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Thesis on Hypnotism

Thomas Murray Robertson, M.B. C.P.
 Fellow Graduates have often asked me on what subject I intended writing my thesis for my M.D. degree. These enquiries were possibly made for many reasons, probably for two: — to see whether or not I had mastered the difficulty of selecting a suitable subject and if it were my intention to try for the higher degree. Many men declare themselves highly capable of writing a thesis provided they could hit on a subject that would do justice to their intellectual abilities! In like manner one often hears many that if they could but get through their Professional examination the Professional examinations would be simply baby play to them; such statements however are but egotistical at their best and the future career of such men is sufficient in itself to dispense with pretended ability.

Hypnotism is the subject I
chose a long long time ago; it may be considered an out-of-the-way and an odd subject— in fact, I have often been told it is and as often that it isn’t— but, it is my first love and having stuck firm, six or seven I have been saved the difficulty— great to many— of looking out for another.

The term Hypnotism is derived from the Greek ὑπνωσμός and though the subject is undoubtedly still in its infancy it seems with interest and any psychology, which neglects it is superannuated already. Some of the facts contained in my paper will no doubt be novel and startling; at all events I can rely upon justice and may trust for some reward for candour.

Hypnotism in man is the linear descendant of the so-called Animal magnetism, a subject, which was first introduced to the air of criticisms by a practitioner of medicine called Frederic Anthony Meenzer (from whom the term "mesmerism", which is frequently
need synonymously with "Animal Magnetism," is derived. This doctrine was much abused by scientists and decaded by moralists at the time it was promulgated, which was about the middle of the eighteenth century.

Prior to Meener, however, were others, who claimed similar effects to those, which Meener obtained through the application of his doctrine to clinical practice. Among these may be mentioned—

1) Valentine Greatrakes, who cured diseases by stroking in 1628, and whose results were witnessed by most of the celebrated philosophers of his time.

2) Garенные, who believed that most diseases were possessed by devils and practiced expiatrie by various ceremonies and manipulations.

To Frederic Anthony Meener however distinctly belong the merit if their being - of first formulating the Doctrine of
Animal Magnetism.  
Frederic Anton Mesmer was born in Switzerland but removed to Austria; it was at Vienna he studied and graduated. He was just the sort of man to take up and believe in such a doctrine as taught that there was some new force supposed to be akin to magnetism, and that in operation when individuals were "mesmerized" and, that it was by the virtue of this new force that the will, the thought, and the actions of the 'medium' are capable of being influenced in the so called mesmeric sleep.

By means of this all pervading presence of undefined attributes, Mesmer endeavoured to establish an 'Influence of the Planet upon the human body' in his inaugural thesis in 1766 for which he received the degree of Doctor. He sought at first to identify the ether with electricity but in this he failed to ultimately believe he had discovered that it
possessed certain affinities to magnetism. With the instinct of a physician Meemer proceeded to experiment and began by applying magnets to diseased parts and organs of the human body.

In the course of time he was able to report some remarkable cures. Other physicians experimented and the result was that the medical profession became divided into the following groups—some, who always; some, who sometimes; and some, who never obtained good results by the practice. A similar division of the members of our profession occurs now a day, whenever any new and startling remedy is promulgated. This has always been the case and it always will.

Time rolled on and Meemer noticed in its ceaseless course certain abnormal effects in some of his patients from the application of his magnetic
rods — effect, which did not at all fall in with the accepted views of magnetic action; these unlooked for phenomena led him to believe that — apart from their action as magnets — his rods might serve as conductors of a peculiar fluid from his own person to that of his patient. This conjecture was reasonable and on Mesmer discovering that similar effects could be obtained without the medium of magnets kept simply by so-called mesmeric passes this conjecture grew into a certainty.

This was surely a great stride towards the doctrine of animal magnetism and the human body was in consequence stated "to pervade by a peculiar subtle magnetic fluid" termed animal magnetism on account of its specific nature and to distinguish it from that of metals and minerals.

By means of this hypothetical new force, which was thought to
he called into play by the
magnetizer, bodies may act
and react on one another at
immeasurable distances, and
by it one man can impact
to another effect—proportion
ate to his degree of susceptibility.
There are indeed men, who
are so highly susceptible that
not only are they not acted upon
by this magnetic fluid, but their
mere presence is sufficient to
destroy or limit its effects upon
others.
Remarkable cures were constant-
ly occurring, the phenomena
exhibited by the patients un-
dergoing treatment were both
novel and startling, and on
these grounds the doctrine
of animal magnetism was
based. The affections and
diseases, which were chiefly
benefited by the application
of this doctrine were of nervous
origin; but the magnetic new
force, fluid or principle not
only acted as a curative
agent; but by virtue of its
influence, patients were believed to acquire powers of prevision of the course of their maladies and knowledge of the treatment best adapted to their individual cases.

Some description of the method employed may not be considered amiss; it will be brief.

The persons to be magnetized were collected in a room, dimly lighted with tapers and well padded so many were easily affected and behaved most violently; they were placed in a circle around a covered vessel containing water, the supposed reservoir of magnetic fluid, and were connected with each other by wires or cords or holding hands.

"De malades plus gaiie une Asile Pointe
De Cordons enroulee, et des perrons lefren
En crene environnot le magique baecin" (Delile).

Music was played in an adjoining room while various manoeuvres were performed by male assistants for the space of an hour or two, after which, Meemer, in a robe of light
coloured silk, entered "mystic wonderful" and holding in his hand a rod with which he touched different parts of the bodies of the magnetized, who did not fail to manifest various symptoms as "heat, perspirations, muscular twitching, which terminated by producing in many of them a crisis, or convulsive attacks of an hysterical nature." (In 1846), naturally the more marked effects were witnessed in females and males of nervous temperament.

This practice for cures of various complaint was held in high repute for some time and in consequence mesmer realized so large a fortune as to render him able to refuse a pension of thirty thousand francs, which was offered him by the Ministry as an inducement to make public the mysteries of his art.

In the year 1784 a committee was appointed to consider the claims of mesmerism and to issue a report of its experiments and views.
Benjamin Franklin and M. Lavandier were members of this Committee of Research and their reputation sufficiently indicates that the examination would be strict and rigorous; this it was in fact. Their whole system of examination was directed against the flimsy hypotheses of Remee and they witnessed the public treatment of patients in the Chambers de Cries and observed the startling phenomena before mentioned. They then submitted the patients individually to the most rigorous tests they could devise and seemed especially anxious to dispose the ascended fluid of opaque matter from the person of the operator and that of the operated. This was by no means a difficult task. The Committee discovered that many of the effects obtained by the public method of treatment did not appear in individual examination and that many of the rules laid down by Remee and his
disciples, as perfectly necessary and essential for successful results, were quite needless; and, that what was really required to induce the phenomena was a state of credulous expectation on the part of the patient that something extraordinary was about to occur.

The Committee did no more; it might have and consequently the subject lost much of the consideration it had previously enjoyed, until it sank by degrees into comparative disuse. The French Revolution had also a great deal to do in turning the minds of the people from the subject, but on its termination interest in the subject once more became very strong in France and several works were published upon it and many physicians of professional and scientific attainments declared themselves believers in the powers of Animal Magnetism and in the course
A single experiment led to the following classification—

1. A state in which sight seems to be partially affected: the range of vision is limited and vision is obscured. All the other special senses are normal.

2. A state of somnolence in which all the functions of special sense are in abeyance.

3. A state of magnetic somnambulism in which there is complete unconsciousness as to what is going on and on awakening as to what has gone on. This is a state in which the subject's power of will is completely lost.

4. A state of clairvoyance or mental vision in which the magnetised subject, though his eyes be closed and bandaged, can distinguish objects placed before him and has the power of predicting probable events, of ascertaining the nature of...
Diseases of individuals presented to them and of describers, unknown persons at a distance.

These states were produced by the so-called 'mesmeric races', with which everyone is familiar, and the order in which they are set down is that of their relative frequency: shade(1) being the most superficial and easily induced and so on.

In 1825 M. Fourier proposed to the Royal Academy of Medicine to introduce a somnambulist in whom the members might observe the phenomena the results of mental magnetism. This proposition gave rise to prolonged and lively discussion, which terminated in the appointment of a committee to determine as to whether the Academy ought or ought not to take cognizance in the subject. This committee decided in the affirmative
and in consequence a Commission was appointed, composed of twelve members. Oxanine into report upon the experiment about to be made.

This Committee, of which Majendie, the celebrated physiologist was a member, pursued its investigation till 1831, when it presented its report, which however, Majendie did not subscribe probably from his not having followed the experiment throughout the reading of this report in the academies gave rise to many discussions, which led to the formation of another Committee, composed of members some of whom were advocates and others opponents of animal magnetism as a guarantee of good facts and it is important to know that the report was this time signed by all the Commissioners, who unanimously agreed in the value of the facts presented to them, though they materially differed respecting the theoretical value of magnetism.
In the years of 1837-38 Dr. Elliston of London made a number of observations as to the phenomena and curative virtue of mesmerism. Elliston encountered quite a storm of opposition, principally on account of his method of dealing with the subject, for he did not (as James Braid by his keener insight was enabled to do) reject and otherwise explain the so-called phenomena of Clairvoyance, of transportation and of prediction or prophecy" (Chariton Bartian). The Mesmeric Trance, together with the means producing it, were first investigated in a really scientific manner by Mr. James Braid in the year 1843. Braid was a native of Scotland, but a surgeon of Manchester, so it might be added was a firm disbeliever in the Doctrine of Animal Magnetism. As a sceptic he attended a series of demonstrations given by a M. LaPortaine and there observed the striking fact that the hypnotized
subject was perfectly unable to open his eyes; this Braid could not account for on the theories of imagination and delusion. The method by which M. Lafontaine induced the magnetic state was by causing the subject to stare fixedly at his eyes, while he firmly pressed his thumbs against those of the subject.

This set Mr. Braid thinking, and he concluded that the palpebral apparatus was paralyzed by the concentrated staring; in fact that the reason why the subject was not able to open his eyes was because his eyelids were paralyzed.

Braid then initiated a series of experiments, which unfortunately attracted very little interest among the members of his Professin in England; two noticeable exceptions being the late Dr. Carpenter and Professor Lacy-cock.

As a result of his experiments, Braid discovered that the fixed staring at an object
not only induced the phrenics to perform to but phenomena, which had been claimed as the result of mesmerism. Here then James Braid laid down as a fact that the phenomena of animal magnetism were not the results of 'Rasee,' toucher or the volition of a magnetiser and once and for all enabled the subject for ever to be emancipated from the doctrine of magnetic fluid, and the phenomena to be regarded as a new order of cerebral facts. He henceforward compared and contrasted with those of sleep, dreams, somnambulism and insanity.

The mesmeric sleep is identical with the condition now known as induced somnambulism, or still more commonly as hypnotism. From or the hypnotic state, which affords, as though by a pejorative vivisection, an unequalled insight into the mysteries of man. Mr. Braid saw this and the
benefits that might accrue to medical practice and asked to bring the subject before the British Medical Association which met in the summer of 1842 in Manchester. Braid's request however was not granted as he put his paper styled 'Neuro Hypnotism' in his pocket and manfully bore up against the loss of patients and respect, which its rejection brought about. Braid did so much expose the erroneous theory and vain pretensions of deluded and credulous promulgators of the doctrine of animal magnetism that it is to be regretted he did not also reject all the so-called phenomena of Phrenos-Hypnotism. A perfectly independent study of this subject and of its applications and advantages in clinical practice was soon after the date of Braid's labours commenced by Esdaile in India (1846) and by J. K. Hutchell in the United States. It was not, however, till ten
years ago that the importance of Braid's experiments was wholly acknowledged, but there then dawned a new era for neurohypnosis. When the subject was raised from the region of quacks and we are now learning to understand the elements of a subject, which for so many years was laughed and sneered at by philosophers, physiologists, and psychologists. Braid did not live to see his researches rewarded; this was in the summer of 1881, when Professor Meyer of Jena was invited by the British Medical Association to open a discussion on hypnosis in the physiological section. Such is the irony of fate.

The subject has recently attracted many investigators, amongst whom may be mentioned Charles Richet, Chareau, Girard Ecoffey, Heidenhain, Liebault and Paul Richer. When we consider the simplicity of the method and
the strange nature of the phenomena induced by it, we shall feel no surprise on learning that Hypnotism in one form or another has in all likelihood been long known. It is probably to be traced in the ecstatic condition of religious fanatics in the East, in the whirling dervishes and the Sufis as also in the ceremonies of the Bacchanalian, if Ovid's description is to be trusted" (Brack: neurohypnotism, p. 51).

The condition too would most likely be induced by vacant and fixed staring at the point of one's nose, as certain Hindoo worshipers do to acquire a close intimate sense of union with God; as also by prolonged gazing at one's umbilicus, which the "Diphalo Psychie" Christians practice as a religious rite" (Duval: Art. Hypnotique: nouveau dictionnaire de médecine et de la chie, vol. XIV, p. 123).
All persons are not capable of being hypnotised; in Cher Riche's words, states that results are much more frequent with women than with men; according to this observer nearly all women between the ages of twenty-five and forty and of dark complexion are susceptible. Other writers aver that pale girls whose nerve tissue must be anaemic and more easily acted upon are more liable to succumb to the efforts of the hypnotiser. Persons who have once been hypnotised can in general be again brought with greater ease into the same or a similar state, and the facility of hypnotising such persons goes on increasing after each operation, owing, no doubt, to the existence of a predisposing mental state. Expectation that the hypnotic state is about to be induced is a decidedly favouring mental condition. There can be no doubt whatever that people, sound in mind and body, can be hypnotised, and, according to Braid, to Heidenhain and others, even
male adults, who have heard nothing on the subject and who do not know for what purpose they are being experimented with, can often be hypnotized.

I have already described the old method of hypnotizing; that, since Braids time, has been much simplified. It is as follows:— the patient seated in an arm chair must concentrate his whole attention on the object held before him; this may be a disc or some other well defined object, which some maintain is to be held so as to fix the eyes in a position of upward internal squinting (convergent strabismus). The eyelids soon droop, the object is still however to be retained in the same position and in a few minutes the hypnotic condition will be induced. Passes may be made but, are unnecessary; Neidenhain advises them.

Other methods are equally effect...
effective; in fact, the attentive gazing and the pacing are simply methods of producing monotonous sensory impressions, and the listening to the ticking of a watch, the counting up to several hundreds are other methods just as effective in producing the condition of moronic or nervous sleep.

Do we not all do similar things when we cant sleep and are anxious to?

Does it not happen too that the desired result is often achieved?

Sentries and look-outs are very liable to fall asleep from the very nature of their monotonous pacing, and this, in some degree, accounts for the facility with which sentries have at times been secured I surprised before they could sound the alarm. I know of a quarter deck sentry who was caught one night fast asleep, but nevertheless pacing slowly backwards and forwards on the lee-side of the deck. His key and
bayonet, which he was carrying were removed from him, he was then awakened by the lieutenant of the watch and nothing but seeing his keys and bayonet on the casement, where on their capture, they had been laid, could ever have convinced him that he had been sleeping; no mere assertion to that effect would ever have influenced him.

The prolonged stimulation, then, of a nerve-sensory-in close relation with the brain is the essential in inducing hypnosis, and in very susceptible persons and those who have often been hypnotized the mere expectation and the mental state of holding oneself in readiness for the stimuli, before even the stimuli have begun to act, are often quite sufficient to send a person into the hypnotic state.

Every body cannot hypnotise; practice in this as in all things is necessary; perseverance is
'A sine qua non'. Whatever be the method employed to induce mesmerism, the physiological results are the same. During the fixed gaze of the subject upon the disc the natural results of increased accommodation, convergent strabismus and contracted pupils are manifest;—the 'near point' has approached the 'near point,' and the hypnotized person is unable to read ordinary type, unless it be brought near to him; the pupils become much dilated and sluggish and insensible to light. Braid says that the pupils after being much dilated contract again. Respiration and the circulation are, as a rule, accelerated at first. Professor Cattanieri employed the pneumograph and found, that the rate of respiration is at first doubled; the phygmonograph proves the acceleration of the cardiac pulsations.
In the case of Ann Gavin—a patient at Darlington Hospital, when I was House Surgeon there—where I partially succeeded in hypnotizing the respiration became difficult and though the character of her radial pulse was unaltered, it was increased in frequency.

I cannot do better now than relate my own sensations on one occasion. I was slightly hypnotized, while sitting in my arm-chair. I concentrated my whole attention on the object—a bright button—held before me. After three or four minutes I became very sleepy and remember being told I could not open my eyelids; I was sure I could open them and tried hard to do so and so I was told—kept contracting my occipito-mentalis instead of my levatores palpebrarum. I also experienced a sense of weight in my lower limbs. After a short time the eyelids droop and, in a few
minutes more, should the experiment be successful, the first phenomenon of the true hypnotic state appears in the form of paralysis of the eyelids; this occurs in all cases; in many it is the only phenomenon, which ever occurs. It, in fact, may occur before consciousness is lost and the patient— as in my own case— when told to open his eyes will make every effort to do so but, in vain.

This singular phenomenon, it will be remembered, was what attracted the attention of Braid and aroused his ardour in the subject. Before consciousness is lost the sensations of the patient are anything but pleasant; they certainly do vary in different people, but in all convey an idea of freedom and well-being. Reflection soon becomes suspended entirely, and on shutting the patient's mouth and asking him to try and re-open it he will find it utterly impossible to do so. In the case of Miss Gavin, above mentioned, she was told to stretch out—
the right arm in a horizontal
direction; this she did for five
minutes, at the end of which
time, the arm fell to her side.
She afterwards told me that
she could perfectly easily
have refused my request.
"Fright," I said, "I shall again
memorize you and this time
don't adopt any of my suggestions,
that is, if you can possibly help
yourself." I hypnotized her, I
told her to stretch forth her
right arm, which she did in
a hesitating way at first—as if
she half believed in her own
power of will—but latterly, as
if she had no will of her own
but felt that mine had dominated
her. After some time a mild form
of contraction of muscles can be
produced by stroking them.
Charcot and Richer discovered
that they could induce isolated
muscles or groups of muscles
to contract in this way, as defin-
itely as M. Duchenne succeeded
with Galvanism: e.g., on gently
stroking the cheeks, distorsion of
the mouth is produced and the patient is rendered unable to open it; and should the arm be held out and the muscles of it lightly rubbed, it will probably be found that the position given to the limb is rigidly maintained. Finally, if the case be a most successful one, the patient falls into a torpid sleep-like state.

Now two things must be evident from the above description; firstly that the main phenomena of hypnotism may be roughly grouped into motor, sensory and psychological phenomena and secondly that the hypnotic state is not only not developed all at once but is of different types or depths, each type having peculiar phenomena. Thus while some subjects rapidly pass into complete unconsciousness, others never pass beyond the stage of inability to open the eyes.

And now as to the group of motor phenomena, which consist in the rigidity with voluntary
paralysis of groups of muscles, produced by placing the parts into the desired position and then gently rubbing the muscles. This tends the muscles into a prolonged action, which seems to leave no marked sense of fatigue, as is the case with an arm extended horizontally five minutes, when the limb begins to fall and in the course of twenty minutes is almost vertical.

This rigid condition of parts resembles nothing so much as the disease of Catalepsy.

In Richer by comparing the tracings of the muscular contractions of arms in hypnotized persons, who are cataleptic with those of muscular contractions, produced by people not hypnotized—holding forth their arms, has shown the difference between the two. M. Richer observed that a vigorous unhypnotized person can extend his arm for as long a time as a hypnotized one in a cataleptic state can, and that
this could not be considered any test for deception. Hence his experiments with the pneumograph and myograph, which were conducted as follows:

The myograph was connected with the extended limb, and the pneumograph was applied to the chest of a voluntary, vigorous, nonhypnotized subject on the one hand and a genuine cataleptic on the other. The following were the results:

"With the cataleptic, the tracing, which registers the contractions of the arm exhibits a perfectly uniform line during the whole period. With the voluntary subject on the other hand, the corresponding tracing resembles at first that of the cataleptic, but, at the end of two or three minutes, decided differences appear: the uniform line becomes uneven and very irregular, marked here and there by great oscillations."
The pneumographic tracing are also important; for with the cataleptic the respiration is less frequent and is superficial and the completion of the tracing resembles its commencement. With the simulator, however, the tracing is at first regular showing normal and regular respiration, but ultimately it shows deep and rapid depressions, due to efforts in breathing. In a word, the cataleptic does not experience any fatigue, with him the muscle subsides, but without effort, without voluntary interference.

In addition to the induced catalepsy there may occur in the hypnotized curious reflex tonic spasms, the extension of which depends upon the strength of the stimulus. For instance, take the hand—on gently stroking the ball of the thumb. It is adducted; on stroking somewhat more firmly the other muscles of the hand contract and on still firmer
shaking being employed the muscles of the forearm move especially the digital flexors come into play and so on till the tetanic action spreads to the muscles of the upper arm should then the opposite shoulder appear and the opposite forearm the opposite hand down to the lower extremities of first one side then the other.

The cataplexy is not affected though strange enough, a slight blow on the rigidly held arm is sufficient to render the muscles flaccid. A puff of air has usually an immediate effect in also dissipating the contraction. Hedenham "Animal Magnetism" 1823.

The above facts demonstrate what observers have remarked on the expansion of reflex actions in lower animals. It is well known that reflex actions are more easily excited in animals when their cerebral hemispheres are removed. Golis found that frogs from whom he had removed the cerebral lobes
would croak regularly every time
the skin over their flanks was
gently rubbed, proving the ex-
istence of a reflex connection
between the skin over the
flanks and the motor arti-
culating apparatus in the
medulla.

In like manner—according to
Hrdenhain—many hypnotized
patients righe when the skin
over the cervical enlargement
is firmly stroked.

Golby, too, after he had divid-
ed the cord at the level of
the twelfth dorsal vertebra
in a dog and allowed the
wound to heal—without how-
ever reunion of the spinal
cord—discovered that on irritat-
ing the skin over the lumbar
vertebrae, scratching movements
with the hind leg of the same
side were set up and that
on sponging round about
the anal orifice micturition
was induced.

how these reflexes occur in
man when hypnotized on
 irritating the corresponding skin areas, with this difference that man instead of scratching with his hind leg when the skin over his lumbar vertebrae is tickled moves that limb backwards and Kiedenhain points out that he may be made to keep backwards across the floor if the skin on either side of the lumbar region be alternately stroked.

I need not dwell on this subject of reflex action longer; suffice it may that many others have been discovered and that Braid pointed out this striking and curious difference between the hypnotic state and sleep that if a person is grasping a ball in his hand while being hypnotized he will retain his hold on that ball while we all are aware that the reverse is the case when we are dropping off asleep. The same observer states,
of hypnotized persons that "the power of balancing themselves is so great that I have never seen one of those hypnotic somnambulists fall."

So much for the motor phenomena. I now come to the sensory phenomena which are scarcely so remarkable and full of interest as those I have above enumerated.

As the patient is succumbing to the will of the hypnotizer there is that sensation of well-being and freedom from earthly cares before mentioned. Except in a very early stage sensation of pain is dulled or totally suspended.

In my own case a pin was thrust into the calf of my right leg; there was scarcely any pain; however when I awakened I felt the pain.

As to the special senses: strong ammonia may be applied to the nose of a hypnotized person and in all likelihood it will not arouse him. M. Jaquet has reported
a case in which there was heightened sensibility of the olfactory nerves. The sense of taste is as a rule entirely suspended. Sight is also affected; the subject at an early stage sees confusedly. When consciousness is lost he still appears to see objects placed in the axis of vision; on regaining consciousness however he says he has not been able to see. The subject, however, must see and is simply unconscious of it when aroused from his sleep. Sleepwalkers are the same.

I pass now from the sensations to the third group of facts—the phenomena which must be classed as psychological and I would repeat that we must recognize that there are included in the term "hypnotism" very different conditions. While the motor and sensory phenomena of hypnotism may be seen in subjects in whom
there is no unconsciousness whatever, the following psychical events are all associated with a more or less complete unconscious condition. Consciousness is not altogether lost in every case of hypnotic sleep and it is only in the deepest states of hypnism that the subject, like a true somnambulist, has really no consciousness and no remembrance as to what has happened in his sleep. It does happen that the subject, who can not after coming out of his sleep, recall what he has done, has the whole matter brought suddenly to his mind afterwards by some hint or suggestion offered him. Does not the same happen in regard to dreams? Was not something very similar occurred in the experience of everyone when words have been addressed
In this stage, termed Somnambulistic, the subject on awaking remembers nothing of what has happened in his sleep waking state. In this state the subject will reply to questions, write letters, eat, drink, walk and suffer from those in more superficial stages, by uttering attempting to obey commands of the operator; the subject in fact has lost this power of will.
to us in a so-called 'Brown Study'?

Now we must remember that the ordinary methods of inducing the hypnotic state, similar to those which bring about the 'Brown Study,' are by powerfully concentrating the attention and so diverting our thoughts and ideas into one straitened channel to the exclusion of all others.

In perfect hypnism however—that to which the term somnambulistic has been rightly applied—the loss of consciousness is complete and how much so is shown by the entire absence of the most delicate reflexes e.g. the internal meatus of the nostril may be tickled with a feather without inducing the slightest reaction;-it like insensibility accompanies the unconsciousness of Epilepsy. Vide off page.

Imitation is one of the most wonderful of the many wonderful
phenomena witnessed in a hypnotized subject. Innumerable and ludicrous examples might be cited. I shall however mention no more than two or three. If the experiment be stand before a hypnotized subject, whose eyes in this stage are never quite firmly closed and raise his arm as if to strike, the hypnotized subject will copy the movement so long as he can see his model, but the imitative movement at once ceases when the model passes either to one side or the other from the axis of vision. What is the meaning of this? Is it that the image of the movement impressed itself upon some portion of the Sensoryium whence it was reflected by an involuntary impulse down appropriate motor channels as an act. There can be something said for this theory, as there can be no
doubt but that mimicry is an inherent tendency of our nature. We were born mimics. It is so marked in some species of the monkey tribe that the word "ape" is a synonym of "mimic". Children too are great hands at apeing; in them education has had no chance of acting as an inhibitive. When a person then is hypnotised the inherent tendency is let loose and the stimulus is left to do its work unchecked. "It is a law of association that when an action and a sensation though not intrinsically related have by virtue of long habit become linked together if you perform the action you at the same timerouce the sensation; while if you rouse the sensation the action follows although it may be to no pur-

pose."

The present seems a case in point,—a sensation is presented to the Sensorium, which is correlated with a certain
action and, inasmuch as the power of control or judgment is abolished— the correlated action starts at once into being.

"how the sensor i impressions, which correspond with any given action may be of three varieties—

1. There is the impression, which the sight of the action produces in the brain through the retina— as when the hypnotized person sees another raise his arm.

2. There is the impression, which the ear may receive of the sound characteristic of the action. Stamp, by on the floor, munching, and marching are all imitated.

3. There is the muscular sense— which may be the source of automatic movement, perfectly co-ordinated; for instance place a cataleptic subject on a chair with his hands grasping the folds of a curtain. What happens? The subject attempts to climb up the curtain. Sometimes a patient does not imitate as one would desire.
with perseverance everything will come right; and by practice subjects come to repeat the acts of their model with surprising perfectness.

I now come to the phenomena of induced dreaming. Carpenter in his mental physiology states that the dreams of ordinary sleep may be determined by external stimulation. Braid goes further and says that the dreams of ordinary sleep may be determined by external stimulation modified by words whispered into the sleeper's ear. In the hypnotic state, just as in ordinary sleep, both sensations and spoken words may modify a dream or induce one. E.g., mention to a hypnotized person that it is very cold and he will show all the symptoms of one who is suffering severely from its effects. In like manner you may induce him to believe you have thrown him out of a high window and Oh!
the horror of his countenance. Richet (loc. cit. p. 353) says you may take him through all the stages of a journey in this way. He may remember nothing of coming out and then some slight or suggestion will enable him to recall some of his hallucinations.

Automaticism at Command.
The stage of hypnotism in which this occurs is a more superficial one than that of mimicry. In this state a hypnotized subject will do almost anything he is commanded to.

Weidenhain under this head relates how he induced his brother, when hypnotized to drink a glassful of spirit, which he had substituted for beer and to thrust his hand into a flame. He also ordered him to cut off with scissors his whiskers "which he had assiduously cultivated for a whole year." The brother—"it need hardly be said—
was in a dreadful rage when he awoke, notwithstanding it was all in the cause of Science!

In Richet states that hypnotized persons sometimes appear to possess some idea of the utter absurdity of their actions, but that the operator has simply to repeat his command with more decision and he will be obliged (loc. cit. p 359)

A person in this stage is simply an automaton; requests however must be made in the imperative mood. Music will make him dance; present him a number of strips of brown paper and say they are flowers; he will smell them and seem to enjoy their perfume; place a boller in his arms, say it is a baby and he or she will immediately nurse it.

How is this - the attitude acceded by the condition of the muscles or the muscularsense are like in the first class simply commands? they fill the mind with an impulse to perform actions indicated; just as the spoken command does in the first group of cases.
How are we to explain these phenomena? Is it that volition being entirely suspended and the mind, being a complete blank, gives itself over to the suggested actions. Can we not verify this by everyday experience; a man not endowed with force of character can be driven into a very corner of condemnation by a being of stronger will. In short, automatonism at command is not unlike automatonism of imitation, only, in the former the idea of the action coupled with its suggestion represent the constant-sensory stimulus in the latter case. At stage of hypnotism is at time reached by women which is too deep for imitative actions. If command automatonism is closely allied to imitative automatonism, imitative automatonism is in its turn related to the mimicry of healthy children, monkeys, and parrots. In fact, when we analyze the principal points of mesmerism we can discover
nothing intrinsically incredible in them. They find their place naturally among not less remarkable but better known phenomena of mental physiology.

The remaining phenomena of hypno-
pitism are:—the objects get never fall down although unconscious, the power of balancing is just as great as it is with sleepwalkers. Their movements of standing, sitting, or walking are always perfect—as in the case with somnambulists; so much so that Mr. Kraid was inclined to surmise that possibly the perfect beauty of the old Greek statues may have been due to the study of hypnotized models (loc. cit. p. 36).

This fact of course is due to their unconsciousness of observation. I for one can not assume an easy posture if I know my movements are under inspection. In the same way a hypnotized subject will converse with you in a most intelligent way, but will not the least ramble on the
One point in relation to which they are deluded

In Richet (loc. cit. p. 356) says that women of the lower classes talk intelligently and elegantly when hypnotised. This is because they are unconscious as to their surroundings and under no restraint.

Standing, sitting and even walking as is well known are not directly dependent on the conscious volition of our brains; they go on quite well or even better when the brain is deeply engaged in some train of thought. In fact it is only when our coordinating apparatus is left to itself that we assume the most natural and easiest postures.

What now is the state of the brain during hypnosis?

Braid thought that some of the phenomena were due to congestive changes in the cerebrum, spinal cord and organic system of nerves.

Veidenhain on the other hand at first believed the vessels to be contracted and that the
anaemia caused the sleep (loc cit p 45).
But Heidenhain began to doubt this when he observed that those who are hypnotized are often flushed, not anaemic. He requested Professor Forester to examine ophthalmoscopically the retinal vessels, which exhibited no such corresponding alterations.

Heidenhain then administered nitric ether and found that its inhalation seemed to decrease, not to retard the hypnotic condition. So his theory was upset by the experiment he conducted.

Brown-Séquard has demonstrated by inducing unconsciousness from irritation at lesions of a certain point in the medulla oblongata in animals, while the cervical sympathetic was divided, that the result is not due to contraction of the cerebral vessels. Still it is conceivable that the monotonous sensory stimuli — the methods of inducing hypnosis —
may be sufficiently powerful to work their effects on the cerebral circulation even in spite of the persistent action of the ethyl. (Journal of Mental Science, Jan. 1887 p 585.)

Brock Turke observes that whatever the cerebral changes are they are compatible with those of chloroform. A patient who is hypnotized may be brought under the influence of chloroform and when the nares' passages off it will be found he is still hypnotized. (Journal of Mental Science p 334.)

Moreover, the condition of natural sleep may apparently pass into one of hypnotism on making the appropriate passes. This fact is a most important one in its bearings on the relations of hypnotism to other mental states and on the mode in which the passes produce hypnotism. Myers and Bailey have both mentioned cases Myers holds the view of curies that in some cases there is a specific action of the
organism on another of a kind unknown. It should be observed that S. Liébault of Nancy, who is undoubtedly the most experienced of living hypnotists after writing a treatise against this theory has by further experiment convinced himself that some such specific influence exists ('Étude sur le Zoomagnétisme' 1893).

Since the circulatory hypothesis affords so little light on the matter we must endeavour to explain the phenomena of hypnosis in another way.

Can we explain these phenomena as due to an inhibition of activity of the cells of the cerebral cortex, this inhibition being due to the prolonged stimulation of the sensory nerves of the face or of the auditory or optic nerves? The theory is Heidenhain's, but what is Inhibition? S. Lecan Bruntun in Nature 1883 gives the clearest explanation of Inhibition. I have read in his paper he says nothing against the possibility
of this suggestion and Laycock's doctrine— which teaches that the
great fact common to nervous sleep and allied states is that
the will and consciousness are suspended and the brain is
placed in the condition of the
true spinal or reflex system—
would fit in with this mode
of producing arrest of volition.

Civilised character differs from
a savage in the triumph of the
higher centres of celebration
over the lower— "of the centres
which coordinate many ideas
and memories with a view to
things abstract or remote, over
the centres which respond to
immediate excitation with a
view to the present moment's
ease or enjoyment."

The moralising process— the
ἀνέξον ἀπεχον of the Stoic—
is therefore a process of continually
strengthened Inhibitions: The
higher centres learn to bear and
forbear when the lower centres
would fain snatch or rebel." (Mikhail on Incarn.)
how if we accept that Hypnotism is a process of Inhibition; in what does it differ in this respect from Educa-
tion. Education is undoubtedly a process of Inhibition. Can we or can we not get the two processes as parallel as to educate people by the process of Hypnotism. Can we or can we not to strengthen the inhibitive cells of the cerebrum by Hypnotism as these same cells can undoubtedly be impaired by narcotic influence? I believe that we have at least to a certain ex-
tent this power.

etman under the influence of Alcohol is quarrelsome, boastful, and at times even savage and impulsive; the reason of this is because the Alcohol has so acted on his brain as to paralyze the high inhibitory centers. Now it is an undisputed fact that people known as "vandals" or "bullets" are of a different stamp: they are refined, they are cheerful, they are
truthful. Dr. Perronnet says the following of the hypnotized:

"Il jouait minceur et phoniquement le drame que se déroulait au fond de mon inconscient, et dont le principal acteur était l'amour de moi-même."

There are several authenticated cases in which hypnosis has produced benefits - the benefit being due to some impulse or aversion produced during the hypnotic condition.

Dr. Charpyon in his Physiologie du Magnetisme (1838) records a case of a woman who was, by this method, cured of a habit of over indulging herself in coffee.

Dr. Perronnet in "Du Magnetisme Animal" (1840) mentions a case of a drunkard, a confirmed drunkard, who positively loathed spirit, after the inspiration.

Dr. Liebault mentions several similar cases and also cites a case where he induced an idle boy to become
a most diligent worker.
Professor Beaunis in the Revue Philo-
osphique mentions several similar
cases and Dr. Camucret in the same
paper mentions others.
Dr. Richet in 'l'homme et l'intelligence'
mentions a case where he success-
fully used suggestion to give ap-
petite to an invalid
of girl under the case of Dr. Wolks
in Eger Hospital was induced, during
the time she was in a state of
hypnotization, through hypnotic suggestion

to take tea, the tea being changed
through suggestion into coffee and her
bread into cake (vide Dr. Niles report).
This patient on being roused from
the hypnotic condition asked for her
tea and would not believe that
she had already partaken of it.
The late Mr. Pritchett had a patient,
who for two and a half years prior
to her death was fed while in
a state of hypnotism by suggestion.
This was the only way this patient
was fed. She never remembered taking food.
In the cases of Drunkards, Slaves, to
tobacco etc the suggestion may wear
off; if so they simply require renewed
at stated periods.
I regret that my intentions of visiting
the Salpêtrière for the purpose of
there witnessing Somnambulism
artificially induced have always
been frustrated. But one engaged
in private practice, in bread winning,
cannot afford time nor money for
the gratification it may be given
his nearest wish. What has been
called Hypnotismus Major is
practiced there on subject, who
are more or less sufferers from
Hysteria Major.
Three types are studied at the Salpêtrière,
each type has typical symptoms and
these types are the cataleptic, the
lethargic and the Somnambulistic;
mores than this I need not mention as I
would be going over ground I have al—
Ready trodden.

And now I close my task: I have tried to show that hypnotic experiments throw new light on the nature of man's will, his memory, his character. I have tried to show that the sense of free will is shifting, that memory is discontinuous and that by hypnosis we have a method of cerebral localization, a method by which a suggestion made to a hypnotized brain seeks the centre it is directed to stimulate or to inhibit, a method forebode which may be unlimited in its power.

"We hold the wand of Hermes, which we have not yet learnt how to wield".

I hold that we are just beginning to grasp the primary elements of problems, which have been solved by many philosophers with a formula, by so many physiologists with a nerve.

Let us know ourselves; if we are multiple let us reap the advantage of it; we shall never become what
we may be till we confess what we are.
and it is Experimental psychology
we must look for the decision "as
whether Man be but the transient
crown of Earth's fauna" or whether it
may not be that his Evolution is not
a terrestrial one, but one making
for a greater future by inheritance
from an unknown past.

Εἶλετο δὲ ἀνθρώπων ὅματα θελαίων ἐν ἐδεικτέοις, τοιούτων καὶ ὁποὺς ἐκείνους ἐξερεύνησε.

Reflect et cetera.
March 1884.