughts distract him from his work.

Abstraction and imagination lead him into constructing gorgeous air-castles. He is apt to be gifted in those arts and professions for which his delicate, nervous system fit him. In the factory he is the most skillful workman. He and his fellows fill the ranks of electricians, for a man must be of this temperament to deal successfully with that subtle something, electricity.

He is sometimes called weak of will because he yields to persuasion. This yielding arises not from weakness of will so much as from strength of imagination. You ask him to accompany you upon an excursion. You describe the boat you will ride upon, the scenery along the route, the hotel at which you will stop, the society you will meet, and the fishing you will enjoy. His imagination assumes control; another deck is added to the boat, a few feet to its length and width; the river becomes broader, deeper, the hills

along its shore increase to lofty mountains ; the hotel adds a story and two or three wings, while the lawn becomes a spacious park ; a few dukes and millionaires may grace the society ; the trout become four and the muskalonge forty-pounders. In short, life would be utterly wasted, a hollow mockery, if he did not accede to your request. But don't try to drive him. Your slight reflection becomes a deadly insult, your mild insinuation a bitter reproach. You put your nickel in the slot, expecting a gentle zephyr and get a terrible tornado. The neurotic is frequently a liar but rarely a malicious one. His indiscretion may cause many a tear, but he was led astray by the exuberance of his imagination. He may forget some of the details of a transaction, but the story loses nothing in its picturesque qualities, however much it may in accuracy.

For these reasons he is not a desirable witness when hostile, or if closely cross-examined when friendly. Too little attention is given to this feature of trials in courts of justice. Probably one tenth of all persons are unfit witnesses from their tendency to exaggeration and inability to stand cross-examination.

The neurotic is quick to anger and quick to forgive, amenable to discipline when asked fairly and kindly, but refractory and stubborn when it is sought to force him. He is unfitted for many avocations and eminently suited to others. He is not adapted to plodding pursuits or those which require simply the exercise of brute force, but excels in those acts which require deftness, neatness, mechanical skill or depth of understanding. I would not hire him for a laborer, but a gardener. He would be out of place as a book-keeper, but in his element as a designer. Men of the physical type have carried on the transactions necessary to existence, raised the wheat and cattle, the pork and potatoes,

delivered them to the consumer, have made life possible; men of the neurotic type have painted the world's pictures, written its poems, sung its songs, created its inventions, made life enjoyable.

As before stated, the more purely neurotic is easiest controlled when the nerves are in a normal condition. In deviations from that type a moderate amount of neurasthenia by promoting relaxation increases suggestibility, though when carried to the point of instability, or loss of elasticity, it diminishes, and the subject may finally fail to respond to suggestion.

Another occasional trait of the neurotic demands a few preliminary propositions before proceeding to its discussion.

All recognize the influence of one individual over another, and many say that the one is mentally and physically stronger, possesses more personal magnetism. Some have insisted that this latter consists of sexual vigor. The man of strong magnetic force is not deficient in this respect, but it is an incident and not an essential. Most men realize that we have a means of acquiring ideas aside from through the recognized five physical senses. Some call it a vaguely defined sixth sense; the spiritualist says that the ideas come through the agency of the departed; the theosophist has various explanations; the gooroo or the mahatma may convey the information, or it may come directly from that great reservoir of all thoughts, present, past and future, the astral, or astral light. Hudson rather indefinitely allows "the subjective mind" to take little vacations while the body is passive in sleep or hypnosis. The Christian scientist says it is the flight of the soul.

Most who have attempted an explanation recognize that vibrations serve to transmit the thoughts. Theosophist and

spiritualist agree that every man is surrounded by an aura of his own thoughts, and that his ability to resist outside influences is dependent upon his own mental activity. The motion is not a new one, for two hundred and fifty years ago Glanvil wrote that the universe was filled with a subtle fluid penetrating all substances, that vibrations of thoughts passed through it and were reproduced in other minds as the notes of a lute awaken an echo in another at a distance. The effort of some to divorce the mind from the body, the refusal of others to consider the mind at all, as being beyond comprehension, have prevented proper consideration of thought transference.

The general acceptance of the motility of the neuron affords us a conception of the mechanism of mental operations, and causes me to believe that telepathy, mental suggestion, personal magnetism, inspiration, apparitions of the living and dying, all mental phenomena, including the answer to prayer, are caused by a common physical force.

We suppose ether to be universally diffused.

The only means of transmitting force aside from direct application and the mechanical powers is by vibrations.

Every movement, however slight, of any body, however small, produces vibrations.

We can set no limit of time to the duration or of space to extension of these vibrations.

Each combination of neuron processes (each idea) produces a somewhat different series of vibrations.

The vibrations from any combination will reproduce the original combination in a sufficiently sensitive brain.

The sensitiveness of a brain will largely depend upon its delicacy, its relaxation, its elasticity. The vibrations may produce an effect without its being strong enough to reproduce the original combination, in which case we will

not have the clear transmission of an idea, but a feeling of a stimulus, a depressant, some application of force.

Many facts can be offered to corroborate these principles. People with the capacity to receive and recognize impressions are invariably those approximating the neurotic type, those of a highly developed nervous system. The impressions are usually most readily received when the subject is in a state of relaxation. The readiness with which they are communicated depends much upon the energy with which the original thought has been formed.

An apparent exception to the general principle of relaxation is seen in so-called mind-readers, especially those who do work in public. They are invariably neurotic, and exalt themselves into a condition of hyperesthesia through tense and somewhat unstable neurons until the slightest impulse makes an impression, though not a lasting one. A well-known mind-reader has testified to the hyperesthesia though not fully aware of the importance of his declaration. He says that when the blindfold is placed upon him a faint glow appears, all is seen as if in a faint light. Every movement is agony, every impression a pain. When he picks up a hidden pin it seems as big and heavy as a railroad tie. He lives weeks in a few moments, and at the end of his experiments is completely exhausted, sometimes remaining unconscious for hours.

I have investigated many so-called mediums and clairvoyants and gained their confidence so that they would talk to me frankly of their business. Those of the neurotic temperament were largely honest in their convictions, and could relate many experiences of impressions coming to them, as they believed, through spirit forces or in a manner not understood. Some of these people are absolutely honest in their work and depend wholly upon "impressions."

Others are mixed, exercising judgment in connection with the impressions.

Honest mediums sitting for development are striving to secure relaxation through self-hypnosis. They frequently aid the progress by formal hypnosis. Long continued work as mediums may render it impossible for them to become relaxed and they lose their power. They sometimes come to hypnotists asking to be hypnotized for re-development. Failing in this, they either abandon the work or become absolute "fakirs." I do not consider "materializing" mediums under the head of possibly honest people.

Those of a non-neurotic type would usually confess that their work was wholly fraudulent. Still the most conscientious are wholly unreliable, since they are apt to be governed very largely by the thoughts or anxious desires of those about them. I can best explain this by relating an incident.

In a Nebraska city lives a Dr. X, an irregular practitioner, who has a considerable income arising from his advertisements in spiritualistic papers, that on receipt of one dollar and a lock of the patient's hair he will diagnose the disease and send a medicine that will effect a cure. The "Dr." is an erratic, neuropathic individual, rather derided by his acquaintances, though he is a large taxpayer, kind hearted and charitable, well read, and an agreeable conversationalist. Col. I, a prominent railroad attorney, made up a party at the club one evening to visit the "Dr." at his office the next night and observe his methods. Nine leading professional and business men of the city, my associate and myself were present.

After we were seated in his office, Dr. X lay back in his chair, and closed his eyes. His features twitched, his form was convulsed, guttural sounds came from his throat. His

form had evidently become tenanted by a powerful Indian chief. He arose, eyes closed and rolled up, walked directly to one of the company, touched him, and returning to his chair picked up a slate and made some cabalistic signs upon it, laid it down, walked to another and touched some place upon him, again returned to his seat and marked upon the slate. So he continued until but one or two of the number escaped the ordeal. He then slept a few moments, gradually awakened, and began interpreting the hieroglyphics without seeming to know to whom they applied, announcing some symptoms affecting the individual. To my surprise every man in the room, save myself, declared the "doctor" to be correct in most respects. The incredulous might cry "job," but the exception was a more conclusive proof of X's honesty than was the rule.

Toward everyone save myself he walked in a straight line. In my case, he had apparently started for Dr. Flint, who sat a little to the right and rear, but as he came opposite me he turned almost a right angle, came up and touched me on the head and loins. Dr. Flint, a man of remarkable psychical vigor, whispered that he had "willed" the man to me. X's description assigned to me neuralgia and kidney trouble. My friend suffered from megrime and some renal weakness. I need only add that those who had attended, expecting to have a laugh at X's expense, came away wholly mystified.

The readiness with which mental impressions are communicated and received depend much upon the harmony or intimacy existing between subject and operator, between imparter and receiver. We may conceive that the universe is filled with varying thoughts from multitudes of minds. The receiver may definitely recognize a familiar form of vibrations, as the eye does those which characterize a familiar

object, the ear a familiar step from the many passers by. The telegraph operator in a lonely country station sits at night bowed over his desk in sleep. Trains thunder by and wake him not. The Associated Press rattles its columns of fires, murders and market reports, but they are unheeded. The "C. K.," or whatever constitutes his call, brings him at once to his senses. So it is with thought vibrations. The generality do not affect us, but most of us sometimes respond to a familiar series of vibrations.

Inspiration may arise from this principle. As ages roll on, vibrations become very weak, and it is only a brain delicately attuned to receive certain ideas that is able to select them from the confused mass about it. This thought will seem wildly speculative to many. I believe it a more reasonable explanation than those commonly offered for the impressions of mediums, the inspirations of geniuses. It seems to account for the undying words of the "Bard of Avon" better than the Baconian hypothesis.

The "aura" principle is probably correct. Man is surrounded by "thought" as the dynamo is by electricity. We recognize an unseen individual's approach through his peculiar form of thought force and begin to speak of him before he is announced. It has gone into proverb, "Speak of angels and you hear the rustle of wings," "Speak of the devil and you will see his horns."

I have found almost without exception that individuals of the type I have described as neurotic can relate many experiences of mental impressions received, while those of the opposed type have none. If these occurrences were simply coincidences they would happen to all alike.

I have known of many cases where for a period of years it has been impossible for one person to call upon another without the visited becoming aware of the visitor's approach.

Probably the most interesting of these cases was related to me by Dr. S., President of the Christian College, at Oskaloosa, Iowa. He is a candid man of parts, broad in his culture, with no craving for notoriety, and neither careless in observing nor inaccurate in reporting.

During the life of his first wife, for some five years it was his custom to drive twenty miles each Sunday to preach in the afternoon, rarely knowing when he left home whether he should return that night or the following morning. He might reach home at eleven, twelve or one o'clock, but he invariably found a hot supper awaiting him. It was not partially prepared nor overdone, but ready and served. Neither was it ever prepared on a night when he remained away. To an inquiry as to how she knew of his coming and the time of arrival, she would reply that she "saw" him, and would describe the part of the road he was upon at the time, and she was always correct. It requires a far greater degree of credulity to assert and believe that this might happen weekly for five years as a coincidence, than to accept it as an actual though uncommon phenomenon.

Much of the so-called supernatural is clearly understood in the light of this hypothesis. It is not strange that a man or woman of sensitive organization should recognize the thoughts of a loved one in distress, though many miles may intervene. That the dying, struggling vainly against dissolution, may make an impression upon the distant living whom they most anxiously wish to see, and to whom they may appear seemingly in "*propria persona*," is not impossible of comprehension and requires no supernatural explanation. Instances corroborative of such occurrences are not at all uncommon; the impression sent having been recognized, the imagination of the receiver creates the form of the sender.

These appearances always occur to the neurotic and often to those in a hyperæsthetic condition, whose nerves are unduly sensitive and respond to every impression. They usually occur in sleep, as that is the period of greatest natural relaxation.

Often the vibrations are not distinct enough, or the receiving system not delicate enough, to note impressions coming from a distance clearly. There results a vague feeling of uneasiness or alarm, of some impression made, as when a slight blow is given to the body, but we can not from the sense of touch perceive its exact nature, or as when the ear catches a sound without being able to distinguish its nature, direction, origin or distance.

The principle of thought waves has been recognized by many of the most eminent scientists. Professor Crookes made it the subject of his presidential address to the British Society for Psychical Research a few months ago. The chief obstacle to progress along this line has been in our ignorance of the method of producing and receiving the vibrations. The motility of the neuron removes this hindrance.

It is not through the physical senses alone that the man of strong personal magnetism impresses us. His healthy appearance, hearty voice, positive movements, have great bearing, but his earnest, positive thought, vigorous brain action send forth regular strong vibrations, which inspire us, stimulate us, unconsciously incline us in his favor, lead us according to his wishes, though they be not formally expressed in words. When there is lack of sufficient harmony between people, or of delicacy of the receiving nerves, the vibratory force, instead of forming new combinations and distinct ideas, may cause retraction of neuron processes, relaxation and a readier response to oral

and physical suggestion; thus the mental suggestion may be the impelling and the oral the guiding force. This may go as far as to produce a feeling of inferiority, of helplessness. The vigorous man who by the earnestness of his desires reduces a neurotic woman to a state of temporary functional paralysis, when she can offer no resistance, only protest in halting speech, and then gratifies his passion, is as much guilty of ravishing by exercising force as though he had choked his victim into insensibility, and even more culpable, for the insidious approach of the influence permitted no opportunity for resistance until it had become impossible. It is noteworthy that this condition of relaxation is not accomplished by passion and is indeed inconsistent with it, and that it appears only in those wholly or nearly lacking in sexual experience. This principle aids in explaining why so large a proportion of unfortunate women are neurotics, since the latter's natural inclinations are usually toward morality.

On the other hand, the neuropathic, who are unable to think as vigorously, as regularly, as consecutively, will send forth irregular, broken uncertain waves which irritate instead of sooth or dominate. A neurasthenic mother usually means unruly children. The teacher affected by trouble, disease, exhaustion, has trying scholars. A night at a ball is followed by insurrection in the class-room. The teacher may appear calm to the careless observer, but the irregular mental activity is reflected in the pupils. Such people are said to be lacking in magnetism.

There never was a magnetic man who was not a vigorous thinker.

I do not mean necessarily a deep thinker. The expressions are not synonymous, but on the other hand are incompatible.

The earnest thinker is apt to be a shallow reasoner. The man of affairs is not the man of ideas. The great advocate is usually an inferior pleader. The greatest orators are not the deepest thinkers, the best logicians, the wisest philosophers. Earnest thought requires vigorous action of the neuron processes. The combinations are firm, strong, and can not be too rapid without detracting from the force and clearness of consequent vibrations.

Deep thought requires a lighter, more delicate touch, the formation of more intricate combinations, which can not be so forcible as the simpler ones. It is the simple chords and not the rapid runs that the pianist renders fortissimo.

Deep thought requires a certain amount of mental and physical relaxation that the difficult, unusual combinations may be more readily effected. Day dreaming, which always requires a relaxed condition, is analogous to deep thinking, only in the latter there is intelligent direction instead of allowing the mind to drift with the ebb and tide of fluctuating nerve impulses.

Deep thinkers are frequently men of slight physique, inactive of habits, of indifferent health, and rarely if ever magnetic. When so, they are necessarily neurotic, as these only have the power to change their condition readily, to become relaxed at will.

We may conceive that from generations of ancestors giving sole attention to cultivating the power of thought concentration, there comes to a man the ability to turn all his forces to mental communication so that he attains the alleged power of the Hindoo yogi irrespective of his physical attributes, but in our cruder, younger civilization earnest mental effort is accompanied by physical exhaustion and requires some physical force behind it.

A man may have seemingly every natural qualification

of an orator : fine physique, musical voice, graceful gestures, commanding appearance, a voluminous vocabulary, a fund of knowledge, an active imagination, great power of reasoning, but if he be not earnest, vigorous in thought, he will not move his hearers. His speeches may look well, may read well, but they do not reach the heart ; they fail to interest, though they excite admiration.

Another may be dwarfed and withered in figure, piping in voice, awkward in movements, void of imagery and barren of diction, but by his earnestness he fires the hearts of his hearers. The one appeals only to the eye and ear, the other to every fibre of the being. The strong, regular vibrations, the accompaniment of earnest thought, pervade the hearers, saturate every faculty. Argument alone may possibly carry conviction, but something more is needed to arouse enthusiasm. The difficulty experienced in addressing a prejudiced audience is not alone in obtaining an impartial hearing, but in securing a response to, a harmony of thought vibrations.

Every speaker realizes the difficulty in producing powerful effects in small or scattered audiences. The rhythm he causes in each sympathetic hearer loses its force before it meets those from the others, or the waves meet from opposing directions and weaken each other. Gather the scattered ones together, and as he reaches the hearts of a few, the thought waves of each become harmonized with his own, and every attentive, sympathetic listener adds to the force of the vibrations, and they go on and on, gaining strength from each circle of sympathizers, as the school-boys' snow ball increases in size, until the force carries all before it, and we have the almost maniacal enthusiasm of some religious or political assemblages. It has been noted that these feelings do not simply pass from individual to individual. They

pass from town to town, state to state, as a storm sweeps over the land. The various crusades against the Turks, of sects against sects, and in our own time the political upheavals and religious revivals illustrate the principle.

The sentiments, like a plague, really are in the air, and affect those who simply breathe the surcharged atmosphere as well as those who listen to the arguments. The wave of silver sentiment that swept the country after Bryan's passionate appeal, and the consequent firing of the audience at the Democratic Convention in 1896, would probably have secured his election had the votes been cast in September instead of November.

There is more than fancy in the thought than the eloquent, earnest speaker has had his lips touched with the celestial fire, and thus set the hearts of his hearers aflame, only the force lies within himself, and is not derived from any supernatural source.

Students of Sociology have observed that mob spirit grows from storm centres. From the leaders it seems to spread in concentric circles, each man receiving in addition to the argument and mental suggestions of the speaker a new impetus from those about him, until the mass of vibrations sweeps on apparently irresistible. It is like a vast wave of the ocean, seemingly firm as a granite wall. All small objects are swept before it like chaff. Single individuals, slight resistance, are to the mob as the fisher's boat to the sea. But the mob mind is simply an intensification of the evil passions of its component parts. Its strength lies solely in unity of thought, in harmony of vibration. Let an incident or series of incidents occur, important enough, varied enough, to affect the members in different ways; let resistance be made that seems to a few, too strong to be overcome, the harmony of thought and the unity of action

become lost, the vibratory bond is broken, and the mob is scattered like a flock of frightened sheep, each individual, less than a man, just as the wave meeting the jagged rocks is torn into a mass of formless foam.

There is a grandeur in the confidence of a victorious army; there is something pitiable in the terror stricken fugitives of a defeated one. The former is governed and held together by a common idea of glory; the latter driven apart by the varying emotions of fear, shame and despair.

Crowd psychoses result from a slight modification of the same principle. The feeling of depression, the irritability, the uneasiness, the suffering of the neurotic in a large gathering, are partially, at least, owing to the buffeting the neuron processes receive from the innumerable vibrations impinging upon them, until the nervous system is really contused, as would be a tender, naked infant pitilessly exposed to a pelting hail-storm.

A deduction from this principle is that a man can not be too careful of his mental environment. My work has brought me in contact with physicians of all grades of natural qualifications and in all sorts of surroundings, and I have seen that men located amongst the intellectually poor gradually lose their higher aspirations. A healthy, vigorous mental atmosphere is as necessary to the proper nourishment of the mind as a rich, fertile soil for the growth of plants. We acquire the ideas, the principles of those about us by direct absorption as well as by sight and hearing.

Only those of the greatest native moral strength can associate continually with the vicious without a tendency to depravity. A man may see all the pains and perils of evil conduct, he may guard against direct and auto-suggestion, but he is powerless against the insidious approach of mental suggestion.

The physician recognizes the principle, perhaps unconsciously, when he removes from home surroundings hysterical patients, though he may not realize that they need protection from the thoughts as well as the words and actions of those about them. A change of surroundings means a change mentally as well as physically.

A mental suggestion frequently affords the easiest method of approaching an individual. An oral suggestion is compared with past experiences, its good and bad qualities, its advantages and disadvantages considered, and then it is possibly rejected. The mental suggestion comes to him as an intuitive idea. He does not recognize its external origin, and gives it that increased respect that a man always bestows upon his own creations. Those with the highest developed nervous system, in a state of health, are naturally most easily and deeply affected by mental suggestion. It may first come to the individual as a mere force, the oral suggestion guiding its application, as he becomes more relaxed or more familiar with the force, or the suggestion more intense, a corresponding combination is formed in his own brain, and the force is recognized as an idea. Sometimes the original thought is modified and a similar one is conceived. You attempt to suggest the word "Mary" and the subject says "Marie," "fifteen" and he replies "five," "black" and he responds with "blue."

One of the easiest tests of mental suggestion is the awakening of a hypnotized subject by thought. In that state the neurons are relaxed, the mind void of ideas and readily receives the impression. If he can remain in a passive condition with his mind nearly or wholly blank, he can be readily put to sleep by mental suggestion. The more complex ideas are harder to transmit, less readily reproduced, but success will finally result from the testing of a suitable sensitive.

I have repeatedly put to sleep and awakened subjects when at a distance from them even when in a different room. A disinterested party gave the time to perform the experiment, so that there might be no collusion or coincidence. I have seen a subject brought from the second to the fourth floor of a hotel by mental suggestion. A friend caused a lady to leave her escort in a theatre and hasten to his home ten blocks away. Many instances are recorded in which subjects even in a different room recognized when and where the operator was touched. There is a vast natural difference in people's susceptibility to mental suggestions just as there is to the perception of the quality and pitch of tones.

In considering susceptibility to suggestion, the general idea is that blondes are more susceptible than brunettes. As I stated in discussing the neurotic type, thinness of skin, and fineness and softness of hair, are favorable indications, and not the color of the pigment cells. The negro, though woolly, however, may have as soft and as satiny a skin as the fairest Swede. In this country blondes have the thinner skins and the finer hair, and the superficial observer might judge from the complexion rather than from all the attributes. But the swarthy southern races of Europe are more susceptible than the fair but phlegmatic Germans and Dutch. The Norwegians are more neurotic than their paler cousins, the Danes. Climate has some effect, but not such as is commonly supposed, for the sultry South and the frozen North unite to furnish the most suggestible types.

It has long been recognized that nervous diseases were as characteristic of the mountain dwellers as malarial diseases of inhabitants of the plain. The elevations of South Germany afford more suggestible people than the sandy levels of the North. The mighty works of nature inspire man, lift up his ideas, exalt his imagination, contribute to

his higher nerve development. I noted the fact of dwellers among hills and mountains, and those whose ancestors thence originated, proving more susceptible to suggestion, long before I recognized it as a principle. I sought engagements for public exhibitions in cities among the hills rather than on the prairie before I recognized that the cause for the difference in subjects and business was in the type of the people. A critic recently recognized the principle in calling attention to the fact that little Norway with its two millions of inhabitants has more writers of good fiction than all Germany. The lofty mountains, the mighty forests, the tumbling torrents, the deep fiords with their precipitous headlands, all contribute to excite the imagination of the people and give them other thoughts, higher aspirations, than merely feeding and clothing the body. Again, may not the long winter evenings with the opportunities for meditation, the reciting of old traditions, make amends for the ripening influence of the southern sun? Probably the northerner is susceptible from the greater delicacy of his nervous system; the native of the South, partially from the relaxing influence of the heat.

The Highland Scotch furnish more seers than their brethren of the less broken South. A mixture of races may produce a greater condition of suggestibility than is found in either of the originals. The phlegm of the German may so modify the native volatility of Irish blood as to produce excellent "sensitives," and many of the best that I have seen are of that descent.

The imperfect development of extreme youth, the pre-occupation of manhood, and the non-elasticity of age all detract from suggestibility and leave the formative period, from twelve to twenty-five, the most susceptible age, especially when deep or brilliant results are sought.

Idiots from lack of development are not at all suggestible. Imbeciles from weakness of nerve structure very readily so, but the weakness of structure causes weakness of nerve impulse so that the impressions are neither deep nor lasting. Constant suggestion is necessary to secure any results and post-hypnotic suggestion is practically impossible.

The delicate nerve structure of most women tends to make them more suggestible than men, provided they are in a state of good health. The old idea that women were less sensitive to pain than men, since they frequently endured more with less complaint, no longer abides with the neurologist. He recognizes a wider range of sensibility to pain, partially or principally owing to her greater suggestibility.

Vocation plays a part in the influence of suggestion. The man whose occupation requires little or no mental activity, who can pursue his labor and allow his mind to wander idly or rust in sloth, is less suggestible than he who has to keep his wits continually about him. The man whose work requires continuous effort, a certain amount of self-absorption, is more so than he who suffers from frequent interruptions. The man who is supreme in authority, who recognizes no rule but his own wishes, is less so than he who is amenable to discipline, and is largely guided by the orders of others. The man is more suggestible whose duties admit of a certain amount of relaxation, than he who is so continually on a strain that the neuron processes lose their elasticity.

Those who can most readily relax physically can usually relax mentally, hence those who are naturally good sleepers make the easiest and best subjects. Relaxation, either natural or induced, is essential to the production of hypnosis. With those of a non-neurotic type, slight exhaustion, weakness resulting from disease, provided they do not produce

instability, may contribute to increase the suggestibility. The unstable processes may be most easily affected, but the effect is not lasting. The sands are harder to raise, harder to move than the waters, but they remain where dropped when the gale is gone, while the waters subside to their former level.

It is not often that an unwilling subject can be controlled. This happens only when he is not aware of the attempt until it is too late, or when he is unusually susceptible to mental and physical suggestion, or when he has a firmly rooted belief that it is vain for him to resist, from previous hypnosis or pre-hypnotic suggestions.

The organic hindrances to hypnosis are imperfect nerve development as in very young children and the feeble minded, and degeneracy of nerve tissue, through disease, accident or age. One of the chief functional hindrances is instability of nerve action, the other is non-elasticity of processes manifested as decreased ability to be relaxed, or extended. So far as the mental manifestations are concerned, instability and pre-occupation of mind are the chief disturbing elements. With most people of good intelligence it is pre-occupation, with the neurasthenic and hysterical, instability. An active desire to be hypnotized is almost as objectionable as a resolve not to be. Curiosity as to sensations and results is equally fatal. A believer in hypnotism is often less easily influenced, other things being equal, than a skeptic, as I frequently have noticed in making experiments.

The believer will be observing methods, inquiring into effects, actively resisting or trying to aid the work, and perhaps unintentionally frustrates the efforts to obtain relaxation. The skeptic lets himself go, happily indifferent, believing that nothing can affect him, and when he regains

consciousness, first realizes that there is such a thing as hypnotism, and that he has unwillingly aided in demonstrating its truths.

Any means of promoting relaxation is of service in inducing hypnosis, from a word or look to chloroform.

Position and surroundings should be favorable; unusual or uncomfortable postures, unfamiliar sights and sounds must be avoided. The man who never has been accustomed to sleeping in a sitting position or in the daytime is hard to handle at that time or in that position. Darkening the room may remove one difficulty, a standing or reclining position the other.

The presence of a number of curious or skeptical individuals will frequently produce an unfavorable mental atmosphere, in addition to its direct annoyance to the subject. Hence, where hypnosis is used in clinics the better and usual way is to have the patient treated privately and then progress and methods reported to the students. When giving private tests I have always insisted upon at least one half of those present submitting themselves simultaneously. The consciousness of being watched and the possibility of being ridiculed are thus lessened. Frequently the example of seeing another hypnotized will promote relaxation. I have finally succeeded in hypnotizing refractory patients by allowing them to see several of their friends tested. Curiosity and fear are allayed and the power of imitation is increased.

The same principles apply in the production of informal hypnosis by physicians. High, stiff, uncomfortable chairs, strange and glittering instruments, anatomical charts, unusual and startling pictures, abrupt speech, all may prevent that relaxation so essential to placing the patient at his ease and gaining his confidence. That confidence once gained

will produce a further degree of relaxation, properly fitting the patient for receiving therapeutic suggestions.

Consultation rooms should be as far as possible free from disturbing sounds and interruptions, a rear room is always to be preferred. An office on a noisy street may be convenient, but it is not well suited to the treatment of nervous patients.

There are several states very similar to hypnosis, which nearly correspond to the definition, though usually unintentionally induced. They are characterized by the relaxation of some nerve areas and increased impressibility. Many drugs have such an effect. Morphia users generally yield to suggestions, though another element is concerned there, since most victims of habits are neurotics.

Chloroform is frequently employed to secure preliminary relaxation and prepare the way for suggestion. Cannabis Indica causes a state very similar to hypnotic sleep, people experimenting with it sometimes remaining in a trance-like state, very suggestible, for several days. A like condition is found in certain stages of delirium tremens. The man who reaches a state where a cord becomes a serpent, a shadow a monster, has the neuron processes very flexible so that they yield to intentional oral and mental suggestion as well as to the accidental physical ones that I have recited. Men able to control such patients are usually intense, personally magnetic, and, perhaps unconsciously, practice all forms of suggestion.

Those fully understanding hypnotism are frequently able to accomplish remarkable results with little or no aid from force or drugs. One acquaintance quiets a violent man and keeps him asleep for hours with an eighth the usual sedative. Another protected himself from the murderous assault of a patient in a maniacal state by hypnotizing him, catch-

ing the man's eye, fascinating him, keeping him rigid with uplifted hand clasping a large knife, wholly unable to strike the blow. He then disarmed the man and threw him into a deep sleep, from which he awakened almost entirely restored.

A peculiar state is that known to the hypnotist as hypotaxy, as "latah" to the Malays, and "jumping disease" and other names in this country. In some cases the origin is unknown; in others it may be referred to religious or other excitement. I have observed it only among what are known as the "jumping Frenchmen" of the northwest. The patient, markedly neurotic, is fairly rugged in health, suffers little, and will live to a ripe old age. His peculiarity is only manifested in his always acting upon a sharply spoken suggestion. While I was sitting in a north Wisconsin hotel, the porter entered, loaded down with a half a dozen grips. A guest shouted sharply, "drop them." The porter started slightly, opened his hands, and the grips fell to the floor. He looked about angrily, picked them up and carried them to the check-room. In the afternoon, at the station, as the Frenchman was handing a departing traveler his baggage checks, a bystander cried, "hit him." Instead of dropping his checks into the outstretched hand, the porter struck the astonished man a violent blow in the chest causing him to stagger back. Recovering himself and firmly grasping his heavy cane he rushed upon the offender, and only prompt interposition and complete explanation prevented the blow being returned with good interest, even to the point of usury.

The most interesting exhibit that I saw at the World's Fair was that of the "Dahomey Village." For more than two hours I watched the dancers, observing the fixed eyes, automatic movements, unconsciousness of surrounding things, impressibility to suggestion. The state was pro-

duced by the monotonous beating of the drums, the weird chants, the movements of the dance, and partially by active desire. Some of the African dervishes by similar means produce a condition of anesthesia, in which they slash and stab themselves with apparently no inconvenience and little loss of blood. A traveler reports the same occurrences in the religious rites about the tomb of the prophet in Mecca. The usually stolid American Indians present like phenomena in their "sun" and "ghost dances."

The most common form of unintentionally induced hypnosis is that caused by auto-suggestion. It is the basis of most functional disturbances and hallucinations. A good subject by this means may reproduce most hypnotic experiments, though to a less marked degree.

Strict auto-hypnosis seldom if ever occurs. The first idea may be acquired from an incident, from reading or conversation. The imagination takes it up, dwells upon it, enlarges it until it possibly dominates the brain.

Every physician can recall fellow students who during their college career were afflicted with almost every disorder lectured upon by the professors, that does not require as a symptom, gross lesions. It is not safe to ask some patients if they have certain symptoms. They will produce them by the next visit if they can not do so at once. Judgment and reasoning ability are wholly suspended at such times. An amusing illustration is that of a physician well versed in skin diseases, who possessed a very delicate skin. One spring, for the first time in his life, he noticed an eruption upon his body. He worried over the matter for a day or two, finally becoming convinced that it arose from the second stage of syphilis, he decided to arrange his affairs, that he might take a vacation, and go to a resort for treatment. The fact that he had never suffered from an in-

itial lesion had entirely escaped him, and it was only by pointing out the necessity of that symptom that the idea of syphilis was eliminated. The eruption continuing, a day or two later he was about to go into voluntary quarantine, to avoid spreading the measles, until his attention was called to the lack of other essential symptoms.

A frequent illustration of auto-suggestion is seen at materializing seances when the indistinct image of the medium's confederate is recognized in the darkness as a departed friend. The active imagination of the anxious observer clothes the shadowy outline with the well remembered features of the loved one whose presence is desired. This is made even more evident from the fact that the "spirits" are frequently clad in some garment which the beholder has especially admired many years before. The principle is identical with that in formal hypnosis when it is suggested that the subject will see a horse and he usually has a clear vision of the one most familiar to him.

The anesthesia and hyperesthesia of hysteria largely arise from auto-suggestion. Men and women who best endure pain are generally neurotic, have the highest evolved nervous system. They will suffer most keenly but sometimes endure with fortitude. The conditions are largely determined by the station and aims in life.

The woman who has a house full of children and engrossing domestic duties will labor uncomplainingly, though the gynecologist might declare that she is in a dangerous condition unless she is unsexed, while a trifling neuralgia or even less will convince the idler that the world is a mockery, life not worth living, and that she is about to rap at the pearly gate. Neurologists in charity hospitals, among working people find anesthesia the more common hysterical symptom, but the physician in private practice finds hyper-

esthesia more usual. Obstetricians who have noted cases of painless confinement invariably describe the patient as being of the neurotic temperament.

People differ not so much in their capacity to receive a pain producing impression as in their power to refuse to recognize it. The fortitude of the savage is partially due to the idea that it is "squaw-like" to exhibit signs of suffering, so the warrior who, lashed to a tree, his face and limbs mutilated, his flesh gashed and torn, his skin filled with blazing splinters of pitch pine, chanted his death song, and hurled defiance at his enemies, was raised to a hypnotic state in which there was no pain.

The flagellants of New Mexico who on Good Friday bind the most popular of their number to a cross, form a procession, and flogging themselves with cactus branches, follow out the account of the crucifixion, are exalted by religious enthusiasm to a more or less complete condition of anesthesia.

It is said that Archbishop Cranmer when burned at the stake, stood with outstretched hands, calmly addressing the people until the uprolling smoke and flame silenced his voice in death. It is none the less miraculous that the pain was prevented by auto-hypnosis.

During the days when it was common to extort money or confessions, to attempt to change political or religious opinions by torture, it was often seen that the utmost efforts of the rack failed to elicit a groan from the victim. Such persons frequently had upon their persons a charm or moved their lips in repeating a prayer or incantation. One who suffered none, was found to have in his ear a bit of parchment with a picture thereon of the three kings who came to Bethlehem. Belief in the efficacy of the means employed prevented all suffering.

Subjects used repeatedly by a hypnotist may finally attain such a power of self-hypnosis that the operator must be careful or he will be misled in his deductions.

Charcot's and Luys' experiences seem to me a fair illustration of this. Some untrained subjects possess this power and may puzzle the hypnotist to learn how far he has been concerned in producing the state and how much of it depends upon auto-suggestion. I once saw a half-drunken woman who never had been hypnotized, place herself in a state of partial catalepsy, and as she lay upon the backs of chairs, support a weight of more than four hundred pounds without visible effort. Neck and head muscles were wholly relaxed, the rigidity being noticeable only in the back and limbs.

It is well known that far more cases of impotence and spermatorrhea are caused by auto-suggestion after reading quack medical literature than arise from organic disease. The eastern fable says "The Plague" came to a principality and demanded ten thousand victims. Thirty thousand died, but the spectre answered to the complaint, that it had taken but the number demanded, fear had removed the others.

Many people have the power to produce in themselves local or general anesthesia. A lady while in a hospital recovering from a serious operation, so frequently threw herself into a state of catalepsy to relieve the pain, that the stitches were broken and a second operation became necessary. I have seen a man suffering from a severe case of ophthalmic gonorrhoea, lie down, go to sleep, and submit to treatment, with relaxed muscles, regular breathing, and every evidence of deep sleep. He could be aroused at a touch. Four or five times daily for two weeks he produced this state for his treatments, declaring that he never experienced the slightest pain, though suffering intensely while awake.

A request frequently made of a public hypnotist is, "Please give an illustration of post-hypnotic suggestion." This peculiar phenomenon has been variously interpreted. Some have said that at the moment of complying with the suggestion the subject falls back into the hypnotic condition, while others maintain that he is absolutely normal save in regard to the act to be performed. I have witnessed both conditions, but the later commonly.

One evening I gave two young men post-hypnotic suggestions. To the first I said that five minutes after awakening he would step to the window and look out, to the second a like direction to be executed in ten minutes. The first carried out the suggestion, but remained standing, asleep, eyes open, wholly unconscious of his actions. At the expiration of ten minutes the second subject again opened the window, explaining that the room was close, though it was in December, and the window had just been closed.

It is usually considered that a post-hypnotic suggestion can only be given to one asleep, and that ignorance of the suggestion having been given, is essential. In most treatments the subject remembers the suggestion, but usually the sleep comes or the pains disappear, the effect marking it as a true post-hypnotic suggestion. I shall refer to the subject again.

The stages of hypnosis have been variously classified. The older mesmerists named four, Liebault, six, Bernheim, nine, Charcot and Forel, three, Max Dessoir but two.

I find three distinct stages, though some of them can be subdivided at will.

1st. A stage of relaxation.

2d. A stage of irregular muscular action, sometimes called a Physical Stage.

3d. A stage of irregular mental activity, characterized by sense hallucinations, called sometimes a Mental Stage.

The first is marked simply by relaxation, personal comfort, sometimes drowsiness, and especially by the increase of impressibility. It is the usual stage of informal hypnosis and the subject will frequently deny that any effect has been produced. Therapeutic suggestions in this stage should be accompanied by placebos.

In the second stage the mental faculties are unaffected, but certain muscles are seemingly paralyzed, made cataleptic or to perform automatic notions. Light sleep may be induced, and therapeutic suggestions be given without reinforcement from placebos. The subject may have his attention so fixed as to diminish the action of the perceptive faculties, but never loses his individuality.

In the third stage, arbitrary combinations of processes are formed, other natural ones prevented, and the action of the senses is obstructed or perverted. Ammonia becomes a sweet odor, cologne detestful; mosquitoes bite in January with July vigor; strawberries may grow thickly on velvet carpets, while gay butterflies flit about the parlors, lighting upon curtains and chandeliers. Phantom horses are driven upon ethereal tracks; imaginary balloons ascend to awful heights. Pains and pleasures appear and disappear at command. Some may be plunged into so deep a sleep that they are unconscious to every influence. Not all subjects in this stage can be affected to the same degree. The brilliancy of the results depends upon the subject's imagination. As frequently observed, catalepsy is absolutely not an essential stage, but may appear as an accompaniment of each of them. The degree of analgesia necessary for major surgical operations may appear in the third stage, but not necessarily.

A higher and rarer manifestation is that of the clear per-

ception of mental suggestion, known as telepathy or thought transference. Rarest of all is that of clairvoyance, of which I have seen but little. I will try to explain the difference between these phenomena. By telepathy a subject perceives something within the knowledge of others, and impossible to be perceived by his physical senses. By clairvoyance he learns something not within the knowledge of others and impossible to be perceived by his physical senses. The difference is in the knowledge of those with whom he is associated. One is the perception of thoughts, the other of things without the aid of the five physical senses. One or two instances will illustrate the principle.

One evening I hypnotized a lady, stood behind her, turned the hands of my watch to "two" and asked the time, assuring her that she could see the watch, and thinking "two" intently. The answer was correct. I turned the hands again without looking at the watch; no one saw it. Hesitatingly I received the reply "half past ten." The watch showed ten minutes of six, the same position of hands as for ten-thirty, only the relative position of hour and minute hands reversed. The hands were of the same length, only slightly differing in shape. I changed them again without examination. There was more difficulty this time. "Eight t—t—t." That might be started for ten, twenty or thirty. There evidently was indistinct vision. I risked the ten and inquired if it were "eight-ten," finally receiving an affirmative reply. Examination revealed eight-twenty. A change to nine with intense thought brought a prompt reply of "nine." Correct response was made to thoughts of names, colors, etc. The subject, who was only tested on that occasion, said she could not see the watch distinctly. She answered readily and correctly those things within my knowledge, approximately those without

it, as a man whose sight is dim will err slightly in his descriptions.

An interesting case of clairvoyance was unexpectedly presented to an entire audience at the opera house in Freeport, Ills., October, 1896. Dr. Flint was presenting a scene representing the experiences of a dull witted farmer and his handsome wife, having their photographs taken. A flirtation was excited between her and the gay artist, but it seemed impossible to divert the husband's attention long enough to allow any serious love-making. Grasping the "farmer" by the arm, Dr. Flint raised him to his feet, disarranging his hair and loosening his tie, and led him to the opposite corner of the stage, where he was made to believe there was a large mirror by which he could arrange his toilet. The "farmer" stood with his back squarely towards the other subjects, but scarcely had the "photographer" straightened himself from stealing a kiss, before the aggrieved husband wheeled about and started towards him like an angry tiger, crying "Let me at him. Let me kill him. He kissed my wife." The operator seized the angry man and tried to quiet him by saying that he was mistaken, that nothing of the kind had occurred. "Suggestion" for once, did not avail, for the man shouted "Yes he did, *I saw him in that looking-glass.*"

A knowledge that his wife had been kissed might have come through telepathy, but it seems to me that actual perception of what was passing behind him by means of an imaginary mirror, is clairvoyance. Conception of the mirror and himself is secured by imagination and memory, but the other idea requires a higher power.

It is very difficult to establish a universal percentage of susceptibility to suggestion. Most of the observers and writers have made their deductions from work in a single

locality and among those of one race. Traveling operators rarely have more than one or two trials, and those with rather unfavorable surroundings. Hansen and Sextus, who traveled extensively through Europe, report a percentage varying from twenty among Germans to sixty among Scandinavians. In this country the percentage varies with the locality and times. Strikes, epidemics, elections always decrease it. Fifty to sixty percent of noticeable suggestibility is a reasonably correct estimate, though probably every sane person can be affected to the first stage. An average of twelve percent enter the third stage. For the physician it is not a question of how large a percentage can be hypnotized, since nearly all can be affected to the degree that is necessary to relieve them of their sufferings. Only those who have been too long neglected or improperly treated are beyond the aid of suggestion in functional disorders.

The question of tests is an important and perplexing one. No two subjects are alike, and unless through imitation or in response to suggestion, rarely show the same peculiarities. There is little change in circulation and respiration upon entering the hypnotic state, except there be some agitation on the part of the subject or the Braid method is employed, when the pulse may become rapid or irregular and the breathing stertorous. Sometimes partial or even complete catalepsy may follow. With other means of producing hypnosis, relaxation, which is the sole aim, is the sole result, so that the tests of hypnosis are simply the appearances of physical and mental relaxation, when sleep and passive conditions only are desired. Before beginning tests I study the position and find how much effort is required to maintain it, and observe if the eyes are "rolled up." I then lift the hand and drop it. If there is no reflex, it is favorable, but if it readily moves, or remains rigid, the goal is still distant.

I incline the head, note the resistance to the movement, and how readily and steadily it retains the new position. Sometimes partial catalepsy appears instead. Relaxation generally produces varying conditions of anesthesia. A feather in the nostrils will produce no sensation, but on the other hand there may only be such an amount of relaxation as will produce hyperesthesia. Some observers maintain that this condition always exists in the female sexual organs. Hypnosis, however, does not cause the orgasm so common to narcosis. When the eyes are opened the pupils are usually found dilated. Sometimes a puzzled look presents itself, especially when a suggestion is not clearly understood. Many additional tests will be given under formal hypnosis.

I may say that absolute tests are few; there is no arbitrary test that universally applies. It is the difference between the conditions presented and those appearing in the normal state. The most valuable of these are the increase in impressibility and rapport. The subject may be a little slower in acting upon a suggestion than normally, but he is far more intense. Whatever he does, he does better. There is no timidity, no lack of assurance. He sings better, plays the piano better, jumps higher, runs faster, strikes harder. Relaxation of all parts of the brain except those involved in the suggested form of physical or mental activity, prevents nerve impulses through collaterals which might affect the power and regularity of those impulses essential to the required action. This is also the reason why the neurotic usually excels his companions, since unconsciously he produces similar conditions of concentration by auto-suggestion.

The poet in a frenzy of inspiration heeds not the chilly atmosphere, the expiring embers; the musician is unconscious of his surroundings; the orator rises supreme to

every feeling of physical discomfort through auto-suggestion. It is related of Henry Clay that while ill he once rose to speak for ten minutes upon an important question, strictly charging that he be stopped at the expiration of that time. His coat was pulled, a pin was brought into requisition, and gradually inserted into the leg, but without effect. Finally he saw by the clock that he had been speaking two hours, and fell back into his chair exhausted, after making one of the best speeches of his career.

A public presentation of hypnotic experiments always seems most wonderful to actors and those accustomed to seeing good impersonating. There is a perfection of detail, because the subjects are not imitating but living the part. Nothing, however, can be brought out under hypnosis which is not within, but much can be secured of which no one knew. A young subject in a western city had been taken from school at the age of fourteen to aid in supporting the family. He never had exhibited any marked ability in any line except that of his trade. On a Wednesday evening he was given the suggestion that he was a local democratic lawyer making a political speech. For fifteen minutes he held the audience spellbound. I have heard many short political speeches, but none equal to that. The small audience was aroused to the highest pitch of enthusiasm. At the close of the entertainment I approached him, and learned that he was a republican, never read the papers, never talked politics, and never had heard but one political speech in his life, and that one by J. Sterling Morton, then Secretary of Agriculture, a year before. The good points, the brilliant ideas, the trenchant expressions of Morton's speech had fallen upon fallow soil in the young man's brain and lodged, but if it had not been for hypnotism the fact would never have been known.

The following evening the house was crowded, nearly every professional man in the city being present on account of the interest excited by that speech. A demand was made for another, but the results were not so good as before, since, owing to the anxiety of the subject, he could not be so deeply hypnotized. Still it created a sensation, and for two days he was the talk of the town. The many compliments lead him to believe that the mantle of Webster had fallen upon him, and that it was rather a condescension upon his part to exhibit his powers under hypnosis, but he was rudely awakened from his dream. The closing night he was hypnotized for another speech, the subject and line of argument suggested, and then he was gradually awakened. On previous occasions his voice had rung out like a silver clarion; people stopped on the streets as the tones rolled from the open windows. He had stood erect, his glances bold, his gestures free and unconstrained. Now a half dozen words brought him into hopeless confusion. His head was bowed, he stammered, halted, pulled his hair despairingly. The faltering tones could not reach half the length of the house. He soon stopped and stood trembling until told that he might be seated. At the close of the entertainment he heartily thanked the hypnotist for removing the illusion and giving him a clear understanding as to the difference hypnosis made in his oratorical ability.

Another striking illustration of increased power under hypnosis was that of an increase in the imitative power that appeared during a private test. A colored lad, somewhat timid, was desired to sing for the entertainment of a few friends. He resisted all persuasion, would not respond even under hypnosis, until he was informed that he was Miss T., a soubrette whom he had seen and heard a few evenings before, and that the audience were assembled

waiting to hear "her" sing. Then he complied. Miss T. is now a music-hall celebrity, more famed for her vivacity, her exuberance of gesture, the liberties she takes with the tempo and tune, than for the purity of her songs. At this time she was in the "legitimate" and no objection could be made on that score. The colored lad was accustomed to sing one of her songs to a jingling piano accompaniment, changing the march movement of the stanza proper to the waltz movement of the chorus. To our amazement he now sang the song as did Miss T. The only difference was in the quality of the voice, and even that was softened. Every nod of the head, every sweep of the arm and crook of the finger, each turn of the body and swish of the skirts, each smile and wink, trill inserted or run omitted, all were present. The different changes for the various stanzas appeared.

The following day, at my request, he sat down at a piano and repeated the song, but it was the same old monotonous jingle. A few weeks later the experiment was repeated, but with less brilliant results. The impression had gradually become weaker.

Rapport is commonly spoken of as that characteristic when the subject ignores others and responds to the suggestions of none but the operator. This is not strictly true, and I shall cite later some cases of trouble arising from injudicious suggestions by others. The subject responds more readily to the suggestion of the hypnotist, and usually to none inconsistent with those given by him. If I wish to awaken a subject hypnotized by another, I first induce a deeper degree of relaxation and then arouse him. If he is in some active mental condition, I first put him to sleep. If he has been given a suggestion that he has a basket of apples I can not convince him that they are potatoes or

pears, though I may define the number and variety if these have not been suggested, or may induce him to lay them aside, and then create some other hallucination. It is not improbable that the phenomenon of rapport is at least partially due to the recognition of mental suggestions from the operator, which serve to strengthen the oral ones. When two or more people have been in the habit of hypnotizing a subject, he usually will accept a suggestion from any of them, no matter which had placed him in the hypnotic state.

Hypnosis works no miracles; it simply intensifies powers according to the principles laid down, but under its influence talents can be cultivated and some of the increased power will remain with the subject in his normal condition. Hypnosis is available to inculcate good habits as well as to eradicate bad ones. The most timid man that I ever saw became an able public speaker through hypnosis.

LESSON III.—FORMAL HYPNOSIS.

There are many methods of producing formal hypnosis and the skilled operator should be master of them all; one patient yields best to passes or some of them, another to the control of the voice, another to the Braid method of fixed attention. Without attempting to mention all the means, I shall describe such as the experience of many years has taught are most suitable. Understand that at *all* times, save with too impressionable people, mental suggestion, will force, psychic force, call it what you please, should be used. The other methods and the phraseology of verbal suggestion should be so familiar as to require no mental effort. If the proper amount of mental effort is made, there will be no difficulty in becoming positive in voice and manner.

The brain can be stimulated by the following process, as taught by the mesmerists who used it to expel the magnetic fluid (?) and to increase volition: Stiffen the muscles of the arm, shoulders and neck. Those of the face are less important. This stiffening, by its effect upon the circulation, compressing the jugular veins, will retard the return of blood from the brain and increase cerebral congestion and mental activity. The condition appears involuntarily when a man becomes enthusiastic, and in all magnetic speakers. It can be used at will by any man who wishes to increase his personal power and will aid much in the development of personal magnetism.

It is said of the late Henry Ward Beecher that after an unusually able effort he found his collar burst from the enlargement of the neck muscles. Magnetic people almost invariably have well developed necks.

The question is frequently asked as to what class of people make the best hypnotists. Neurotics naturally learn this art easiest, as they do all others, and make the most brilliant operators, but for the systematic use of suggestion, especially in therapy, common sense is the chief requisite.

The precise field of the passes I am unable to determine. A mild current of electricity is said to be generated by the gentle stroking of the skin. Those who say that they feel a mild shock when a so-called magnetic person touches them, are probably influenced by hyperesthesia as much as imagination. It is needless to say that the hands should always be warm.

Downward passes soothe, cause relaxation. Upward passes arouse, cause activity. This is seen in the mother's caresses of her babe as well as in hypnosis. Observation will show that every soothing motion is from the head toward the extremities.

There are two physiological explanations and each probably plays a part. The pressure passing downward slightly retards the return flow of the blood, increasing the amount in the limbs and lessening the amount in the brain. The pressure may also prevent nerve impulse from going toward the brain, thus tending to weaken the effect of peripheral stimulus and to diminish the action in the brain areas thereby affected. The converse holds good and kneading massage movements upwards, aiding the return of the blood and the progress of nerve impulse from the peripheral end tufts, afford a valuable means of arousing the subject and restoring a normal condition. The passes are also suggestive, as

the patient, knowing they are used to make people sleep, imagines that they will perform a like office for him.

The passes probably aid the operator also, by helping him to fix his attention, and giving him increased confidence in himself, since we are not all cultivated to the degree where we can dispense with the material in life.

Gazing at a small object, a bright light, flashes of light, listening to sudden or monotonous sounds, electricity, and even a few whiffs of ether or chloroform, are all valuable adjuncts to mental and oral suggestion. Anything that promotes relaxation, inspires confidence in the operator, is a legitimate method. The following is sometimes used (*Plate 4) principally to inspire confidence.

Have the subject stand erect, feet close together, hands at side, gazing intently into one of your eyes which you have made seem as large as possible by forcing the lids apart. When his eyes become fixed make a few circular sweeps of the hands, right on left side and left on right side of the head; then keeping them parallel, finger tips almost touching his cheeks, bend slowly backwards. If you hold his eyes he probably will fall forward, though you may find it necessary to give a verbal suggestion to that effect, and that he feels a drawing sensation forcing him off his feet, and that you will not let him fall. Catch him as he comes forward and restore him to his feet. If you wear glasses and can possibly dispense with them, do so in all tests requiring the use of the eyes. (Plate 5.) Close his eyes, stand behind him, make the sweeping motions as before with a final sweep down the back, finger tips just touching it. Incline backwards with oral and mental suggestion that he is falling toward you. If he inclines, catch him, and help him to an erect position. These experiments test sus-

* Plate 4 and following ones will be found in the Appendix.

ceptibility to suggestion, and, if successful, inspire confidence in the operator.

An experienced operator in testing people possessed of fairly good powers of relaxation, usually first makes a brief explanation that hypnosis implies simply relaxation and concentration, and without touching the subject, asks him to close his eyes and think of them getting heavy and of getting drowsy, using suggestions similar to those given below for tests.

I will give six of the most useful passes.

Pass One. (Plate 6.) Place the subject in a comfortable chair, head resting against back of chair in an easy position. Sitting or standing before him clasp his left hand, balls of thumbs touching, fingers resting on backs of each other's hands. Place right thumb between his eyebrows, resting tips of separated first three fingers upon the top of his head. Let the muscles of your forearms and hands be so contracted that a slight trembling results from the intensity of the contraction. This will possibly arouse the idea of an electric current. Gaze into his eyes with what is called the "mesmeric look" by some, the "round eye and large pupil" by others. It is this look which made the owl and the serpent the emblems of wisdom.

(Plate 7.) It is secured by relaxing the accommodation of the eyes and gazing at the bridge of the subject's nose, then making a sudden motion, projecting the chin, contracting the neck muscles, opening the eyes wide, assuming a fixed stare. The subject's eyes should seem first four, then three and finally one in center of the forehead. A distorted view is had of his face, which seems narrowed. If the individual is impressible by this method his pupils will dilate, and his gaze become fixed. The celerity with which this occurs determines the degree of suggestibility. The look

is sometimes best attained from a distance. After securing the look gradually draw back; practice will enable you to hold it a considerable distance.

It may be practiced by placing two dots upon a plain card two and one half inches apart and trying until the dots gradually come together and coincide. If the subject does not readily respond to the gaze and mental suggestion, proceed with the oral ones.

"Think of your eyes getting tired. Think of the lids becoming tired. Think how heavy they are becoming, so tired and heavy that you can scarcely keep them open. Think of becoming sleepy and drowsy, think of the lids drooping, etc."

Keep up these or similar suggestions until the eyelids commence to tremble, the pupils to dilate and the eyes to assume a far-away expression. Then touch the forehead and direct him to close his eyes, rolling them upwards as in sleep, and proceed with the other passes in order up to and including the fourth.

The mesmerists held that the right hand was positive, the left hand negative; that the thumbs were positive and the little fingers negative, and should never be used in making the passes. Their shortness, making it awkward to use them, is a sufficient reason for dispensing with them.

Pass Two. (Plate 8.) Subject's position remains unchanged, except hands are placed on knees, palms downward. Raise both hands, tips of left fingers resting upon backs of right, elbows upon a level with shoulders. Touch center of subject's forehead with fingers, at the same time separating the hands, pass them firmly but gently along the forehead and down each side of the face, dropping from the jaw to the inside of the arms, along them and the outer edge of the backs of the hands, pressing firmly upon the

cuboidital spaces and the ulnar nerves. As the tips come to the Zygomatic arch drop the elbows to the sides. After an outward sweep, join the finger tips and proceed as before, keeping your muscles rigid and giving earnestly oral and mental suggestions: "Think of sleep, think of going to sleep, think how sleepy and dreamy you are becoming, drowsy, drowsy; sleepy, sleepy, etc." Later, after some effect is produced, you may say "Sleep. Sleep deeply. Fast asleep, etc.," but never say "You are asleep," as it is apt to arouse antagonism. Speak earnestly but not too loud. Use a low pitch and falling inflection. You can frequently aid progress by gradually softening the tone and passes and increasing the time between them. As a relief, other passes can be used. Remember that with the first pass the suggestions are chiefly directed to the eyes, with the others, to sleep.

Pass Three. (Plate 9.) Press thumbs over temporal fossæ, finger tips just meeting at edge of forehead. With the thumbs as a pivot rotate fingers lightly from forehead to occipital suture, being careful not to touch ears. Make an outward sweep of the hands from this point, passing the thumbs across tips of fingers from first to fourth. Suggestions same as with Pass Two.

The movement across the finger tips was said by the mesmerist to develop the magnetic current. It may impress the patient, and certainly makes the operator feel more comfortable by distributing the oil that collects upon the fingers from passing over the hair.

Pass Four. (Plate 10.) The position and movement of left hand are the same as in Pass Three. Place right thumb on bridge of subject's nose, tips of fingers almost touching those of left hand. Rotate right hand from top of forehead along side of face to lower jaw, then make out-

ward sweep of arms and pass thumbs across finger tips as in Pass Three, and with same suggestions. In using Pass Four, and also Five and Six, it is well to stand rather to the right than in front of the subject. Passes Five and Six are to be used only when refractoriness arises from hyperemia of the brain and when the subject is unable to relax himself to an appreciable degree.

Pass Five. (Plate 11.) Grasp base of skull firmly with left hand, place right hand as in Pass One. Rotate the head, making a small circle. Suggestions as before.

Pass Six. (Plate 12.) Clasp subject's forehead firmly with right hand, left hand in same position as in Pass Five, and rotate the head in same manner. The suggestions are the same, but are of less importance than when the first four passes or none are used.

The Braid method (Plate 13) can be easiest employed as in Pass One or some modification of it retaining the gaze, or by holding a small shining object about two feet from the subject's eyes at an angle of forty degrees above their plane, then gradually bringing it towards him until it is within six or eight inches of the eyes, repeating the same line of suggestions as when passes are used. Or the suggestions can be used alone without any passes.

It will sometimes be found that a subject never has slept in the daytime; then darken the room, or test him late in the evening. Or if he never has slept in a sitting position, cause him to stand, and possibly incline a little backwards, supporting him so that he can not fall. Children I usually have sit upon my knee, gaze into my eyes until they become drowsy, and then gently rest their heads on my shoulder, using soothing suggestions.

I will again refer to the tests for hypnosis, and will outline such experiments as are justifiable, simple, and point

out progress in hypnosis, or a principle. I will present them in the order of development as far as possible.

During the giving of the passes and suggestions, watch the subject's neck carefully for relaxation. If there appears an absence of reflex there and in the arms, other tests should be made to determine the depth of hypnosis, for some are able to relax themselves physically and yet are unable to control their thoughts.

I do not direct you to follow my language exactly in the giving of suggestions, but the order of suggestions. The word "think" used at the beginning of all suggestions is to prevent antagonizing the subject and to keep him working with you rather than against you.

A general order of suggestions can be followed in most of the tests of the second or physical stage, which I now take up.

1st. Position. Place the subject in a proper position for the beginning of the test.

2d. Think of effect to be produced. That is, "Think of your eyes getting fast," or "Think of your arm becoming stiff," etc. Repeat the suggestion until you believe this has occurred.

3d. The effect is produced. "Your eyes are fast, etc." This suggestion should be given but once or twice, and a little more quickly than the preceding ones.

4th. The effect can not be resisted. "You can't open your eyes, etc." Repeat this one also but once or twice.

5th. Try to resist effect. "Try to open your eyes, etc."

6th. Release effect. "All right, etc."

Three, four and five may be run together, as "Your eyes are fast; you can't open them; try." Emphasize the proper words. To place the stress upon "open" instead of "can't" in the given examples might frustrate the efforts. Too much

stress can not be laid upon the necessity of using mental suggestion earnestly, of keeping the tone low and firm, but not boisterous, the inflection falling.

Touch the center of the subject's forehead and say: "Keep your eyes looking upward as in sleep." Then with the ball of the thumb resting upon the bridge of the nose (Plate 14), and a gentle traction downwards, suggest: "Think of your eyes getting fast, tight, so tight that you can't open them." Repeat until you believe from the rolled-up position and the subject's settled expression that they are fast, then say: "They are fast. You can't open them; try; harder, etc." Keep the firm but gentle pressure upon the nose, and make the mental suggestion as positive as possible. Always suggest "All right; you can open them, etc," before the subject opens them himself, if you have produced any effect. Don't give him a chance to free himself from the effect of the suggestion, as it will cause him to lose confidence in you.

If he complains of a feeling of soreness in the eyes have him close them, and pass the balls of your thumbs briskly over them a few times with an outward sweep, assuring him orally and mentally that they will be all right after three, five or seven passes, as you choose. Sometimes a bit of paper or a feather is inserted in the nostril. If it is desired to test for analgesia, slapping, pinching, tapping the eye-ball, or a needle inserted under the nail may be employed.

If the subject is a promising one, you may omit the passes, give the suggestions of heavy eyes, drowsiness, sleep, etc., then proceed to the testing of the eyes.

The Braid method sometimes produces nervousness or even pain and convulsions, and discretion should be exercised in its use. I only employ it as a last resort. Sometimes the subject's eyes become fixed and he can not close

them, in which case they should be gently closed with the fingers.

It is best not to attempt any of the mental tests until at least a few of the physical ones have been made.

In making experiments hold the subject's eyes as far as possible, and aim to produce, where practicable, nearly the same condition in yourself, thus calling imitation, always increased under hypnosis, to your assistance.

The test already given and the two following may be used to test the subject's power of concentration which is, I believe, simply the relaxation of areas not necessarily engaged in carrying on the form of activity desired.

Have the subject clasp his hands, palms tightly together (Plate 15). Gaze intently into his eyes, using the mesmeric look. Press his hands together, saying: "Think of your hands becoming fast together." Keep your own muscles rigid and pass tips of your fingers along subject's arms from shoulders to hands, repeating suggestion, until the expression of his eyes indicates that his attention is fixed, then touch gently the tips of his overlying fingers. If they are hard from pressure you can go on with other suggestions. If soft, showing that the muscles still are relaxed, continue to repeat the suggestions until you succeed or fail in producing the result. If the tips of his fingers feel hard and firm, place your own rigid fingers just in contact with his and tell him "Your hands *are fast*, you *can't* pull them apart; try; etc." Prolong no test longer than necessary; always release before the subject frees himself, and in tests involving partial catalepsy, as does this, always give upward kneading massage movements to restore the disturbed circulation, and movement of nerve impulse, and prevent soreness of the muscles.

Hold your hands outstretched, palms upward, have sub-

ject place his hands upon yours, palms upon palms. Gaze intently into his eyes. (Plate 16.) Suggest: "Think of your hands becoming *fast* to mine; think how *fast* they are becoming; so fast that you *can't* pull them away, etc.," until you feel his hands bearing down upon yours, which are held firm, then proceed with other suggestions: "They *are* fast; you *can't* pull them away; try, etc." If successful, repeat the test, having subject rest hand upon a table or mantel, or let a single finger touch one of yours.

Have the subject close his fist, press it firmly together. Hold his eye and press rigid finger upon back of his hand. Suggest "Think of your *fist* becoming *tight*, etc." (Plate 17.)

If you find that you can hold the subject's look and that he is able to fix his attention easily, let him look at his hands or whatever may be the center of interest, after first securing his attention by having him look at you.

Have the subject straighten forefinger, closing others. (Plate 18.) Pass your own rigid finger along the back of his from tip to knuckle suggesting "Think of your finger becoming *stiff*; *stiff* as a rod of steel; so *stiff* you can't bend it. Think how stiff it is becoming, etc." Then test with "It *is* *stiff*; you *can't* bend it; try, etc." If the finger bends a little, passing your own finger from tip to knuckle again, and repeating suggestion, will probably straighten it; or have the subject again look into your eyes, and give suggestions anew.

Have subject extend his right arm, close fist, contract muscles, and look into your eyes. (Plate 19.) Touch fist with fingers of your right hand. Pass left hand gently but firmly from shoulder to wrist, saying, "Think of your arm becoming *rigid*; *stiff* as a *bar of steel*, etc." Then, "It *is* *stiff*; you *can't* bend it; *try*; *try* harder, etc." If he raises his arm follow it with your right hand and then

just touching back of his hand with tips of your fingers, pull down with every appearance of using force. This physical suggestion will probably return it to its former position, if suitable oral and mental ones accompany it.

A similar test is to have the subject place his clenched fist near his shoulder, and then holding his gaze, make downward passes from his hand, telling him that you have a rope around his arm and are pulling it down; that it is getting heavy, etc.

Stand in front of subject and catch his eye, then still holding it (Plate 20), stoop and touch one or both knees, saying, "Think of your knee becoming *stiff*; think how *stiff* is becoming, etc.," until you feel the thigh muscles contract. Then step backwards, keeping your own leg stiff, and say "Walk towards me and see how stiff your leg is." Release and massage as before.

Place subject standing in front of a chair. (Plate 21.) Touch both knees and give the suggestion, "Think of your knees becoming stiff; so stiff that you can't sit down, etc." Stand erect, still holding subject's eye, and suggest "They are stiff; you *can't* sit down, etc."

Have subject sit in chair, leaning forward, hands resting firmly upon his knees, gazing intently into your eyes. (Plate 22.) Touch each part as it is mentioned, saying: "Think of your shoulders and arms getting stiff; your back and waist, your hips, knees and ankles." When his expression indicates concentration, then, "Your joints are so stiff that you can't get up; try, etc." Hold his eye and motion him back with hands.

(Plate 23.) Have the subject open his mouth widely, then touch the muscles of his cheek saying, "Think of your jaws becoming *stiff*; set so that you can't close your mouth, etc. They are *stiff*; you *can't* close it. Try, harder, etc."

In making this test, keep your own mouth open and set as far as possible, tense trembling finger pointing at subject's open mouth.

The mouth kept closed is presented in a similar way. The tests so far are all minor tests in catalepsy or paralysis.

The next experiments, according to Bernheim, belong to a higher stage.

(Plate 24.) Face the subject and hold his eyes. Tell him to think of stuttering when he tries to speak his name, and give him an example of how it sounds. Touch the hyoid region, saying "Think of your tongue swelling, becoming thick, so thick you can't speak without stuttering." A movement of the larynx will indicate that control has been gained. Then proceed with, "It is thick; you can't say it without stuttering; try, etc." Give the example if necessary, and keep your own mouth open. His will be apt to assume the same position through imitation, and thus make articulation difficult.

To stop a subject's speech, gaze into his eye, and touching him under the chin say, "Think of your tongue getting *stiff, paralyzed*; it *is* paralyzed, so stiff that you *can't* speak your name, etc." Keep your mouth closed as nearly as possible, just relaxed enough to permit speech.

Possibly even more effort is required to obtain the so-called automatic movements of the hands. Secure the subject's attention, and tell him to set his thumb in motion, illustrating the movement. (Plate 25.) "Keep it moving faster, faster, faster. Think of perpetual motion. It is beginning to go so fast that you can't stop it. Try, etc." You can shift the movement to the other thumb, or to both of them. Similar suggestions as to rotating the arms about each other or to moving them up and down will bring gratifying results, but you should first direct a general relaxation of hands, wrists and arms.

When the subject is engaged in any experiment, a sudden placing of the right hand over the eyes, your left assuming its position as in Pass Five, and a slight twist to his head, with the sharp suggestion of "Close your eyes, sleep, sleep, dead asleep," will put the subject in a proper state for post-hypnotic suggestions.

Probably not more than ten percent of all people enter the third stage and become mental subjects. The imagination is an essential factor. Relaxation alone will not suffice; there must be a flexibility, a delicacy of processes, permitting rapid, unusual, new combinations.

Every effort should be made by the operator to experience the same sensations himself, and he should at least manifest as far as possible the outward appearance of experiencing the sensation.

Suggestions vary with the experiments. Let it always be understood that the first step in commencing any test or experiment, save with a few very susceptible subjects, is to secure the subject's attention by having him gaze into your eyes.

The sense of feeling is most easily affected, then taste, smell, sight and lastly hearing.

In producing an itching sensation, as of a flea or mosquito bite, touch the place to be affected, and tell the subject "Think of a mosquito biting the back of your hand; think how it itches, etc." (Plate 26.) All the time indicate by action and expression that you yourself have been bitten. Be as intense as possible with both oral and mental suggestion. Continue suggestions for several moments before admitting a failure. In case of a fleabite upon the back, touch the subject between the shoulders, and shrug your own if necessary, letting your face indicate the appropriate expression. Toothache (Plate 27),

stomachache (Plate 28), and similar tests all require about the same line of suggestions, both physical and oral. Find out what teeth have ached and touch one of them while making the suggestions, assuming if possible an expression of intense pain.

To affect the sense of taste tell the subject "Put your finger to your mouth. Is there any taste?" If he replies "No," try to get a salty taste first. Perspiration commonly causes a little of that, which may become marked on suggestion. "Think of your finger tasting salty. Think hard of it. Think how salty it is. Now taste it, etc." "The salty taste is now gone, and it tastes sweet. Try it." You can switch rapidly after getting the first result. Proceed in the same way with sour and bitter, possibly asking him when or what he has tasted that was sour or bitter. Let your own facial expression say that you have the same sensation.

Mixed hallucinations involving both feeling and sight are the easiest introductions to tests of the latter sense. The bleeding nose is one of these. Touch the tip of the subject's nose, asking him to think of the last time his nose ever bled, and to think of the itching sensation as the blood trickled down his face. Pass the finger tips, vibrating them, from the nose down to the point of the chin again and again. "Feel the blood trickling down; look at it; see it on your tie, your shirt, your vest; wipe it away with your hand. Look at the blood on your hand, etc." If this hallucination is secured, he can be made to wash his face in an empty basin and dry it on a newspaper or execute any variation that the ingenuity of the operator may suggest. The following is a comparatively easy test:

"Put your hands in your pockets. Now think of your pockets being filled with molasses, and how nasty and

sticky it is." Repeat until his expression indicates success. "Now draw them out; look at them; see how nasty and sticky they are. Taste the molasses; see how sweet it is. Clean them off, wipe away the sticky substance," making expression, voice and gesture as expressive as possible.

These tests afford a good clue to the possibilities of the subject, and success in them indicates that almost any mental experiment can be made and that analgesia may be induced.

A pretty test is that of seeing a butterfly. Ascertain the species that has last or most commonly been seen. Have him close his eyes and suggest to him that he think of that butterfly, its bright colors and gay spots. Then say "Open your eyes and look at mine. Just think of that butterfly, and how its wings flutter, etc." Make graceful sweeps of your hand through the air, keeping the fingers constantly in motion. "Look at my fingers; there is the butterfly; look at it; see it; there it goes," pointing towards the wall. If the subject's eyes follow the movements of your hand very closely and remain looking in the direction to which you last pointed you can conclude that he sees the insect. The experiment may be carried on and terminated as the operator wishes.

The mesmerists produced all experiments by giving the subject the suggestions while he was asleep, and telling him that the conditions would appear when he opened his eyes. The following experiment is best done in that way. Put him to sleep and tell him that when he opens his eyes he will not remember his name; that is going from him, gradually slipping away, and that by the time he opens his eyes it will be gone entirely. "Open your eyes and look at me. You have forgotten your name; you can't think of it; it has gone entirely." Move your fingers rapidly before the

subject's eyes so as to confuse him (Plate 29). When the puzzled expression shows signs of disappearing, and he seems about to remember his name, repeat the suggestions. "Close your eyes again and I will tell you your name. It is Smith, John Smith, and you clerk in a grocery, etc." Any character may be assumed that the subject has no deeply rooted prejudice against. A subject seldom or never entirely loses his individuality. He is not a new man. Some areas of the brain are relaxed, but even those may be affected through the action of collaterals. You say to him, "Why, you have forgotten who you are. You are not a man but a little boy, with knickers and long stockings and a shirt waist." Hand him a broom and suggest, "Here's your hobby horse; you want to ride it. Here, get on and ride. Whoop! Away you go!" and he will probably dance away with delight. But try to make him think that he is a detestable character as "Benedict Arnold," or the town fool, and you will have your labor for your pains.

Other experiments are made in similar ways, and to name them will indicate the line of suggestions, if the lessons so far have been well learned. Some are fishing, making faces, afraid of a mouse, waltzing to imaginary music with a chair partner, talking upon any subject outlined, fighting bees, unable to lift chairs, driving a fast horse, courting a broom for a girl, feeling hot or cold, hot chair, hot money, picking strawberries and character impersonations.

To create functional blindness, give the subject repeated suggestions while he is asleep, that he will be blind but not alarmed when he opens his eyes. There will be a slight reflex to light, but no response to threatened blows or stabs with a knife. Deafness can be similarly produced, but not readily or safely, since the deaf subject might not be easily awakened.

The most pathetic of all tests is one sometimes called "The Gates Ajar," in which the subject while asleep is made to believe that on opening his eyes he will be able to look into Heaven and see the loved ones gone before. Of course an "orthodox" subject should be chosen for the experiment. Care must be taken, as a strong re-action and attack of hysteria may set in after awakening when he learns that it was but a vision and not a reality.

As I have said before, catalepsy is absolutely not an essential stage of hypnosis, but is incidental to any stage. Many good subjects can not be made cataleptic, but nearly all slender ones can. It varies greatly in degree, and the subject may be either awake or asleep as the suggestion is given. It is almost the only test that can be given with a few people. Subjects should not be allowed to remain in the state for too long a time or exposed to especially severe strains, as cramps in the muscles may follow from the disturbances in the nervous system and circulation. The pulse is usually weak and rapid, so that judgment should be exercised with those suffering from organic heart disease. With some the neck muscles become so rigid as to impede circulation and cause danger of apoplexy. Usually, but not always, any portion of the body may be exempted from the state; so the neck should be relaxed, and if it can not be kept in that condition, arouse the subject.

(Plate 30.) Have the subject stand erect, feet parallel, and a few inches apart, then throw back the shoulders, reach down and firmly grasp his trousers. Direct the gaze upon some object a little above the eyes, then have him rise to his tip toes, bring his heels together, and drop them to the floor. Stand before him and give earnest suggestions of rigidity, stiffening all your own muscles, and touching the subject as you mention the various parts, *e. g.*: "Think of

becoming perfectly stiff, your arms and hands, your neck, shoulders, waist, hips, knees and ankles. Think how stiff they are becoming," Repeat as often as you deem necessary, until you can feel the contractions, then step behind the subject, close his eyes and repeat suggestions, pressing heavily upon each part mentioned.

To test the catalepsy, grasp the back of his neck with your right hand and tip him over as far as you can sustain the weight, so that he is supported by your hand and his heels. If his toes leave the floor and he remains immovable, bear down upon his thighs with your left hand. (Plate 31.) The subject can now be placed upon the bottom or backs of chairs, care being taken to have the backs well covered, so that there will be no bruising, and to have the chairs as far apart as possible. Just let the one at the shoulder catch at about the second dorsal vertebra. (Plate 32.) Moderate weights can be placed upon the subject without his knowledge or without causing discomfort. If desirable, suggestions of sleep may be given. In awakening the subject, his hands should first be forcibly detached from his his clothing, opened and massaged, until they and the arms become flexible. Easily and gradually restore him to consciousness and mobility. Abrupt arousing may cause cramps, intense pain, and an injurious crisis. Always inquire if there is any stiffness or soreness and massage it out before dismissing the subject.

I do not know how long a subject will remain in a hypnotic sleep. Some authorities have reported cases where sleep was maintained for from 15 to 30 days. Others find that they can keep no subject asleep longer than 12 or 15 hours, even with renewed suggestion, unless they resort to mechanical means. The renewed supply of nerve nutrition prevents continued relaxation. A very neurasthenic patient

will obviously sleep longer than one in robust health. The so-called sleeping tests by traveling hypnotists are usually fraudulent if continued for longer than one day. Either the subject is awake a goodly portion of the time or else he is drugged. The burial tests as given in this country are all impositions. No intelligent man would place a deeply sleeping subject out of convenient access for two hours, to say nothing of two or more days.

So-called fascination is another incidental phenomenon allied to catalepsy that has been much used and greatly abused by a certain class of public operators. It arises when some of the Braid methods are employed. The position assumed by the eyes is similar to that taken by the operator in giving the "mesmeric look." As the subject looks at the operator from a little distance, he is drawn, sometimes against his will, so near that the two eyes appear one. There he remains, or he may approach until stopped by coming in contact with the hypnotist. The focal point may be transferred to the eyes of another, to the fingers, or another object. The subject frequently becomes entirely unconscious, every area of the brain, except the motor, apparently being relaxed. There must be some intimate collateral connection between the optical and motor areas, as a similar phenomenon is observed in bicycling. The tendency of beginners to ride over lamp-posts and coal wagons is well known. Every rider knows that he does not need to make an effort to guide his wheel. It goes where he looks. The impulse to leap into swiftly flowing water or jump from high buildings has a like origin.

In producing fascination, have the subject look into your eyes until his gaze becomes fixed, something as in the first test mentioned. Draw your head back and see if he follows you; give a drawing, beckoning motion of your hand, and

suggest that he is being pushed toward you, or that you have a rope around his neck and are pulling it. (Plate 33.) If you get the desired effect you can shift his gaze to other objects as before stated. Care should be taken to suggest all strained feeling away from the eyes on arousing him.

In producing effects by mental suggestion only, the operator should stand back of the subject, so that there is no possibility of the nature of the suggestion and the time of its being given, becoming known through the usual senses. It is easier to awaken one already asleep than to put him asleep, since he is then relaxed. (Plate 34.) Stretch out your hand, holding your arm rigid. Summon up all energies to increase your cerebral circulation. Say, mentally only, "Awake; wake up, etc.," slowly raising the hand from the level of the hips to that of the shoulders. By the third or fourth trial, if he awakens at all, a change will be noted and perseverance will soon arouse him.

Sleep is produced similarly, only changing the suggestions and reversing the movement of the hand, which latter is to help you, not to affect the subject.

After succeeding in this fashion make similar efforts from an adjacent room, with doors closed between them. Only the extremely neurotic can be affected in this way. In developing the subject to receive other impressions, first give him an idea of the class of thought, as a color, a name, a number. Suggest to him that he can see and describe the object. You can then proceed to more difficult combinations.

In making clairvoyant tests make sure that neither you nor any one present has an idea of the object to be described, that you may thus distinguish it from a test in telepathy. Change the time of your watch without looking at it, place words and colored papers in plain envelopes that they may be thus distinguished by the sleeping subject.

When producing anesthesia for a surgical or dental operation put the subject into as deep a sleep as possible, and suggest "You have no feeling. You can suffer no pain. You can not awaken save by my consent. You will sleep until I allow you to awaken and will feel no touch but mine, etc." During the operation the hypnotist should stand with his hand resting upon the patient's forehead or over his closed eyes, and repeat the suggestions as often as necessary. The preliminary tests for depth of analgesia are, needle inserted under nail, and tapping of the eyeball.

Some lay much stress upon hypnotism by mail, telephone and telegraph. This is accomplished principally through auto-suggestion. It is probably necessary that the subject has been previously hypnotized, preferably by the same operator. In hypnotizing by telephone the suggestions are given just as if they were given directly to the subject, but it is best to incorporate in the suggestion the duration of the effect and to give no suggestions that will necessitate his leaving the telephone.

In hypnotizing by mail or telegraph direct some preliminary work to cause hypnosis, as "Look at the signature to this letter and count twenty-five; close your eyes and count twenty. You will go to sleep possibly before the second count is finished. You will sleep for ten minutes, when you will awaken, feeling rested and refreshed."

Other tests may be suggested in a similar way, but the duration of the hypnosis and the awakening with feelings of comfort should always be expressed. It is best also to make the time short, to avoid alarming the subject's friends. I once gave suggestions for a two hours' sleep that ensued from looking at a photograph and counting fifty. Those with the subject became frightened and called in physicians, who were unable to arouse the lady until the two hours had

expired. In this test I had suggested that the subject would see me and be able to describe where I was and how I was dressed. She said upon awakening that she saw me, and that I was dressed as when she last met me, which was absolutely untrue, so that clairvoyance did not appear but a simple dream.

I have outlined enough work to enable a man to study the physical and psychical phenomena of Hypnosis. Care should always be taken to thoroughly counteract every suggestion and not to keep subjects too long in any state, or to change too quickly from one emotion to another. Always suggest before dismissal, "You are feeling all right, wide awake and refreshed. You will sleep well to-night."

LESSON IV.—THERAPEUTICS.

Every successful physician uses suggestion, but only those who have studied hypnotism use it scientifically and systematically. Few appreciate the true limits. Some say that suggestion is of no value; others seek to accomplish miracles. Those who best understand it, use it most conservatively. Formerly it was held that sleep was a prerequisite to suggestive treatment, though many have well appreciated the field of suggestion in connection with placebos; but even now the majority of men think that a placebo, a physical suggestion, has sufficient strength unaided by oral and mental suggestions. They fail to secure satisfactory results, and say there is nothing in "suggestion." Or they proclaim pompously that certain results will follow, without judging the temperament and relaxation of the patient, and so frame the expression as to leave no avenue of escape in case of failure, so that the patient loses confidence in his physician a trifle quicker than he would otherwise.

There are other things just as essential as being positive. The successful man is always both specific and cautious in his suggestions. Some seem to think that every nervous patient who can not be cured by any other means ought to be relieved immediately and permanently by a few suggestions.

It is not what you do or what you say that brings suc-

cess, but how you do it and how you say it. The same things that prevent the production of formal hypnosis, hinder a cure by informal hypnosis and therapeutic suggestions. In order to lessen the element of curiosity and possible lack of faith, the patient should rarely be told that he is being treated by suggestion. Temperament and stability should be carefully considered. Only those who are easily hypnotized, and those suffering from habits and hallucinations, should be treated by formal hypnosis. Other disorders should be treated by suggestions and placebos; anything can be used in that way, a drug, bath, electricity, local or general massage, exercise, no matter what it is, so long as it is novel to the patient and calculated to be impressive. It is well to use local applications where practicable, since they increase the carrying force of the suggestion.

In many of the cases I shall cite, I have used formal hypnosis unnecessarily in order to demonstrate that method of treatment.

Some good authorities report cures of organic disease by suggestion. I have had little success in that class of disorders, and believe it is seldom able to do more than relieve the excess of symptoms that occurs with the neurotic, and soothe the patient by acting as an analgesic. Suggestive treatment is really an educational process. The trouble to be treated arises usually not from a lesion, but from some of the neuron processes performing no function, or an improper one, from entering into no combinations, or into improper ones. If there is too great relaxation in some area causing anesthesia, aphonia, or paralysis, general relaxation is necessary to aid in forming a series of combinations that will reach the affected area through the collaterals. If there is an improper activity, or an erroneous

combination, as in hyperesthesia and habits, the affected area must be relaxed in order to break up the old combinations and give a better opportunity for the forming of new ones. There may be a tendency of the processes to cease forming the new combination, or to return to the improper one after a few minutes, hours, or perhaps days. The patient was cured but has suffered a relapse. The principle of caution again enters. Don't try to cure him too fast, but take advantage of each relapse to impress upon the patient that each period of absence of unfavorable conditions weakens their hold upon him, hastens his cure, and makes the next period longer. The neurons are gradually trained until they perform their functions properly.

Suggestion is of value in diagnosis as well as treatment. Some men, as eye and ear, or throat specialists, say they rarely or never have a functional disorder to treat, but if they do not use suggestion they can't make a proper diagnosis. I saw a patient a few months ago wearing a green shade for ophthalmia. She could not distinguish the nails upon her fingers with her right eye. She had been carefully examined by competent physicians. Remembering that neurotic people have more functional than organic disorders, I put her to sleep and said "You will be able to see with your right eye when you awaken. You can see perfectly well with it for twenty-four hours." The suggested result followed and remained for at least several weeks, when she was discharged from the hospital. I don't know if the blindness were always "imaginary" or whether something affecting the sight had been removed by constitutional treatment and the information not "wired home," but the fact remains that the patient had apparently not improved by constitutional and local treatment, and responded at once to suggestive.

A deep degree of hypnosis is not essential in giving treatments. I simply test the ability to open the eyes and to raise the hands from the lap after the patient has been told that they are fixed. I rarely suggest a longer freedom from symptoms than one day at the first treatment, and may make the period as short as an hour. If satisfactory results follow, I gradually increase the period. If too much haste is made and a symptom that has been given a "furlough" for three days returns at the end of two, try "two days" once or twice more and then go to three. The patient being treated by suggestion should be seen daily at first, gradually extending the interval.

When informal hypnosis, or "simple suggestion," is used, get the patient into as comfortable a position as possible, get him thoroughly relaxed, try to gain his confidence, give him mental suggestions, never dispute his diagnosis if you can help it, unless he has a conception of an incurable disease. Let him sit in an easy chair a little lower than the one that you occupy and close to you. Look at him, try to hold his eye by the "mesmeric look" but don't scare him with it. Neither tasteless nor nauseous substances should be given as placebos. Doses should be given more frequently than under ordinary circumstances, both to increase the suggestive effect and to enable you gradually to decrease the size and number of doses. For the same reason pellets and drops are better than tablets and powders, as the dose can be easier regulated. Commence at the weakest place. Don't try to cure everything at once if there are several symptoms. Try the one easiest relieved, and removing that will inspire a confidence that will aid in removing the others. Give sufficient time for your suggestions to be rolled over and over in the mind and develop into fixed ideas. Don't expect that you can get as prompt results with informal as with formal hypnosis.

Use a low pitched, firm voice, and emphasize the proper words. Let your confidence in yourself be manifested rather in the way you speak the suggestion than in the way you frame it. Say "THIS WILL RELIEVE *you*, probably, if *you take it as I direct*" rather than "This will relieve you *probably, if you take it as I direct.*"

My aim will be to give a line of suggestion in certain disorders rather than to give technical descriptions of them in terms that I might misapply. A few cases will be cited to illustrate the application of some of the "pointers" that have been given.

Mrs. T., thirty, very unstable, what is sometimes called bird-witted, not at all easy to be hypnotized, complained in the morning of prostration; knew that she was going to have a severe illness. Respiration and circulation really were feeble. She was told while her attention was so fixed by manner and look as to produce some relaxation, "You are sick; you need a strong remedy; it will not be pleasant, but your condition demands it; I am going to give you nitroglycerine. The effects will not be agreeable. Within fifteen minutes you will probably have some fever; within half an hour your head will begin to ache and steadily grow worse for half an hour, when it will become better, and disappear within another half hour. Within two hours fever and headache will have all disappeared and you will never have felt better in your life." She took the dose, every result followed as indicated. She actually had taken five drops of essence of peppermint in half a glass of water.

Mr. D. suffered with a nervous tremor in his right arm, caused by a beloved child vomiting upon his hand while in its death struggles. His family physician had treated the arm by electricity, each treatment producing less effect than the preceding one.

A hypodermic injection of whiskey into the affected arm, with the suggestion "By the time this is absorbed the trembling will stop and remain stopped for twenty-four hours," procured relief until after breakfast the following morning. That evening the suggestion was, that the trembling would be absent until 8 o'clock the next day. Each day the time was increased an hour, until it was carried to 12. Then it was extended more rapidly and within three weeks the patient was well. A tonic was also given, frequently at first and gradually increasing the intervals as the cure progressed.

The various occupation neuroses, writer's cramp and other conditions arising from impaired action of neurons, are treated in a similar way. Electricity, massage, improved nutrition, will afford temporary relief. Gradually increase the period allowed for labor, exercise and freedom from unfavorable symptoms, and decrease the treatment as the patient progresses toward a cure. Stammering may be relieved by securing relief through hypnosis and gradually increasing the period of relief.

The hysterical symptoms of neurasthenia are usually treated better by informal than formal hypnosis, commencing with the one easiest to be removed, and taking them one by one. There is usually too great instability in these patients to allow formal hypnosis. After allaying the irregular action, the neurasthenia yields more readily to nutritive treatment since there is less waste of nerve force.

Miss A. had been sick for seven years. Distinguished specialists had earned large fees for saying that she had no organic trouble. She was of the neurotic temperament, but could not be readily hypnotized owing to instability from great neurasthenia. She was highly educated, the daughter of a distinguished physician. She had a pain in the top of

the head, globus, dysphagia, asthma, fear of ghosts and fear of crowds. The headache gradually yielded to brisk rubbing, with a suggestion that the pain would not return for two hours, gradually extending the time with each treatment.

The globus and dysphagia were cured by massage to the throat, given at first by the operator and repeated by an attendant at first four times daily, then three times, twice, once, and then increasing the time by days. The asthma yielded to breathing exercises, the arms being extended at right angles, clenched fists brought to the shoulders and then thrust straight up, returned to shoulder and then to first position, the lungs being first filled and the air held as long as possible, the exercise stopped when breathing became necessary, and resumed when the lungs were again filled.

The fear of crowds vanished when its origin was traced to the patient visiting the World's Fair on some of the days of largest attendance. Frequently a haunting fear is kept alive and nourished by the mystery of its source, and vanishes when that is cleared up. The fear of ghosts, aroused by a lecture on the subject of apparitions, disappeared when it was made known that the living also appear, and that it is usually the dying and not the dead that are seen, and that the phenomena are similar to those produced by hypnosis.

Aphonia arising as a phase of hysteria should be treated along the same lines as globus and dysphagia. Persist in the application of massage or electricity, mental and oral suggestion, until some of the simpler sounds can be uttered, or until the speech becomes louder, more distinct, and each day increase the difficulty of the sounds or distinctness of speech. Instantaneous results are sometimes attained, but

relapses are more apt to occur, and such cases are not satisfactory either professionally or financially.

In some cases a new symptom will appear when the old ones are removed. Patience must then be exercised to eradicate the new ideas and improve the nourishment so that the brain will become stronger and no longer yield to such slight impulses.

Mrs. B., a good subject, but slightly, if at all, neuropathic, was subject to disorders of digestion, pain in the stomach and difficult in breathing, usually lasting three days, drugs affording no relief. Hypnosis was easily induced and the suggestions "When you open your eyes your stomach will feel all right, your breathing will be all right, your pain will be gone," were given. A few repetitions, touching the affected parts as they were mentioned, gave prompt and permanent relief.

Mrs. C., 27, very neuropathic, originally simply neurotic, had been ill for several years. She usually awakened at four in the morning and cried convulsively for eight or ten hours. She slept badly; had a cramped condition of the abdominal muscles causing intense pain, and great hyperesthesia in that region. She had been operated upon by a gynecologist who gave her no relief and sent her to a neurologist, who treated her for four months, during which time she had baths, massage, electricity, and even attempts at hypnotism, which could not be successful owing to the unstable condition of the patient's nervous system.

Insomnia was the easiest symptom to be relieved. Pellets containing a very small amount of strychnia were employed, and she was informed, "If you can sleep better, your pain will be less and you will cry less. At 9, your usual bedtime, take three of these pellets, at 9:15 three more; *you will probably feel sleepy by that time.* At 9:30 three

more; you may be *so sleepy* that you think you will not need them, but take them any way. *You will probably sleep well all night*, and in the morning will suffer *less* and for a *shorter time*."

These suggestions were repeated, looking intently at the patient and employing as much mental suggestion as possible. She slept well that night and was better the next day. Then similar suggestions were given and massage to the abdomen, using oral and mental suggestions that the pain would disappear and the muscles relax. A little improvement appeared after twenty minutes' hard work. Each night she slept well, each morning the crises were shorter, each afternoon a shorter time was required to secure relaxation of the abdominal muscles. In a week's time she was better than she had been in five years. The pellets were then given but two at a time. There was gradual improvement by this treatment until in three weeks there was no trouble apparent except the neurasthenia. The menstrual period has since provoked some relapses, easily relieved by proper treatment.

Insomnia is sometimes relieved by the patient sitting up in bed, and rotating the head after the manner of the fifth and sixth passes, thus securing such a degree of relaxation through anemia as will allow sleep. Another method frequently of service, is for the patient to grasp the left wrist with the right hand, mentally counting the pulse, "One, two, three; one, two, three; one, two, three, etc.," until he falls asleep. There is a degree of monotony in this exercise that renders it superior to the usual methods of counting to high numbers, counting backwards and counting objects.

Mrs. D., aged 24, wife of a physician, had suffered from nausea for four years. It began during her first preg-

nancy, since which time she had vomited within an hour after eating each meal. Her only relief had been during three months spent abroad. She had been treated until she lost confidence in everybody and everything. I could not produce deep hypnosis, could hold her eyes closed as long as my thumb rested on the bridge of her nose. She usually went to bed at nine, slept until about eleven, and then lay awake until nearly five, when she fell into a disturbed slumber lasting until nine. I told her, "Go to bed at half-past nine to-night and you will sleep well. If you awaken you will go to sleep again and sleep until seven. Get up and eat your breakfast and it will not distress you or cause you to vomit."

These suggestions were repeated several times, both with eyes closed and open, when I gazed intently into them. All followed as directed, save that at ten, as she was doing some heavy lifting, she vomited slightly. Her other meals that day did not distress her in the least. The treatment was continued for a week, daily, then every other day, and the interval gradually increased. The cure remained permanent, although another pregnancy ensued.

Mrs. E., 25, neurotic, not very suggestible on account of instability, suffered from pains in the head, insomnia, indigestion and melancholia. Medicine did her little or no good. Her eyes could not be fastened by hypnosis, but I succeeded in fixing her attention by having her look at me, and fastened her hands together, stiffened her fingers, fastened her in a chair. None of the results were deep. She was sent to bed one half hour later than usual and told that she would become very sleepy before retiring; that she would sleep well; if she awakened she would go to sleep soon, and her stomach would scarcely trouble her at all. Similar suggestions were given for the headache,

accompanied by brisk rubbing over the seat of pain. The insomnia and indigestion soon disappeared. It had been said that the melancholia would vanish with them, and it did so. The headache would invariably return within an hour after treatment, which confirmed a preceding diagnosis that it arose from organic cause.

When headaches appear in the forehead as a result of exhaustion or excitement, having the patient look you steadily in the eye while you give the second pass to the face only, commencing gently, and increasing the vigor of the movements with auctioneer-like suggestions of "Going, going, it is going, you can scarcely feel it; gone," clapping the hands sharply together at the last word, will generally relieve the pain. If it is of recent date nothing further will be necessary. If it has existed for some time or is chronic, it is well to suggest that it may possibly return in from five to ten minutes, but if stopped a second time it will remain away. If it does reappear, proceed as in the first place. Sometimes the pain will appear in a new location, in which case commence with the manipulations at the forehead and gradually work the pain towards the back of the head and then throw it off as is done in so-called magnetic treatment, which is, I believe, almost wholly suggestive.

When there is a general soreness over the whole scalp, firmly pressing the hands upon it, at front and back, at sides and diagonally, with the climax produced by bringing the hands sharply together, and the exclamation "gone" will afford relief. If there is a neuralgic pain in any part of the head or body, grasp one of the patient's hands, look intently into his eyes with the "mesmeric look," commence to rub the painful area gently, and increase in speed and vigor until the patient cries for mercy or you become fatigued. The heat produced, the breaking down of adhesions

by force and increase in circulation, the suggestions both oral and physical will usually afford relief. If there is a possibility of return, save yourself by admitting that it may do so, but state that a second treatment will make the cure permanent.

The principal pressure in all massage movements should be towards the heart to aid in circulation. Nothing could be more fallacious than the old idea of "rubbing the poison out" at the extremities.

If these methods are inconsistent with the preservation of proper personal dignity, give electricity or a placebo, or less than the usual medicinal treatment, with suggestions similar to those indicated for insomnia, of the gradual disappearance of symptoms, the number of doses and their frequency being determined by the suggestibility of the patient and the severity of his sufferings. I have even stopped severe pain from ulcerated teeth by rubbing and suggestion.

In mild headaches it sometimes suffices to say "Pass your hand slowly three times across your forehead and the pain will stop." Good judgment is the essential thing in all such cases, and I shall only mention some of the methods employed to re-enforce suggestions.

An explanation that a pain is caused by adhesions or deposits which affect the relations of the nerves, or by lack of nerve nutrition, and that the rubbing breaks down the adhesions and increases the circulation so as to remove the disturbing elements and increase nutrition, is always of value in treating neuralgia, sciatica and chronic rheumatism. For pains seated in the supra-orbital region, the eyes, or sciatic nerve, gentle kneading with the balls of the thumbs and appropriate suggestions are of great value.

In reducing swellings, and relieving pain by improving

the circulation, always hold the patient's eye, thus producing partial analgesia, and use rubbing or deep kneading movements, working towards the heart. Commence gently, and as the pressure and suggestions decrease the sensibility, increase the force to the highest possible degree, stiffening your muscles, making your strongest mental suggestions.

In treating chronic disorders it is always to be remembered that time is required to effect a cure, and that improvement must be gradual. If massage or electricity and suggestion prevent a pain from returning for five, ten or more hours, the next period can be made longer, until the time of relief is increased by days and the affection worn out.

Miss G. had suffered with headaches from a depression caused by an accident, until her reason was affected. Trephining gave relief, but the pains began to return, increasing in violence. After deep hypnosis, the first period of relief was made twelve hours, the second, twenty-four, etc. The fifth treatment was made for a week. As it was not possible for me to see the patient again, I wrote a letter directing her that if she felt the pains returning she should "Look at the signature, count twenty. Close your eyes, count twenty more, then go to sleep and sleep for twenty minutes. You will awaken feeling rested and refreshed, and have no pain for at least a week." I heard from the patient three years after. The treatment by letter had been effectual and seldom been required.

Epilepsy and chorea have been explained by Dr. F. W. Langdon to be organic disorders, probably arising from a deficiency in the collaterals, which limits the storage capacity of the neuron. In consequence of this, what should be a normal supply of cell contents becomes excessive and provokes convulsions. The irregular uncertain movements of chorea seem also to corroborate this hypothesis, since

owing to absence or ill-development of collaterals erroneous combinations instead of correct ones are formed. A lack of development of the nervous system would seem to indicate little susceptibility to suggestion. I never have succeeded in hypnotizing a patient suffering from true epilepsy, nor from chorea, though I have been able to get slight and temporary results from informal hypnosis. Hystero-epilepsy may be cured by suggesting less severe crisis, particularizing the symptoms that appear, and then increasing the time between the attacks. I have seen a case cured by a single suggestive treatment given during the crisis to mitigate its severity. It may possibly have been a coincidence, but the patient who had been subject to seizures has never had another, though three and one half years have elapsed. I have seen many other cases benefited or cured by more elaborate treatment. Suggestive treatment is of some aid in chorea but it can not at all take the place of improving the nutrition.

When paralysis is but partial and the action of the nerves is simply impaired, suggestions in connection with massage and electricity accomplish excellent results in opening up new tracks for the passage of nerve impulses. Care should be taken not to attempt curing too rapidly, as bad results have followed from sending too strong an impulse through the weakened neurons. Suggest a slightly greater improvement after each treatment and impress upon the patient that as he grows better he has so far overcome the disease that improvement will be more rapid. Suggestions may also be profitably employed as an adjuvant in the earlier stages of locomotor ataxia which Dr. Langdon and others have demonstrated is due to degeneracy of sensory neuron processes in the muscle spindles and oblongata. The treatment, like that of epilepsy and other convulsive disorders, is one mainly of

improved nerve nutrition, and it is in aiding this and controlling the pains that suggestion is useful.

Pains and some other disorders can frequently be cured by hypnotizing the patient together with a very susceptible subject and suggesting that on awakening the patient will be relieved and the subject suffer from his symptoms. If the patient is somewhat dull of comprehension, he will readily believe that he can have no pain for another has it, and is thus given a very powerful physical suggestion. Or the symptoms may be changed to another part of the patient's body, thus weakening its hold upon him, before it is suggested away entirely. In the first case care must be taken to relieve the subject who acts as a scapegoat before he is dismissed.

When formal hypnosis can be employed, a cure is effected more speedily, and suggestibility usually indicates a neurosis instead of organic disease. I have found many cases, even of articular and gonorrhœal rheumatism, in which the pain would remain away the assigned period, returning almost at the designated moment. With some patients, suggestions will take the place of any treatment that is not nutritive, or surgical, and, by stimulating the functions, may prevent the necessity of the latter.

My sole experiences with functional heart troubles have been through formal hypnosis. Mrs. F., 28, neurotic, but not generally neuropathic, had been in bed a fourth of the time for two years, with a neuralgic pain in the region of the heart. The physician could barely give temporary relief with opiates. Sleep was induced after twenty minutes of passes and suggestions, and hypnotizing some of her friends. For five minutes I repeatedly gave earnest suggestions that she would feel no pain upon awakening. She has never had a return of it, though more than four years have elapsed.

Mr. G., 26, neurotic, had suffered much of the time for two years from palpitations arising from insolation. He also had insomnia. The first treatment was by formal hypnosis and the frequently repeated suggestion, "You will sleep well to-night and have no palpitation for twenty-four hours." The second was for the same time, the third for two days, fourth for three days, fifth for five days. Then a general suggestion was given. There has been no return, although the cure was made years ago. Cases of my own and others were treated similarly with equally good results. I have heard of no failure in relieving palpitation where suggestive treatment was employed.

Blushing, profuse perspiration and coldness of hands and feet yield to formal hypnosis and sometimes informal. Suggest, "In five minutes you will notice your hands are less moist. Within fifteen minutes they will be almost dry and much warmer. They will continue so for two hours." Let the time for the perspiration to stop and the period for it to remain stopped depend upon the patient's suggestibility. There should in such cases be nutritive treatment to relieve the accompanying neurasthenia. People suffering from moist hands seem invariably to have just such a degree of neurasthenia as promotes suggestibility.

Constipation is the form of bowel trouble that most demands suggestive treatment, which must vary with the degree of suggestibility. Similar suggestions are used both in formal hypnosis and informal hypnosis with placebos. "Within five minutes after arising in the morning you will probably feel a slight discomfort, a heaviness in the bowels. It will increase, cause some griping, and within fifteen or twenty minutes you will probably have an easy passage." If a slight or even large purgative is necessary, give the same line of suggestions, but gradually decrease the dose until none is required.

Simple suggestion has procured good results in the treatment of menstrual disorders, but the best have been obtained through formal hypnosis. In treating dysmenorrhœa, massage as in neuralgia, and a placebo as for insomnia, but with suggestions for a decrease in pain instead of increase in sleepiness will avail much with the neurotic in relieving the suffering; but it should be considered only as an adjuvant to the treatment for removing the organic cause, if any such exists.

Amenorrhœa of psychical origin may be treated in absence of formal hypnosis, by giving a placebo to be taken three or more times daily, commencing a week before the flow should regularly appear, increasing the dose every second day and prognosing definitely and in order the symptoms usual to the patient before menstruation. If the cause is partially organic, give proper suggestions with the emenagogue. If the periods have been too far apart, give a placebo three or four times daily with the suggestion earnestly repeated, that the interval will be a day or two shorter than customary, and proceed in like manner until a proper period is established.

In treating menorrhagia, suggest in connection with the placebos or usual remedy, a lessened flow and for one less day. The next month, increase the strength of the suggestion and work gradually to a normal function. If the interval between periods is too short, it may be lengthened a day or two each month by suggesting a later date of appearance and forcibly impressing it upon the patient either by placebos or formal hypnosis as well as oral suggestions.

Neurotic people are most apt to form habits. Many may have more than one. This is where the German scientist made his error in assuming that all who bit their nails were

masturbators. He mistook the effects of a general condition for reciprocal causes. From this principle as well as from habits being the result of derangements in action of neuron processes, we find in some form of suggestive treatment the only valuable therapeutic agent for the treatment of habits. Formal hypnosis is preferable, though in those that may arise partially from weakness, placebos can be well employed.

Nocturnal enuresis can be thus cured when other means fail. Ascertain at what times the urinating occurs. At first treatment suggest to the patient that he can retain the urine for a longer time than usual. If he has usually voided by eleven after retiring suggest retention until twelve and have him awakened at that time. After the period is established, extend it to one o'clock. If that succeeds, suggest that he can not pass water lying down, but that it will pain him if he tries, and will wake him up. At the usual time arouse him, let him make the effort, suggesting again that it will hurt him, and then let him sit up and empty the bladder. Make sure that the attendants properly understand the line of suggestions and all of the steps in the proper order. A cure was delayed in an institution by failure in this respect. A boy who had to be awakened every two hours had from three treatments become so improved as to need arousing but once during the night. The suggestions relative to pain were then given, and a day nurse asked to inform the night nurse how to carry out the test. I feared that there might be a mistake but accepted the physician's assurance that all would be properly attended to. At eleven the boy was awakened and asked to urinate while lying down. He could not on account of the pain. Instead of having him get up, he was allowed to go to sleep, was awakened at twelve and caused to persist in his efforts, until

despite the pain he succeeded in urinating while lying down.

I recently cured a case where the boy did not wish to be hypnotized, by earnest suggestion that carefully emptying the bladder just before retiring and drinking less after supper, would free him from the habit. The effect was almost immediate, though medicinal treatment had been of no avail.

The usual treatment to cure patients of biting nails is to apply something bitter or nauseating to the fingers. This may do very well for sucking of fingers and sometimes cures nail-biting, but more often fails, since the patient chews the nail when deeply absorbed, and only stops if the train of thought is interrupted, which usually happens from pain. If formal hypnosis is employed suggest "You will have no desire to bite your nails. If you bite them it will make you sick, *pain* and arouse you." Repeat as often as necessary, arouse and have the patient bite one, suggesting that it will cause pain. Increase the time between treatments as in other cases. If informal hypnosis is employed apply some caustic to the fingers that will actually produce a little sensitiveness and use suggestions similar to those in formal hypnosis. Give four or five daily applications at first and gradually decrease the number. I have seen very severe cases cured in three treatments by formal hypnosis.

Cigarette and tobacco habits readily yield to treatment by formal hypnosis. When the patient is asleep, suggest "that he will have no desire to smoke a cigarette; that it will taste bitter and make him sick if he attempts it for the next four (?) hours." Repeat the suggestion many times with the eyes opened and closed. I seldom have the patient repeat the suggestion as it partially arouses him. After awakening have him try to smoke or chew as the case may

be, repeating the suggestion of nausea. Illness and bad taste will probably result. The length of the first period and the rate of increase must be determined by the strength of the habit and suggestibility of the patient. No case should be considered cured with less than two weeks' treatment and there should have been at least one week without any longing. If it is desired to proceed by informal hypnosis, the patient should be given a placebo whose effect it is suggested will be to cause illness and bitter taste if he smokes or chews. The first cigarettes or tobacco may be "doped" if necessary, to make the assurance good. The Keeley cure for liquor habit is said to depend upon this principle.

Seventy-five percent of cures by suggestive treatment are reported in morphia habit. The majority of the victims are suggestible if taken in the proper stage. The line of treatment is to diminish the dose gradually, suggesting away desire, insomnia, nervousness—all symptoms that appear when the allowance of the drug is cut down. For the drink habit the treatment is similar to that for cigarettes. In some countries, as Switzerland, hypnosis is the only recognized treatment.

Hallucinations usually require formal hypnosis, since the patient recognizes that there is no physical difficulty to treat. One may be "suggested" as the cause of the trouble, and that treated by placebos, the decrease of strength in the hallucination or in the frequency of its recurrence being carefully indicated. A recent case of melancholia in which a woman of thirty has suffered during the months of September and October, the disorder growing greater each year, yielded to a few treatments, the first suggesting a freedom from gloomy and suicidal thoughts for one day, the second for two days, and a third for a week. A month passed before another treatment was necessary, and then two more

carried her past the critical period, though the surroundings had been to the highest degree unfavorable. Syphilophobia and similar dreads may be driven away by first getting a slight freedom from the distressing thoughts and gradually increasing the period of relief until a cure is accomplished.

Excellent results have been reported in confinement, both by informal and formal hypnosis. Most obstetricians use suggestions to hasten or retard labor. A patient may be confined, the conditions exactly following the suggestions, and the woman be wholly unaware of all that has happened. When it is desired to proceed by formal hypnosis, the patient should be hypnotized once or twice preceding confinement.

Probably the greatest field for suggestive treatment is in functional sexual disorders. I shall only speak of the most common ones. The rarer forms are very fully considered in the excellent work "Suggestive Therapeutics in Psychopathia Sexualis," by Schrenck-Notzing.

Either masturbation is less common among women than men or better concealed. Much depends upon the tact of the physician in finding out the real trouble. The man who talks "consciously" never has any cases of that nature to treat. If a physician, when he suspects that a woman's habits are not correct, will say to her that it is not at all unusual for women of considerable intellectuality and personal magnetism, who live chaste lives, to have a vaginal disturbance, accompanied by peculiar sensation, possibly while asleep, riding a wheel, or running a sewing machine, he has provided an easy place for her to fall, and will usually get a partial confession. Vaginal injections have been largely employed and are in connection with suggestions very successful. In treating masturbation, physical or

psychical, and erotomania give the first injection to the patient and let the others be given by herself or attendant. An astringent or colored preparation of which a few drops are to be added to lukewarm water may be used. The easiest point of access is the feeling of prostration following orgasm. Have the injections taken at least four times a day and as much oftener as the condition requires. In one very bad case they were first given every two hours with the suggestion, "You will have less prostration after the next explosion. It will not be so great and will pass away sooner." When progress was made they were given every three hours and fewer explosions, less pleasure and desire predicted. Gradually the number of injections was decreased. When the treatment was concluded at the expiration of six months there was no appearance of sexual feeling. Another patient, a highly neurotic, neurasthenic, brilliant, cultured, religious maiden of thirty had two orgasms daily with prostration for two or three hours after each. She was given four injections daily at first with suitable suggestions. The psychical symptoms disappeared in a week. Cure followed in a month.

Formal hypnosis is best in treating masturbation in boys, the suggestion being, "You will have no desire for the act. It will cause you no pleasure, but pain." One patient who performed the act only in his sleep, having abandoned it in his waking moments, was told, "If you attempt to masturbate it will cause intense pain and awaken you." Only slight hypnosis was obtained but the desired result followed. The period should be made short at first, suggestions being made daily until the longest period of natural freedom from the vice has been passed, then gradually extend the time between treatments.

Nocturnal emissions usually yield to suggestive treat-

ment only, though if there is too great weakness or organic disease, suggestions may serve only as an adjuvant to relieve the psychical symptoms. Most of the objections to the use of formal hypnosis are absent in this class of cases. The line of suggestions is the same as that given for psychical or physical masturbation in women, attacking the feeling of prostration first. When using formal hypnosis make the first periods short. Sounds and injections may be used as placebos or any drug administered as for insomnia, commencing the treatment one half hour before retiring. Impress upon the patient that medicine so taken will prevent his nervous, distressed feelings on awakening the next morning, and then later increase the time between emissions and decrease the size of the dose. I have usually given three pellets thirty minutes before retiring, three fifteen minutes before, and three at retiring. Three or four weeks of treatment, seeing the patient half a dozen times, at first every two days and gradually increasing the intervals, will suffice to cure all ordinary cases.

When so-called spermatorrhœa or prostatorrhœa occurs it is well to use formal hypnosis or a placebo before each meal and at retiring, directing the attention at first to the latter part of the day, allowing for an escape of mucus in the morning. If necessary a real tonic can be given. Increase the time of freedom from discharges during the day until even the morning is free, and then begin to diminish the size and number of doses. Treatment should continue to a slight degree for at least a month after the symptoms have disappeared. A patient recently treated, had had for five years a discharge with defecation and micturition. For nearly a year there had been no nocturnal emissions. Formal hypnosis was employed at first with the suggestion that there would be no discharge of mucus or semen for two

days. He came for treatment on the third day, reporting entire freedom from discharges. He then received minute doses of strychnia with suggestions, but no formal hypnosis. The pellets were to be taken three before each meal and upon retiring, when he would sleep well and be free from discharges. Two weeks after the first treatment there was a nocturnal emission, but no others occurred during the five weeks of treatment, by which time appetite had returned, color improved, and despondency disappeared. Treatment had been reduced to one pellet at retiring. He was then discharged as cured.

Probably all cases of impotence not of organic origin will yield to treatment by suggestion if taken in time. Cases may be divided into two classes, those in which there are premature emissions, and those in which there is partial or complete failure of erection. I believe that hyperesthesia of the glans penis is a common cause of the first class of cases, though that element is frequently overlooked. Physicians finding a history of masturbation ascribe the weakness to that habit which in connection with unfortunate reading does produce much of the trouble. But not all the weakness arises from excesses, venereal or solitary. Rarely does a man of the world apply for treatment until he has been consumed by the fire of his passions and his disease is organic.

The man contemplating marriage and the newly married man who consult the genito-urinary specialist are usually either timid, poor or pious. At any rate they have been continent. It may be that the expectant husband, aroused by association with the bride-elect, has been excited, filled with desire which he sought to relieve when alone. His recollection of Dr. Quack's advertisement leads him to visit a resort to ascertain if he still retains his manhood. His de-

sires have produced a hyperesthesia of the glans, his habits hyperesthesia of the urethra. The consciousness of his unworthy action, the difference between the women he meets and his sweetheart may prevent an erection. More commonly he approaches a woman whose parts are dry and hard through constant ablutions and applications of antiseptics, and unrelaxed by reason of indifference.

If he has a long prepuce, the tender skin of the glans is little protection to the nerves irritated by frequent prolonged erections and unnatural or no relief. A discharge before entrance is effected, convinces the man that the warnings are true in his case, and as he dwells upon the matter his alarm increases. He thinks of the shame that he has brought upon himself, and perchance when the wedding-day arrives, and the bride stands waiting at the altar, "the bridegroom cometh not." If he seeks treatment, the wrong end of the organ is "doctored." The irritation in the prostatic region is considered the whole cause and cure is uncertain. A similar state of affairs may arise when the bride's virginity is the obstacle to prompt and mutually satisfactory intercourse. Vaginismus may, by causing premature discharge, so arouse the husband's fears that his potency departs. Sexual anesthesia on the part of the wife may either be caused by or create the husband's weakness.

Skene, in his *Medical Gynecology*, truly says that most cases of sexual coldness may be cured by the husband exercising proper restraint, waiting until the wife experiences orgasm. Lack of this restraint may provoke either sexual anesthesia or irritation in the wife. It is a fruitful cause of adultery and divorce. One of the best means of inducing a man to exercise restraint is to impress upon him that a continual disregard of the reciprocal rights of his wife will not only diminish his pleasure but also his potency. Sex-

ual irritation from imperfect coitus is a frequent cause of hysteria, and in the married no case of nervousness is fully diagnosed which leaves the exact nature of the sexual relations obscure. False modesty and timidity upon the part of the physician have prevented many cures of hysteria.

Pregnancy and childbirth enforcing a long period of continence upon the husband may tend to produce great hyperesthesia, and such speedy orgasm when intercourse is resumed that an active imagination may produce impotence. Absence from home and approaching a prostitute when relief seems to become imperative, has with some an effect similar to that upon the man who experiments before marriage. The patient can more readily understand that treatment to the glans, a toughening of its covering, and of the urethra, if there is tenderness there, by astringent applications and injections, will effect a cure, than if the treatment is given to the deep urethra. Circumcision seems to be of value in some cases, in others simply training the foreskin to lie back of the glans will avail as much. My best results have been obtained with astringent applications and injections five or six times daily at first, carefully informing the patient that these will so harden the covering that his power to prolong intercourse without causing orgasm will daily increase. Have him abstain for a time, and after an attempt, success following the treatment, gradually diminish the frequency of the application. Some need also to be informed how to perform the act, and that simultaneous orgasm is far more healthful to both husband and wife. Treatment should usually be continued for about a month, the time depending upon the severity of the case and the suggestibility of the patient.

It is well also to call the patient's attention to the fact that abstinence or prolonged caresses may cause so com-

plete an erection as to hasten orgasm, and that a repetition of the act after an interval of an hour or so will prevent the imagination from injuring him through the first failure. Lack of orgasm is essentially either organic or due to lack of semen, and requires nutrition rather than suggestion. The perversions of impotency which involve certain types of complexion, certain dress, a light burning in the room, or a certain position are best treated by formal hypnosis as are other hallucinations.

Failure of complete erection, arising from psychical causes requires different treatment. I have used a placebo and tonic consisting of equal parts of Tinct. Ferr. Chlor., Tinct. Capsicum, and Fluid Extract Celery Seed. Start the patient on five drops of this before each meal and before retiring, taken of course in water. Use ice water or cold water applications, night and morning, to the back of the neck, loins and testicles, to be followed with brisk rubbing with a coarse towel. Suggest that in two or three days he will notice a distention of the penis greater than usual upon awakening in the morning.

In this way full benefit is gained from the pressure of rectum and bladder aiding the effect. The precise nature of the suggestions must depend upon the patient's condition. As soon as any improvement is noted, increase the doses a drop each day up to fifteen, and continue them until complete erection has been obtained. Then daily reduce the dose, using astringent applications if there has been a tendency to premature discharge. The gradual course renders this treatment more effectual, more certain in its results than the usual so-called aphrodisiacs. Intercourse should not be allowed until the patient is well along in the second stage, probably after the second week, and possibly much later. Electricity may be used alone or in connection with

the other methods, but in this as in all other cases of suggestive treatment, the patient should have some landmarks by which he can fairly estimate the progress of his cure. A prophecy of a cure at a certain time is not sufficient unless the steps leading up to it are pointed out.

I have not attempted to give a complete treatment for all functional nervous troubles, but merely such an application of the principles involved in some of the more common ones, as will aid physicians to a better system of using suggestions.

LESSON V.—CAUTIONS.

The present explanation of formal hypnosis and its underlying principles gives a better conception of the possible dangers attendant upon its exercise. Some incompetent or careless observers have asserted that it can not be safely employed and has little efficacy as a curative agent. I have seen several thousand people hypnotized, with but few bad results, and those arising from carelessness or ignorance.

Hypnosis is simply relaxation, and unattended by any improper suggestions, auto or external, or violent means of reducing relaxation, can not possibly be any more harmful than natural sleep. The line of suggestions employed in therapy can never be prejudicial.

A suggestion may be improper in its nature, or in the manner of giving it. Sufficient care may not be taken to remove the effects of it, or the subject may remain under its influence too long. Until it is demonstrated absolutely that no evil ever resulted to any patient from any form of treatment at the hands of a legally qualified physician, hypnosis either formal or informal can not be condemned as a therapeutic agent, and the danger line is more easily drawn than it is in the use of drugs and electricity.

The mesmerist with his claims of superior will force, and suggestions that "once mesmerized always to be mesmerized," did make his subjects more susceptible with each seance, until they might lose the power to resist. The

hypnotist usually impresses, and should invariably impress upon the subject that he can not be controlled save with his own consent. In this way the power of resistance increases. He may have been at first far too impressionable, and reaches through hypnosis a condition of increased safety, always provided that a proper line of suggestion has been given. By the Braid method there are sometimes induced hysteria, convulsions and other objectionable conditions.

If a subject upon being awakened complains of feeling nervous or exhausted, it is proof that there is some anxiety, apprehension through auto-suggestion, or that he has been kept in one scene too long, or that the scene has been too violent, or that you have not properly removed all suggestions. Always before arousing a subject impress upon him, if sleep has been induced, that he will feel rested, refreshed and wide-awake. Never arouse him with a shock. That is the chief danger in public performances. The audience are so far removed from the stage that the natural delicate changes in expression are lost, and in order to interest and amuse, the operator resorts to violent exertion in the scenes, sudden shocks in awakening, thereby causing the subject momentarily to lose control of his muscles, and become for an instant a picture of surprise, or stagger like a drunken man. In parlor experiments the operator frequently attempts to give an amusing entertainment with one or two subjects and they are kept hypnotized too long. Through relaxation some nerve areas are little employed, through suggestion others are overemployed, and there is a consequent loss of nerve equilibrium.

The operator should carefully note the susceptibility of the patient before attempting deep formal hypnosis. Until he has had considerable experience, he should always use the first pass, noting the dilatation of the pupil, and tendency

of the eye to roll upwards. If these occur promptly, suggestions should be given very carefully. With people of uncertain heart action, great watchfulness is necessary. I had two or three lessons very thoroughly impressed upon me when I first undertook the producing of formal hypnosis.

While I was attempting to prevent a lady from raising her hand to her head, her eyes commenced to close, and before I could catch her she had fallen to the floor. She was unconscious, pulse feeble and at twenty. An hour's hard work was necessary to restore her completely. I employed oral and mental suggestions and upward kneading of the limbs to restore circulation and nerve action. A few weeks later I refused to test a young woman because she came from a certain school whose students seemed unable to comprehend that we only attempted to produce hypnosis with the patient's consent. She returned the next day and repeatedly sought to be tested until, somewhat out of patience, I fastened her eyes, using as intense physical, oral and mental suggestions as I could command. The eyes opened after two or three counter suggestions, and I went away. Her friend soon called me, stating that the young woman "felt faint and sick at her stomach." I recognized that a shock had been given, put her to sleep, and suggested that when she opened her eyes she would feel all right. She seemingly did, and started away. A scream from one of her friends brought me into the hall where I found her upon the floor, a shapeless heap. She had not fallen, but collapsed, like a man in the last stage of intoxication. She remained conscious, her eyes were partly open, and she spoke stammeringly like a paralyzed person. It was a true case of almost complete hysterical paralysis. One hour's hard work with suggestions, kneading and rubbing enabled her to stand; another hour of similar treatment restored the complete use of the muscles.

These experiences impressed upon me the necessity of care, and I had no more difficulty for four years, until one evening, while sitting in the twilight conversing with several people, a lady who had been unaffected by several efforts to hypnotize her, challenged another trial. Suggestions of heaviness of eyes and limbs and of drowsiness were given intensely for ten minutes. She was then found to be sleeping deeply. The gas was lighted and her friends sought to awaken her. After their failure, I attempted, and to my surprise found that ten minutes were necessary to restore consciousness and twenty more to secure muscular control. I had been misled by her previous lack of impressibility, and from the darkness had not been able to judge the effect of the suggestions.

A subject sometimes passes to a stage where the auditory area becomes also relaxed and oral suggestions are not heeded. Then mental and physical ones only will arouse him. With very susceptible patients I have no doubt that a line of suggestions directed to lowering the vital functions might ultimately produce death. Love of life would prevent the patient accepting a direct suggestion leading up to death, but the point might be indirectly reached.

Much harm may be caused by inexperienced, incompetent operators who learn to produce hypnosis from watching the work of others, but have not learned to restore the subject to a normal state. A person of good intelligence usually learns to hypnotize from being hypnotized. One young lady, a university alumna, cashier of a large investment company, was hypnotized in public. A few days later she attempted to cure her mother of a violent sick headache by hypnosis. She could not awaken her, and, after working for an hour or two, was obliged to call in skilled assistance. Such cases, unfortunately, have been

too common, as well as partial awakening, leaving the subject more or less affected for days, or even weeks.

Professional hypnotists when working too many subjects sometimes neglect the complete restoration of one or more. I have seen a man, a prohibitionist, come to the hotel for "sobering up" who was too intoxicated to perform his usual duties, all the result of a glass of water and suggestions the evening before, and incomplete awakening. I have seen a man with a swollen knee, almost unable to walk, from a suggestion not sufficiently removed. One physician had the same experience as Cassim at the cave. He told his son that he had a *lame* knee. After the boy had limped sufficiently, he was told the "stiffness" was gone, but the boy remained "*lame*" for more than a week until informed that he was no longer "*lame*."

I have seen several really dangerous assaults caused by a member of the audience suggesting that one of the subjects had suffered a grievance at the hands of another. A newspaper man one night told a physician who had been hypnotized and was peddling "hypnotic" lemonade through the house, that another subject had broken one of his lemonade glasses. The doctor placed his imaginary glasses in a vacant seat and started in pursuit of the offender, whom he followed through the house, up the stairs into the balcony, around that into the upper proscenium box, grasped him and was about to throw him down on to the stage below, when the occupants of the box recovered their presence of mind, and held the struggling men until they had been awakened.

On another occasion Dr. Flint had gone into the dress circle of the theater to separate two hucksters who were fighting over a prospective purchaser, when he was hurriedly called to the stage, where a letter-carrier was follow-

ing his roommate, a student, about the stage, seeking to strike him with a heavy kitchen chair which he brandished, and shouting "the — — stole my wieners." A strong man was hanging to each of his arms and another clasped him around the neck, but they scarcely impeded his progress. Some one had suggested to him that his friend had taken some of the sausages he was supposedly selling, without paying for them. There is no doubt that a hypnotized subject can be made to assault another if a grievance is suggested, but the man's appearance indicates his state, circumstances would show the instigator, and the latter's punishment would follow as certainly as if he had committed the assault in person.

It does not necessarily follow that a subject can be made to commit a murder or a theft. Personal satisfaction is largely recognized as a legitimate method of settling difficulties. The man who can be suggested into theft, the woman into the surrender of her body, would probably consent without suggestion if it were not for fear of the attendant consequences. Suggestions opposed to the subject's inclination, sense of propriety, or conscientious scruples usually fail. I worked unavailingly for more than thirty minutes trying to induce a young lady to sing alto when she preferred to sing soprano, though her voice was low in register.

A woman physician, a very clever hypnotist, tells me that when representing herself to be a girl's fiancé the subject would reciprocate innocent caresses, but invariably resent any familiarities. It is a fact that under hypnosis there is a tendency to increased refinement, even the depraved being elevated in sentiment. It is very rare that a subject, no matter how coarse his usual language, utters an oath or impure word while hypnotized. Women who seem to have

lost all sense of shame, when hypnotized refuse to accept a suggestion of an immodest action as positively as would their purer sisters. Laboratory experiments as to theft and murder prove nothing. It is almost if not absolutely impossible to keep the subject from realizing the nature of the experiments and the result anticipated. He thus, perhaps unintentionally, corroborates the operator's theories. The only positive method of learning how far a suggestion will carry is by actual criminal attempts, and these fortunately have been few.

We know that constant association with evil may cause depravity in the most moral. Hypnosis and suggestions could probably be used to hasten moral degeneracy. Mental suggestions, personal magnetism, will undoubtedly kindle affection, desires, and weaken resistance, as I have before mentioned. In this way one expert in the use of suggestion can more readily secure his ends, though they be immoral, than one less equipped, but the difference lies only in the degree of effect produced and the time required. The common idea that a woman can be put into a deep state of hypnosis and debauched is probably a fallacy. Some French investigators report that an attempt at intercourse would awaken her on account of the hyperesthesia of the sexual organs. I am not aware of any similar experiments in this country, but one case that I shall refer to later corroborates the principle.

Husbands have reported that their wives under hypnosis were conscious of intercourse being attempted or consummated, though unable to resist. I believe that had the act been attempted by a stranger resistance would have been effectual, but consciousness of the husband's supposed right prevented the necessary impulse. It is possible, however, when intercourse has been had with consent, and in a nor-

mal state, by a post-hypnotic suggestion to destroy all recollection of the act. Men have followed this course with their wives who greatly fear conception, and the women rest happy in the belief that they are never exposed to any risks.

Abortion has been produced under hypnosis, I am creditably informed. Hudson's argument that natural mother love would prevent a woman from accepting a suggestion of that nature seems fallacious in view of the fact that many women are anxious to avoid the responsibilities of motherhood.

A singular case in Wisconsin attracted much attention in 1894. A young girl of fifteen, after a day and a half's absence from home, was found in a peculiar state. An examination showed that she had been assaulted. The physician, who did not believe in hypnotism, treated her for six weeks, believing her to be under the influence of a drug. She seemed to be in a sleep-walking state, acted automatically upon any suggestion offered to her, but seemed incapable of exercising judgment. She and the young man in whose company she was last seen had been in the habit of hypnotizing each other. Her condition remaining unchanged, Dr. Flint was finally called in by the authorities to solve the problem. She responded readily to hypnosis, and stated that she and the young man had passed the night of her absence in the woods, that he had offered her no indignity, but that while he was gone to secure something for breakfast, two prominent business men of the city came along and each assaulted her while the other helped to hold her.

She stood a two-hours' cross-examination upon this story, making no contradictory statements. She awakened, restored completely, with a hiatus in memory. When an effort was made to connect the present with the past, and she was finally asked to tell what she did on the day of her dis-

appearance, she screamed and went into a violent hysterical attack from which the hypnotist's skill was powerless to relieve her, the former condition re-appearing. It was believed that she was controlled by the post-hypnotic suggestions of the young man, and a few days later, after one failure, he was compelled to hypnotize the girl and suggest that she would awaken free from any suggestion that he ever had given her, and that she could never again be influenced by him. She then seemed absolutely rational, described her spending the evening at the young man's home, and that about ten o'clock he hypnotized her, and with his father, an irregular physician, but considered respectable, took her by a roundabout way into some woods outside the city limits where he attempted to assault her, but that *the act awakened her*, when by his father's assistance she was overcome by force. The son then assisted the father to outrage her. The story created great excitement, and both father and son were imprisoned awaiting trial, the father finally being released on bail. The notoriety brought on hysteria again in the girl and one of her friends. They charged the "doctor" with having brought them to a railroad station by mental suggestion, compelling them to enter a train, go to a neighboring town, and proceed to a place of ill resort, he following. He was arrested then upon the charge of abduction. The girl also exhibited some clairvoyant power, and clearly described people and conversations at a distance. She could write backwards as well as forwards for some time, it being accomplished as neatly and rapidly as though in the usual fashion. After a time she recovered through treatment by an intelligent hypnotist. She went to the jail, hypnotized the young man, and procured from him a written statement that he and his father had outraged her. On my advice the district attorney dismissed the abduction case as too extreme

an instance of the power of mental suggestion to be appreciated justly by the average jurymen. A change in district attorneys, and delays finally brought a dismissal of the rape case. It presented numerous practical difficulties in preparation for trial. The girl's contradictory statements, the good reputation of the older man, and the improbability of the father and son uniting in such work made conviction doubtful.

Personally I believe that assertions often made by the girl's mother, in her presence, while she was in the hypnotic state, were the means of involving the older man. Mrs. B., the mother, frequently expressed her belief that "the old doctor was just as deep in it as the boy." The constant reiteration impressed it deeply upon the girl's relaxed brain. The son evidently had had intercourse with the girl. Whether by force, with the aid of a confederate, through hypnosis, or with her consent, can never be determined.

The two men implicated had passed through the woods hunting. The young man had induced hypnosis and given the suggestion that they had assaulted her and that he had not. In his ignorance and inexperience he had not sufficiently awakened her. She was unable to tell the suggested story, and her condition attracted attention and revealed her true assailant. Then when she had finally been released from his influence, justice was frustrated by the indiscreet utterances of the mother dragging in a probably innocent party.

Several deductions can be made from this case.

The most important one is the general unreliability of confessions obtained under hypnosis, either formal or informal, and of all statements, with or without oath, of impressionable people. Methods amounting to informal hypnosis are employed by police authorities in eliciting

confessions from criminals, and when a neurotic is concerned such confessions should be considered valuable only as they serve to bring out details which may be corroborated by other material evidence. The intense oral and mental suggestions of the detective have made the accused really declare himself guilty, though he be actually innocent. Cases are not uncommon where a suspected man has subsequently denied his confession of guilt and finally been proved innocent. I believe that more than ten percent of people are really incompetent witnesses through suggestibility. They may be honest, but, consciously or unconsciously, facts become twisted. A severe cross-examination of suggestible people should be prohibited. It may confuse the facts, and only demonstrates the aggressiveness of the attorney, not the integrity of the witness. A man might secure the ruin of another by suggesting to the victim of his evil deeds that the other is guilty. Care must be taken in making statements in the presence of a suggestible person when his testimony may be required upon the matter discussed.

The defense of hypnotism has frequently been offered for murder and other crimes in this country, but to my knowledge it has never prevailed, though I believe that at least one murder has been procured through that means. H. H. Holmes had a knowledge of hypnotism, but it never was shown that he exercised it to aid his designs, though probably mental suggestion will account for his peculiar influence over people.

Dr. Myers, late of New York, now of Sing Sing, who received a life sentence for poisoning, or procuring the poisoning of, a heavily insured employee, probably had hypnotized his wife to do the work and given her the post-hypnotic suggestion either that she would forget all about it,

or would not tell about it. In this case the act was the result of years of association and suggestion, and might possibly have been procured without hypnosis. Myers studied hypnotism in 1890, and by his line of questions as to the possibility of producing death by hypnosis, alarmed his teachers. It was late in 1894 before the murder was committed.

If it had not been so serious a matter, the conviction of Gray, the Kansas farmer, of murder, by hypnotizing an employee and causing him to kill a fellow laborer, would have been a ludicrous farce. There was no one connected with the trial, from the judge to the court crier, from the defendant to the least important witness for the prosecution, who knew aught of hypnotism save from reading accounts of public entertainments in newspapers. The supreme court reversed the verdict of hanging, and held that the trial judge erred in letting the case go to the jury. It appeared upon cooler investigation that there had been trouble between the employees over slanderous statements alleged to have been uttered by the killer concerning the other's wife, and that the shooting was in self-defense. But lawyers desiring to be sensational and establish a reputation as the first to employ hypnotism as a defense, interpolated that element, and nearly caused an innocent man to lose his life.

The Ging murder at Minneapolis, for which Claus Blixt, who shot Miss Ging, was sentenced to prison for life, and Harry Hayward, who instigated the murder, was hanged, is another case in which hypnotism was suggested as a defense. An attempt was certainly made to gain informal hypnosis, but it scarcely succeeded. Miss Ging lived in a flat building owned by Hayward's father, and of which Blixt was janitor. Her life had been insured in Hayward's favor and he wanted the money. He gained Blixt's confidence by praise, got

him to poison a dog to demonstrate his manhood, threatened him with imprisonment therefor if he would not set fire to a barn, at the same time impressing upon him what a lively time in the neighborhood would be caused by the fire. He then showed him a paper purporting to be an affidavit of a witness who saw Blixt kindle the fire, and threatened him with ten years' imprisonment if he failed to comply with all demands made upon him. Hayward attempted to arouse ill feeling toward Miss Ging, and to a certain extent succeeded. He made light of robbery and murder, setting forth his own accomplishments in both crimes. Finally, influenced by threats of punishment for arson and by a promised bribe, Blixt consented to commit the crime. Two evenings his courage failed him. Upon the third the threats and bribe, reinforced by a half pint of drugged whiskey, induced him to accompany Miss Ging in a buggy upon a pretended mission, and to shoot her through the head as they drove along a road in the suburbs.

A man who performed such an act while hypnotized would have done it without remorse, doing it either unconsciously or because it had been made to seem a proper act. Blixt completely collapsed. For days after arrest he was in an extreme state of nervous prostration. He really was a victim of coercion. In some respects the case corresponds to the popular conception of hypnosis. Blixt is a man far below the average mentally, with a small bullet-shaped head, a weak rather than a vicious man. Several competent operators attempted in vain to hypnotize him. I refused to try, as I did not believe he possessed sufficient mental development to make even a fair subject, though most Swedes are excellent sensitives.

The report that a European physician has been accused by his wife of suggesting to her while hypnotized that she

should commit suicide, is not conclusive. It is a common hallucination of insane people to believe themselves hypnotized when possibly the alleged hypnotist had absolutely no knowledge of the art. It is doubtful how far a suggestion of that nature would control if there were not already some tendency to melancholia in the subject.

Hypnotism can undoubtedly be abused, but not in the ways generally supposed. Its practice should be regulated as carefully as that of law, medicine or dentistry. With general knowledge upon the question and suitable regulations, its dangers will decrease far below the present effects of undue influence, informal hypnosis, which is largely effectual because people do not appreciate its power.

Except in emergency, no physician should ever hypnotize a patient save in the presence of a third party. There is absolutely no danger in the careful, intelligent use of it. There *is* much in the abuse, but the same holds good with all of the most valuable remedies and with the surgeon's knife.

The hypnotists who close their eyes to facts and distort theories, who avoid valuable modes of treatment because their practice indicates the possibility of dangers arising from the use of suggestion, hinder the progress of science. The possibility that hypnotism may be abused does not detract from its value, but only demonstrates that it should be more carefully investigated, and its practice, so far as possible, limited to the honorable and well qualified.

There is little danger to be apprehended from a hypnotist. It is not an art that can be practiced in secrecy. His ability must be known to others. He is usually a man possessed of sufficient intelligence to realize that his actions, his contracts, his surroundings, his motives are closely watched. This alone would preserve him from temptation and com-

pel him to exercise his powers for the benefit of his fellows rather than himself.

The crimes most readily to be suggested under hypnotism are assault and battery and the bearing of false witness. Others could probably not be instigated except through moral degeneracy caused by long association and many trials. Women are in no more danger from a hypnotist than from any other man possessing strong personal magnetism.

EXPLANATORY PLATES

SHOWING RELATIVE
POSITIONS OF

OPERATOR AND SUBJECT

IN PRODUCING
AND TESTING

HYPNOSIS

FROM PHOTOGRAPHS BY
DR. EDWIN P. ADAMS
AVONDALE, CINCINNATI, O.

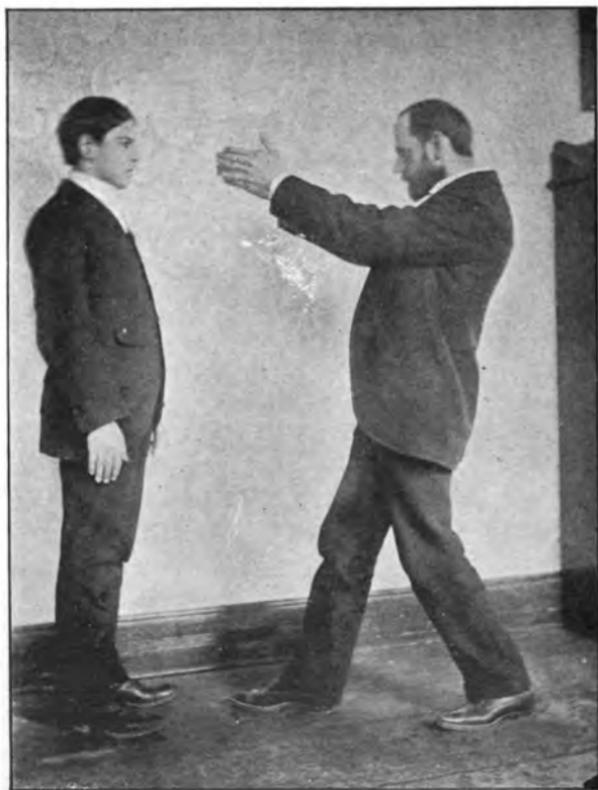


Plate 4.—A TEST OF SUGGESTIBILITY.—Page 96.



Plate 5.—ANOTHER TEST OF SUGGESTIBILITY —
Page 96.



Plate 6.—PASS ONE.—Page 97.



Plate 7.—THE MESMERIC LOOK.— Page 97.



Plate 8.—PASS TWO.—Page 98.



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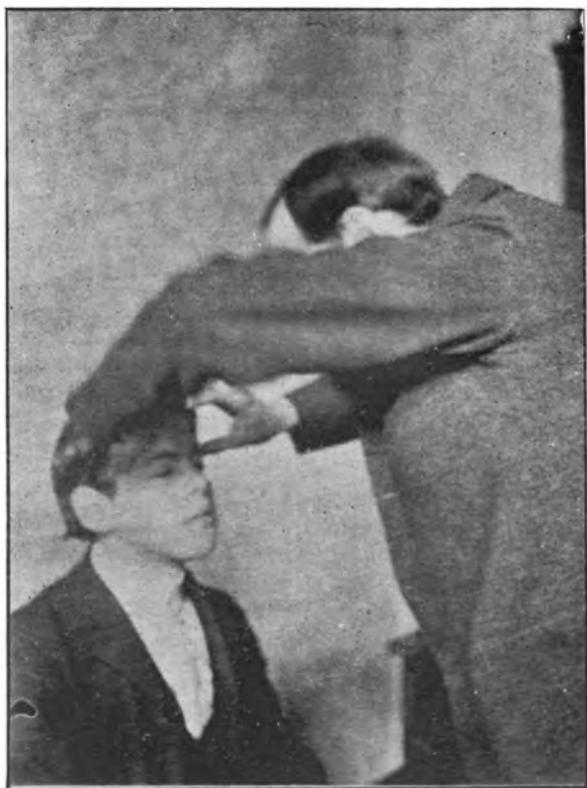


Plate 10.—PASS FOUR.—Page 99.

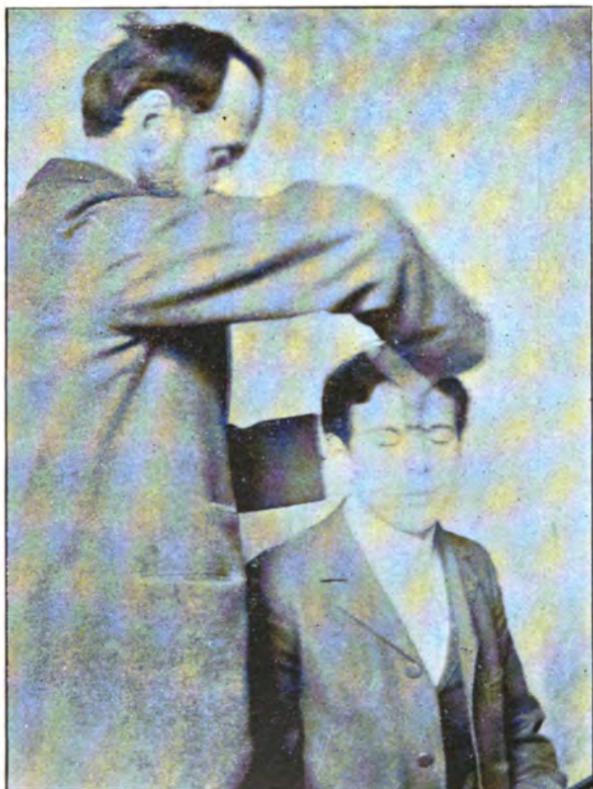


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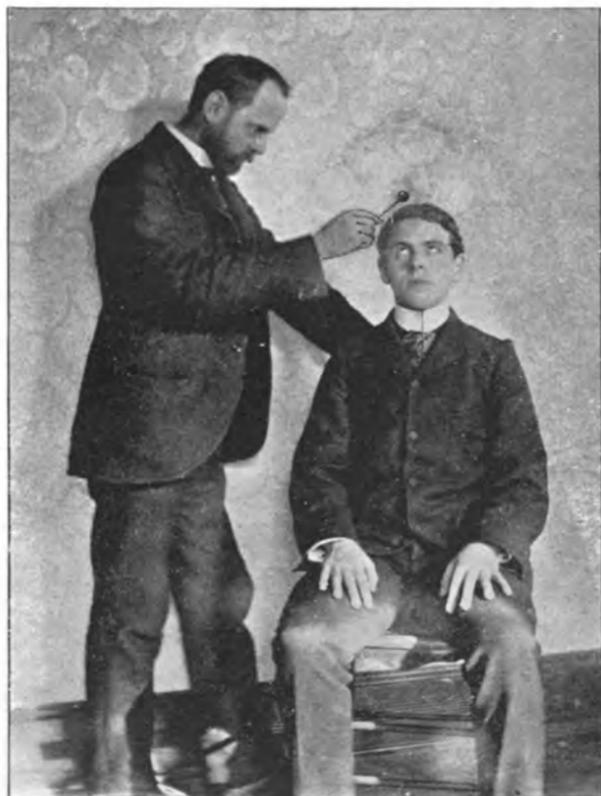


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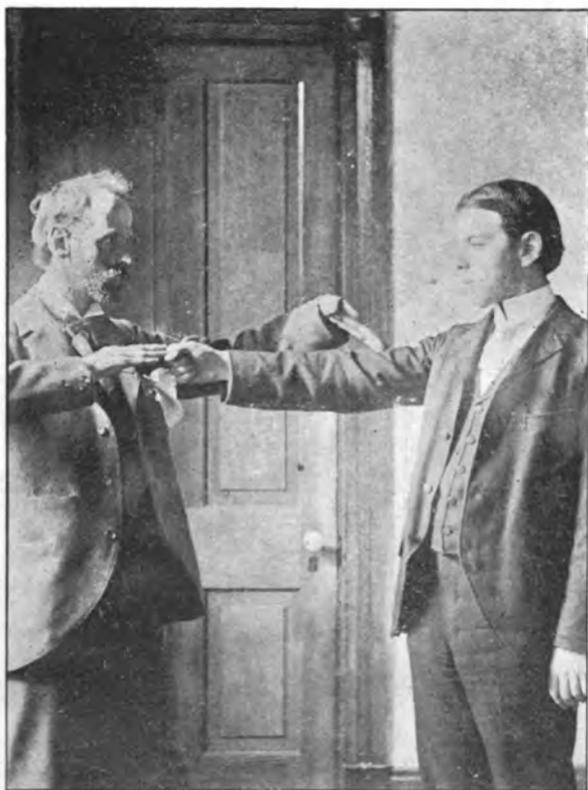


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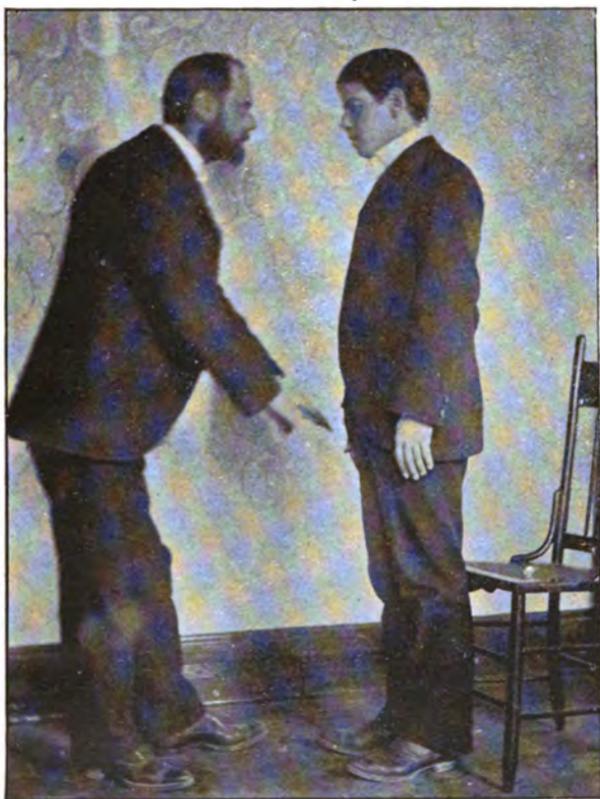


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Plate 24.—"CAN'T SPEAK WITHOUT STUTTERING."—
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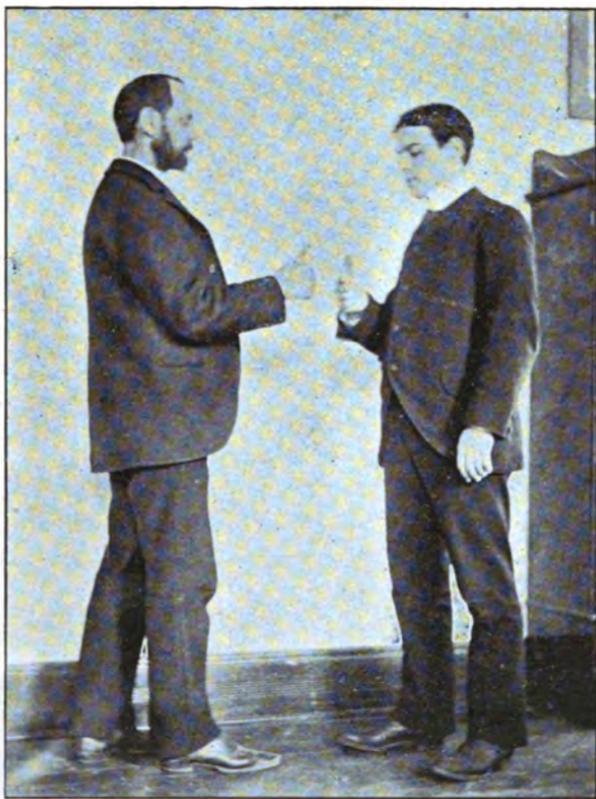


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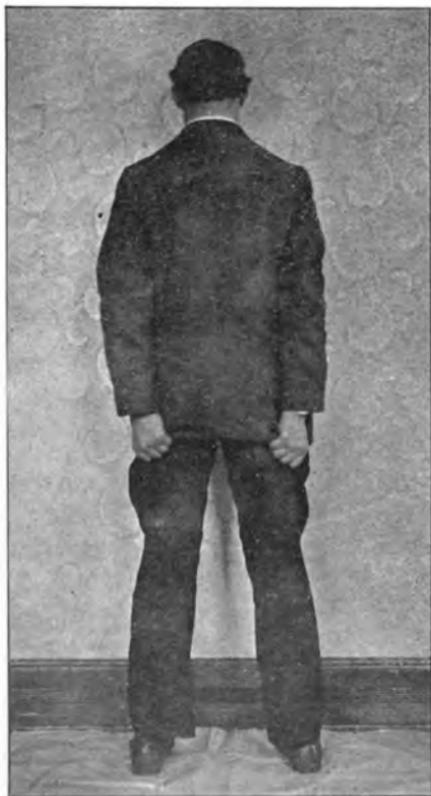


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