SEVEN LECTURES

ON

SOMNAMBULISM,

TRANSLATED FROM THE GERMAN

OF

DR ARNOLD WIENHOLT;

WITH A PREFACE, INTRODUCTION, NOTES,

AND AN APPENDIX;

BY

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Δει μεταγειν την σοφιαν εις την ιατρικην και την ιατρικην εις την σοφιαν; ιατρος γαρ φιλοσοφος ισο θεος.

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Life of
Rev. Samuel Hopkins, D.D.
of Canaan.
(Ct.)

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CONTENTS.

INTRODUCTION, - Page 1

BIOGRAPHICAL NOTICE OF WIENHOLT, - 31

LECTURE I., - - - 37

LECTURE II., - - 53

LECTURE III., - 69

LECTURE IV., - - 85

LECTURE V., - - - 99

LECTURE VI., - - - 114

LECTURE VII., - - 130

APPENDIX, - - 147

POSTSCRIPT, - - - 203

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PREFACE.

The progressive history of Animal Magnetism, subsequently to the interesting discovery of Mesmer, is, although by no means singular, exceedingly curious and instructive, and will probably impress posterity with no very exalted idea of the intellectual character, the learning and practical wisdom of their ancestors. The sole question originally propounded to the erudite and scientific men of the age was simply this: Are certain phenomena capable of being produced by certain processes?—And this problem, we should think, might have been easily solved, in the most satisfactory manner, by experiment and observation.

It happened, unfortunately, however, that the alleged facts, which were proposed for investigation, were far from being acceptable to a large majority

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of the learned men, and, especially, those of the medical profession of that day ; and besides, they were, at the very outset, so encumbered and obscured by theories, that the actual and really important question at issue was almost entirely lost sight of amidst the heat and smoke of the controversial discussions which ensued between the partizans and opponents of the new doctrine.

At length, a Commission, composed of members of the most learned societies in the capital of France, was appointed to investigate the contentious problem, with the assistance, however, not of the discoverer himself, but of one of his pupils. This Commission, accordingly, entered into the proposed investigation, and published a Report, in which they partially admitted the *essential* facts, but rejected the theory of MESMER, for which they substituted a theory of their own; but, at the same time, they gave such an unfavourable representation of the whole matter as was calculated to obstruct the farther progress of the magnetic inquiry. One of the members of this Commission, it is true—and the one who appears to have paid the greatest attention to the subject—the learned and conscientious JUSSIEU—dissented from his brethren, published a separate report of his own, admitted the action of the alleged in-

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fluence, and presented a much more favourable view of the whole question. But the quiet and dispassionate voice of a single individual had little chance of being heard, amidst the noisy clamours of ignorance, interest and prejudice, reinforced by the partial but authoritative judgment of accredited scientific bodies. Prejudice prevailed; truth and reason were thrust out of court; and Animal Magnetism was compelled to submit to a general sentence of condemnation.

For several years, little was heard of MESMER or his doctrines. A few of his disciples, however, who had been instructed in the magnetic art, continued faithful to the principles of their master;—fresh converts daily acceded to their ranks;—and amidst many difficulties and discouragements, the system spread far and wide, and an immense mass of facts were, at length, accumulated, which again attracted public attention. Men of the highest eminence in science now gave their countenance and sanction to the inquiry; and some even of those learned bodies, which had previously been most forward in the business of condemnation, now abjured their former errors, consented to reopen the question, manfully promoted inquiry, and even recommended the practice.

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In the meantime, the important discovery of MESMER spread throughout every part of Europe; nay, it gradually penetrated into the remotest corners of the civilised world; the practice was successfully adopted, and diligently propagated by many physicians of eminence in their profession; new facts of great interest and value were occasionally brought to light; and the public, in general, of every rank and in almost every country, acquired a more or less adequate knowledge of the principal objects and phenomena of Animal Magnetism. Prejudices upon the subject, indeed, still prevail in society, and particularly among medical men; but, as the author of this publication predicted several years ago, these, it may be reasonably presumed, will, in a short time, entirely vanish before the progress of general intelligence and conviction.

As several of the old and nearly exploded objections to the practice of Animal Magnetism, however, are still occasionally revived by individuals who are either very ignorant of the subject, or conceive they have an interest in opposing the progress of the system, it may not be altogether useless—perhaps it may even be a little amusing—to examine the grounds upon which these objections have been supported, and to show how unfounded, nay, ridiculous, they are in

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reality. Never, indeed, was truth more irrationally opposed.

At an early period, it was the fashion among the opponents, after the example of the first French commissioners, to ascribe all the effects of the magnetic treatment to the influence of the imagination. This objection was in itself sufficiently vague; but so far as it is intelligible, we venture to assert that no man acquainted with the principles and practice of magnetism could ever have thought of attempting to explain the phenomena upon such an hypothesis. Indeed, it was at once refuted by *Cuvier*, and others, by merely referring to a few simple facts. But the absurdity of this objection is so much the more glaring, when we consider that even had the opponents actually succeeded in establishing this hypothesis to their hearts' content, still it would have constituted no valid objection to the magnetic treatment. If the imagination be really a remedy in diseases, what reason can there possibly be why we should not employ the imagination for this purpose, instead of nauseous drugs. If it be the best and most sovereign remedy, why not assign it an honourable place in the *Materia Medica?* The doctors, no doubt, know a great deal about the imagination, and we might venture a shrewd guess that every eminent physician,

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in extensive practice, cures two-thirds or three-fourths of his patients by means of this useful specific. And if it can be proved that, in many morbid affections, the imagination acts a decided part in the cure, what would this circumstance prove against the advantages of animal magnetism? If magnetism be the most effectual method of exciting the imagination, and if this imagination be itself a remedy in diseases, then magnetism has a decided superiority over the ordinary methods of treatment. And supposing all this to be the case, can it be said that the imagination is less valuable as a remedy, than a portion of a mineral, an insect, the root of a plant, or the bark of a tree?—In short, this objection is, in every view, most unfortunate, frivolous and absurd.

For a considerable period after the discovery of animal magnetism, the opponents affected to consider the phenomena alleged to have been elicited by the practice as supernatural, miraculous, impossible and absurd; and they continually spoke of the magnetists as visionaries, mystics, impostors, quacks, liars, &c. to whom no credit ought to be given. Upon investigation, however, it appeared that the phenomena, thus objected to and denied, had been observed many ages before animal magnetism became known as a science, and that they had occasionally oc-

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curred, in an apparently natural manner—sometimes as symptomatic of a peculiar morbid action—without the application of any artificial means whatever. Animal magnetism, indeed, produces no effects but such as have been met with in various other forms of diseased or abnormal action. The routine physician may deny the authenticity of these facts, but, in that case, we must just remit him to his studies—to *Hippocrates*, the animal magnetists, and nature. We should advise him, in the meantime, however, to be more cautious in displaying his ignorance. Nervous diseases, what has been called the black bile, poisonous plants,* the gases, the approach of death, have

* The *Daphne plant* of the ancients, which, in all probability, was our cherry-laurel, (*lauro-cerasus*), produced a poison which might occasion death, or, in a smaller quantity, convulsions, and a species of delirium. This plant was sacred to Apollo, and the Pythian priestess used to eat of it before delivering her oracles. The convulsive state which ensued induced the spectators to believe that she was inspired; and the priestess herself was sufficiently aware of the violent effects of the poison, and was always displeased when inquisitive persons came to consult her in that state, and sometimes even concealed herself in order to avoid them. Compare all this with the experiments which VAN HELMONT tried upon himself with the *Napellus;* and with some of those phenomena which occasionally occur in somnambulism.

If some fables have been received as truths, there are probably many truths, disguised by circumstances, which have been generally rejected as fabulous.

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produced all the phenomena which are ascribed to animal magnetism, and all history abounds in instances of these states of the organism. Even the phenomena of the natural and artificial somnambulism appear to have been well known in ancient times, but were afterwards little studied or understood, until, in recent times, the discoveries of MESMER and his disciples brought them more prominently into notice. The physician who is unacquainted with these facts, and wilfully remains ignorant of them, has made but small advances in the study of that portion of physiological science which is of the most importance to his profession. By the bye, we have been frequently led to suspect that when Christianity superseded Paganism, much true and useful science was sacrificed along with the false religion.

Soon after the mesmeric treatment came into vogue, an objection was taken to the magnetic processes, on the score of their alleged impropriety, indecency, &c., and the same objection, we believe, has been frequently repeated even in recent times; from which it would appear that our physicians had resolved to erect themselves into very strict and fastidious *censores morum*. Whatever may have occurred in the earlier practice of animal magnetism, however, this, in the present circumstances, is an

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objection resulting so entirely from absolute ignorance, or from wanton malignity, that its authors and abettors really ought to be made ashamed of it. To those who know and have witnessed the processes, the ludicrous falsehood of the objection must be perfectly apparent. Indeed, there is much less indecency, and much more delicacy, in the magnetic treatment, than in the ordinary medical practice.

We have already observed that, for a considerable period, the sceptical opponents affected to consider the magnetic phenomena as impossible and altogether incredible; as resulting entirely from falsehood and imposition. Upon investigation, however, it appeared that the phenomena, thus rejected as inadmissible, had been observed many ages before magnetism became known as a science; and that they had occasionally occurred in an apparently natural manner without the co-operation of any artificial means. The opponents then found it convenient to shift their ground of objection, and instead of denying the authenticity of the facts, as formerly, they now alleged that animal magnetism was no new discovery, in as much as the facts with which it was conversant, had been previously known to physicians. These objections, it will be seen, were to-

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tally inconsistent with each other; they were both the offspring of blind and reckless hostility; for the former, it is evident, was completely refuted by the latter. The previous observation of the facts tended to confirm their asserted reality, and showed not only that they were not impossible, but also that they were not mere inventions of the magnetists. But the objectors either did not or would not see, that the merit of MESMER'S discovery consisted in proving that the phenomena, which had previously been known to occur naturally and spontaneously, or, at least, without any immediately perceptible cause, could be produced by artificial means, and almost at pleasure. Their natural occurrence, indeed, is rare, whereas they can be frequently produced by magnetism. Nor do the objectors make any account of the remedial efficacy of the magnetic processes—which must be admitted to be entirely a discovery of MESMER'S; nor of the advantages which this discovery is capable of conferring upon medical and physiological science. Indeed, all the sceptical objections which have been made to animal magnetism appear to have arisen from deplorable ignorance, from bad feeling, defective observation, and wretched logic.

A particular phenomenon is observed to occur

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apparently from natural causes, and nobody denies its reality. The same, or a similar phenomenon, is produced by artificial means, (*e. g.* by magnetism), and it is then declared to be impossible. Can such objectors be held to possess common sense, not to speak of reasoning power?

But the practice of animal magnetism is alleged to be dangerous—very dangerous. In a certain sense, this objection is admitted, if it really can be considered as a rational objection. But, then, the same objection applies, in an equal degree, to the administration of medicinal drugs, and to the use of surgical instruments, by ignorant, unskilful, and incompetent persons. Opium, arsenic, foxglove, mercury, prussic acid, &c. are exceedingly dangerous things; and the less we have occasion to meddle with them, no doubt, the better. Yet these and many other very dangerous things are publicly sold in all our apothecaries' shops, and are daily used in the ordinary medical practice. It is part of the object of animal magnetism to supersede the use of these dangerous drugs, by introducing a milder and no less efficacious mode of treatment. Do accidents of the most fatal nature never occur in the course of surgical operations? The author is aware of a case, which occurred a few years ago, in which an

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ignorant and unskilful practitioner, in the course of an apparently trifling operation, divided an important artery, and left his patient to bleed to death.—What was the opinion of the celebrated Dr FRANK, in regard to the ordinary medical practice? "*Thousands*," says he, "*are slaughtered in the quiet sick-room.* Governments should at once either banish medical men and their art, or they should take proper means that the lives of people may be safer than at present, when they look far less after the practice of this dangerous art, *and the murders committed in it,* than after the lowest trade."—*Medicus loquitur.* Has any similar charge ever been made against animal magnetism? Let medicine, surgery, and animal magnetism be studied and practised by intelligent, competent, and trust-worthy men, under proper regulations and safe-guards, and the dangers in question will, in a great measure, if not entirely, cease.

From the very commencement, and ever since the discovery, the medical faculty have been invited, nay, repeatedly and anxiously called upon to investigate the subject, and to superintend the practice of magnetism. As a body, they not only refused their countenance and aid, but have embraced every opportunity to overwhelm the honest and respectable

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supporters of the doctrine with every imaginable species of contumely and abuse. They do not hesitate to administer poisonous drugs, *knowing* them to be poisonous; but they will have nothing to do with animal magnetism, forsooth, because they *suppose* it may be dangerous. Is this reasonable—is it consistent? But in admitting the danger, they also admit the influence; and why, as in the case of poisons, will they not attempt to apply this influence to beneficial purposes?

Upon various occasions we have taken the opportunity of reprobating and discouraging the reckless and imprudent application of the magnetic processes, which, like all other remedies, are only beneficial when judiciously administered by skilful hands. And the same observation applies to medicine and surgery.

But, in point of fact, the dangers of animal magnetism, in particular, have been enormously exaggerated, and set forth in ludicrously frightful array by its antagonists, with a view, no doubt, to terrify the weak, the timid, and the uninitiated. The practice, indeed, has been studiously misrepresented, as if it were actually tainted with all the pollutions of Pandemonium—a revival of all the exploded enormities of witchcraft and incantation:

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Somnia, terrores magicos, miracula, sagas,
Nocturnos lemures, portentaque Thessala.

Already, however, have these misrepresentations begun to be estimated at their real value; time, we trust, will soon succeed in entirely dispelling the remaining frightful phantasmagoria; and then the whole matter will come to be quietly contemplated in its true features, and in its just dimensions.

Objections of this formidable *ad captandum* nature are not extraordinary among the doctors. They are generally reiterated in one form or another, upon every suggestion of an improvement in their medical practice. We remember when, upon the first introduction of the vaccine inoculation, tender and timid mothers were seriously warned, by some of the profession, to beware of adopting the new preventive of small-pox, lest their progeny should ultimately become metamorphosed into cattle.

We shall conclude our answer to this objection with one or two general observations.

Where is the thing in this sublunary world, however beneficial in itself, which has not been occasionally abused? Alas! all things in nature—even the best—are liable to abuse—they may become dangerous in wicked hands. The very best of God's gifts are daily liable to abuse. It is notorious that

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the priests of religion have abused their influence, and the opportunities afforded by their sacred functions, for the gratification of their sinful passions; it stands upon record that the servants of justice have committed murder; it has happened that unprincipled physicians have condescended to administer deadly poisons for base and unlawful purposes. But, notwithstanding all this, is not religion still sacred—justice necessary to society—medicine beneficial? A French somnambulist observed: *L'on peut abuser des choses les plus saintes, et les méchans font du mal avec les meilleurs élémens.* But a sacred thing does not cease to be sacred—a blessing does not cease to be a blessing—because it may be abused; nor, for the same reason, and in the same circumstances, does truth cease to be estimable. Let us punish or despise the individual who prostitutes religion, profanes science, and perverts truth; but let us not identify the abuser with the abused, the murderer with the murdered, the subject and the object of an action.

The most extraordinary objection, however, which has been made to animal magnetism—an objection which may, perhaps, make a very powerful impression upon weak and timid minds, otherwise predisposed to religious mysticism and superstition—is that

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to which we shall now advert. The objection is of such a nature, that we fear we shall have some difficulty in discussing it with due decorum and becoming gravity. The efficacy of animal magnetism, it has been seriously alleged, depends upon the co-operation of the devil, and the whole of the phenomena are ascribed to diabolical agency; and it is a fact that these views have actually been inculcated and enforced from the pulpit. That such notions should be entertained by any individual of common sense and tolerable education, at this time of day, and in a civilised country, is truly lamentable. Surely the schoolmaster must have been, of late, sadly negligent of his duties, since he has left unexploded such precious relics of ignorance and barbarism, which are a perfect disgrace to an enlightened age. What must be the intellectual condition of the people under the tuition of such spiritual instructors? The very monstrous absurdity, indeed, exhibited in the face of this *diabolical* objection, seems to preclude the possibility of any serious answer to it. Yet a very serious, a very eloquent, and a very effective answer has been given to it by a learned and most intelligent and pious clergyman of the Church of England,* which, we trust, has been extensively perused with due edification.

* See *Mesmerism and its Opponents*, by the Rev. GEORGE SANDBY.

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All the sciences, however, it may be observed, have, in their turn, been exposed to the same ignorant and ridiculous charge; so that, in this respect, animal magnetism is far from being singular. Logic, metaphysics, mathematics, medicine, &c., have all been stigmatised and reprobated, *seriatim*, as inventions of the devil; and those ingenious persons who dared to cultivate these studies, in less enlightened times, have laboured under the grave and shocking imputation of addicting themselves to magic, and of establishing an unhallowed intercourse with Satan.

Sir John Leslie observes, in his treatise on Aëronautics, that "the arch-fiend himself was, at no very distant period, believed to have the especial control of the air, and to career in the whirlwind and impel the howling tempest. Those wretched creatures whom the unfeeling credulity of our ancestors, particularly during the prevalence of religious fanaticism, stigmatised and murdered under the denomination of witches, were supposed to work all their enchantments, to change their shapes at will, and to transport themselves through the air with the swiftness of thought, by a power immediately derived from their infernal master. At a period somewhat earlier, every person in possession of superior talents and acquirements was believed to deal in magic, and

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to perform his feats of skill chiefly through the secret aid granted him by the prince of darkness. In spite of the incurable perverseness of his conduct, it must be confessed that the devil has always had the credit of retaining some little inclination to assist the efforts of genius."

Medicine has always been, in a peculiar manner, subjected to the stigma of being conversant with unhallowed practices. The primitive heathen Æsculapii are said to have been taught their medical spells, incantations, &c. by Beelzebub himself, and from them the Papists are supposed to have learnt to cure diseases, and drive away evil spirits, by words, spells, and exorcisms. MATTHIOLUS reports that he knew a man who could heal persons bitten by deadly serpents, by means of certain charms, even without seeing the patients; and FERMILIUS tells us that he has seen fevers cured by merely muttering words, without the use of any natural means. Pagans and Papists have also professed to cure diseases by reciting certain rhythmical formulæ. In this way, the latter are said to have freed persons from epilepsy, repeating the names of the three kings of Colon. Hence the celebrated verses:

Hæc tria qui secum portubit nomina Regum
Solvitur a morbo Christi pietate caduco.

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VOETIUS in his dissertation *de Exorcismo* declares that the exorcizations of the Papists are as like those of the heathen, as milk is like milk, or as one egg is like another. In all of these practices, the philosophical observer may recognise some imperfect knowledge of the magnetic action, while the fanatic sees nothing but the direct interference of the Deity, or the immediate influence of satanic agency.

But in the present state of science and general education, why should we persist in attributing these alleged cures to the direct and immediate agency of God or of the devil, instead of referring them, as would be more rational, to some one or other of those natural principles which an almighty and beneficent Providence has established throughout the works of his hand? Our religion teaches us, indeed, that God is the author of every good, and of every perfect gift; and we hold accordingly, that every thing that contributes to the health, and comfort, and happiness of his creatures must necessarily be the gift of God. In ascribing the salutary effects of animal magnetism to satanic agency, do we not entirely change the character of that arch-enemy of mankind, and belie the sacred scriptures, by converting the prince of darkness, and the author of all sin and

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evil, into an angel of light, and a liberal benefactor to the human race; and thus attempt to introduce a new and most abominable neological worship—a pure and perfect system of diabolism? The principal, nay, the sole object of the magnetic treatment is to cure the sick; and if the devil assists us in these charitable and beneficent exertions, surely he has been most egregiously calumniated, and is totally undeserving of that universal reprobation which has been so unsparingly heaped upon him by all pious Christians. God afflicts us with diseases, and the devil cures them. Such is the wretched, the blasphemous opinion entertained by the fanatical opponents of animal magnetism! Those persons, therefore, who are disposed to adopt this ignorant, uncharitable, and impious notion of the presence of diabolic agency in the magnetic treatment and phenomena, would probably agree with St Chrysostom in thinking that "it were better for a man *to remain sick all his days*, yea, *he had better die*, than go to the devil for health." Why do not our Christian instructors endeavour to enlighten their people, by teaching them the principles of pure religion, instead of filling their minds with all manner of base and barbarous superstition? No two things are more incompatible with each other than superstition

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and religion; and if the former is still to be inculcated, for what good reason have we abandoned heathenism?

And, after all, why should the magnetic manipulations be thought to be more under the influence of the devil, than the administration of medicinal drugs? In our humble opinion—and in this, we believe, we are by no means singular—there is a vast deal more of the devil in opium, arsenic, foxglove, mercury, prussic acid, &c. than in animal magnetism; and we know as much of the *modus operandi* in the one case, as in the other. But this is a mere matter of opinion—perhaps of taste; and every doctor, cure in what way he will, provided he be a man of science and skill, is equally under the influence of Satan, and is equally liable to the imputation of practising magic. The dunce, alone, is never suspected of having any thing of the devil in him.

But the devil, it may be farther observed—although considered by the *ultra*-fanatics to be the great patron-saint of genius, and the author of every useful invention which the vulgar cannot comprehend, has at all times been, perhaps still more naturally, regarded as the wicked contriver of all improbable, and even, humanly speaking, impossible

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mischief. This is certainly much more characteristic of the vocation of the personage in question, although, perhaps, not much more reasonable. For, even,

> "Bad as he is, the Devil may be abused,
> Be falsely charged, and causelessly accused."

For example: A farmer's sow, who had an unfortunate custom of eating her pigs, and snatching up a chicken when it came in her way, fell under a bad character, and was charged with all the mischief done in the neighbourhood. If an ox or a cow were amissing, the sow had eat them up; if a rick was blown down, the sow had overturned it. She was charged with having eaten up a carrier and his horse at one meal. To say that these things were improbable—that they were impossible—went for nothing with great numbers: It was but supposing that the devil had got into the poor sow, and every thing went down.

> "Give a dog an ill name, and hang him."

There are some persons, it would seem—we trust not many—who proceed upon the same principle in forming their opinions in regard to animal magnetism; and it was justly said by Van Helmont, two hundred years ago,—*Magnetismus, quia passim vi-*

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get, praeter nomen nil novi continet, nec paradoxus, nisi iis qui cuncta derident, et in Satanæ dominium ablegant quæcunque non intelligunt. With the same justice he adds, *Profecto quærenti derisori sapientiam ea non extat.*

We owe an apology, perhaps, to the really intelligent portion of our readers, for having occupied so much time in exposing such a ridiculous objection.

But it seems that a considerable number of the inveterate opponents of animal magnetism—especially of those belonging to the medical profession—have now, at length, become convinced by the overwhelming mass of facts occurring every where around them, that there is really *something in it.* In short, they find that they can no longer safely close their eyes and go to sleep, while their neighbours are all wide awake, up and doing, everywhere around them. Being still haunted, however, by their phantom-ideas of imaginary danger, they profess much alarm, and seem to recommend a concealment of the facts—a *burking* of the whole affair. Concealment! To this, they may depend upon it, the animal magnetists, who have obtained an ineradicable conviction of the truth, and the value, and the vast importance of their science, will never consent. Truth must not be

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sacrificed to the misconceptions of misjudging men. There must be no cowardly compromise. Truth, indeed, when once discovered and made known, will sooner or later make its way, and maintain its proper position. Errors and abuses will, in due time, be corrected by the general diffusion of sound knowledge. At all events, concealment—even if desirable—is now too late—it is impracticable—impossible. Why, almost every mechanic and ploughman—almost every man, woman, and child, in the country knows "all about" animal magnetism. Many individuals, indeed, have already attempted to get rid of this now popular science by shutting their eyes to the facts—by denying their reality—by depreciating them—by reasoning them away—by endeavouring to place them out of sight. Now, all this is vain, foolish, and absurd. Facts never can be annihilated by such artifices, however ingenious. Once upon a time, the plague was raging in the neighbourhood of Zurich. The council assembled for the purpose of concerting preventive measures against the contagion. It was, at length, determined by a majority that all the gates of the town should be immediately shut. One of the councillors, however, rose up and stated that he had some pigeons which he requested might be permitted to come in before the gates were

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closed. "Fool," exclaimed a brother councillor, "cannot they fly over the gates?"—"True," replied the former, "and so may the plague." *Fiat applicatio.*

As the subject, therefore, cannot now be evaded even if that were considered desirable, it becomes the duty of all those who enjoy the best opportunities for investigation to endeavour to ascertain the nature and value of the facts, in the true spirit of philosophical candour and impartiality; and to apply the knowledge they may obtain in a manner the most conducive to the interests of science and of society. It is really painful, however, to witness the disingenuousness and sophistry with which medical men, in particular, attempt to deceive themselves and the public in regard to every thing that relates to this subject. Still more painful is it to observe how men, with the slightest spark of humane philosophy in their bosoms—members, too, of what is denominated a *liberal* profession—how such men should suffer themselves to become violent partizans in matters of mere science, and condescend to the meanest artifices and subterfuges, even to unseemly personalities, in order, if possible, to injure the character and weaken the evidence of all those individuals who have given their honest testimony in favour of the mag-

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netic facts. Such conduct is calculated to bring contempt and ruin on the best cause—in a doubtful cause, it is suspicious—in a bad cause, it is mere desperation—in matters of science, it is foolish, and futile in the end. The treatment which that most intelligent and estimable lady, Miss MARTINEAU, has lately received from the medical opponents of mesmerism—we do not hesitate to say it—is disgraceful to the profession, and must be reprobated, we have no doubt, by all the more respectable members of the body. Miss MARTINEAU—a lady of great literary celebrity—had a perfect right to tell her interesting story—to communicate the result of her accidental experience, with the view of promoting the cause of truth and of useful science. Her statement possessed great value; and, coming from such a quarter, it ought to have been received with attention and gratitude—at least, with civility. This last, indeed—if not more—was unquestionably due to the sex of the author, to her acknowledged talents and powers of observation. What happened? Why, the lady was immediately pounced upon and assailed, not in the most courteous manner, by individuals who, although professing to "know all about it," have proved themselves to be, in reality, superlatively ignorant of the best established principles both of

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politeness and of science. A lady cannot be supposed to feel any violent inclination to engage in an unseemly contest carried on by the parties endeavouring to throw dirt in each other's faces. But in a collision of intellect and reasoning, we are satisfied that Miss MARTINEAU's little finger could easily crush all her puny male opponents into powder. We have no desire to enter into the particulars of this paltry and discreditable controversy upon the present occasion; but after deliberately perusing all that has been written on the subject, our opinion is decidedly in favour of the lady, and against her male opponents. The manifestly partial conduct of these gentlemen, and, above all, their tampering with, and concussing of the witnesses, afford sufficient grounds for, at once, thrusting them out of court.

After nearly thirty years of study, research, and reflection, we find that we can corroborate almost every statement made by Miss MARTINEAU by the most ample and incontrovertible evidence. Having been, it is believed, the original cause of the magnetic controversy, in this country, by the publication of *Isis Revelata*, at a time when the subject was almost unknown amongst us; and being still prepared to "champion" the good cause "to the very utterance;"—we hereby lay ourselves completely open

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to the assaults of the best and bravest of the sceptical battalion, and place implicit confidence in the invincible armour of truth.

Me—me—in me convertite ferrum.

If medical men, however, will obstinately persist in their unreasonable scepticism and abuse, the decision of this question must be left to an intelligent and impartial public; and, for our own part, we feel no apprehension in regard to the terms of the ultimate award. *Magna est veritas, et prævalebit.*

The reader will perceive that our object, in the present publication, is to clear a way, if possible through those extraordinary phenomena, which have hitherto been designated, by the sceptics, as the *Marvels of Magnetism.* If we have been in any degree successful in our efforts, it must then, we should think, become apparent to the philosopher, that the whole matter now resolves into a question of evidence—of evidence collected from a large field of observation; and that we must first obtain possession of a sufficient number of well-authenticated facts, as the foundation of our reasonings, before we can become capable of forming any general theory applicable to the whole of the phenomena.

The fact of vision without the use of the eyes, and its scientific explanation, seems to present us with

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the master-key to a rational interpretation of all the more extraordinary and obscure phenomena of Animal Magnetism; and this explanation, it is thought, may be found in a recognition of the different functions of the *cerebral* and the *ganglionic* portions of the nervous system—and the existence of polar relations subsisting between the various parts of the animal economy—and, also, in the dissimilar manifestations resulting from these causes; comprehending the distinctive characteristics of *day-life* and *night-life—sleeping* and *waking*.

April 1845.

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SOMNAMBULISM.

INTRODUCTION.

" It is the soul that sees ; the outward eyes
Present the object, but the mind descries."
BYRON.

SOMNAMBULISM, as a fact, has been observed from the earliest ages ; and this extraordinary affection, with its concomitant phenomena, has been noticed, and partially described, by HIPPOCRATES, PLATO, ARISTOTLE, GALEN, ARETÆUS, and by other ancient physicians and philosophers. It constitutes a prominent article in the philosophical and theological systems of the ancient Hindoos and Persians ; and recent travellers in Egypt have discovered indubitable traces of its artificial production among the ancient inhabitants of that country. Indeed, JAMBLICHUS, in his treatise *De Mysteriis Egyptiorum*, has given a description of the affection nearly in the same terms as might be used by any magnetist of the present day. " On the approach of such a spirit of prophecy during sleep," says he, " the head begins to sink, and the eyes involuntarily close : It is, as it were, a middle state between sleeping and waking. In ordinary dreaming, we are fast and perfectly asleep ; we cannot precisely distinguish our perceptions. But when our dreams are from God, we are not asleep—we exactly recognise all objects,

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and sometimes even more distinctly than when awake. And in this species of dreams prophecy has its foundation." A great many similar descriptions might be gathered from ancient and more modern authors, but we would rather avoid any useless display of learning.

The manifestations of this peculiar affection, however, seem to have always appeared so anomalous and incomprehensible, as to have excited religious veneration and awe, rather than to have been considered as a proper subject for philosophical contemplation. These manifestations, therefore, came to be generally regarded as the immediate consequence of Divine appointment, or as the effects of diabolical agency, according to the peculiar character which the affection might happen to assume, or the particular views entertained by the different observers. Similar notions, upon this subject, appear to have been almost universally entertained during the dark ages of Europe; and even long after science had begun to subject the actual phenomena of nature to the scrutiny of a more strict and searching analysis, somnambulism still continued to constitute a perplexing puzzle for the philosopher and the physician. A variety of instances of the affection, indeed, had been occasionally observed; but the explanation of the phenomena was long held to be a subject far too sacred for profane philosophical speculation; and it was, accordingly, consigned almost entirely to the province of the theologian. Ignorant and crafty men availed themselves of these facts and dispositions for the purpose of extending their influence by enlarging the boundaries of superstition and delusion. And so deeply rooted were these erroneous impressions in the minds of mankind, that even the attempts which have been made, in recent and more enlightened times, to extirpate these unphilosophical and pernicious notions, by explaining the natural causes of the phenomena in question, have been viewed by many as an impertinent and unhallowed inroad upon the sacred territory of the Divine, or as an iniquitous design to extend and perpetuate the empire of Satan. With an utter misconception—in many instances, a wilful

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misrepresentation—of the real object and tendency of their labours, the honest disciples of Animal Magnetism have been held up and exposed to an ignorant public, as the professed patrons of Magic, Sorcery, Witchcraft, and every species of Diabolism.

MESMER—the modern discoverer of the Zoo-magnetic agency—was a physician; and it was perfectly natural that he should have endeavoured to apply the important principle he had discovered chiefly to the purposes of his own profession. In following this course, however, it is unfortunate,—although, perhaps, by no means very wonderful in the circumstances of the case,—that he should have excited a spirit of determined and invincible hostility in the bosoms of his professional brethren, which has proved the most formidable obstacle to the advancement of the knowledge of Animal Magnetism even to our own times. It was not merely the cause of general science which was here considered to be at stake; the particular interests of a numerous, an influential, a powerful, and a prejudiced incorporation appeared to be more immediately compromised; nay, there seemed to be placed in jeopardy the very existence of a profession, which had almost become proverbial for its jealousy of innovation, and for the inveterate opposition it had constantly presented to all rational improvement.

In such circumstances, the discovery of MESMER could not be expected to make any very rapid progress towards general recognition; although enough occurred to excite attention, and to provoke hostility. The unassisted efforts of the medical profession, however, strenuously as they, unquestionably, were exerted, appear to have been considered insufficient to strangle the infant science at its birth. The highest power of the State, therefore, was invoked to aid the faculty in their attempts to crush the obnoxious intruder; and, as in the parallel instance of GALILEO and his cosmological system, an authoritative sentence was, at length, obtained, pronouncing the doctrine of Animal Magnetism to be *absurd in itself, philo-*

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*sophically and practically false, and formally heretical; and, moreover, subversive of religion and morals.**

This formidable anathema seems to have attained its object for the time; the demands of orthodoxy were satisfied, and the victory of legitimacy appeared to be complete. But the triumph was of short duration. Such is the perverse and refractory nature—such the unconquerable spirit of truth, that it spurns the fetters of authority; and such its inherent elasticity and force, that it ultimately succeeds in shaking off for ever those ignominious shackles by which its enemies attempt to hold it in thraldom, and prevent its expansion. The modern discoverer of Animal Magnetism, it is true, retired in disgust from the theatre of his active exertions, after his original ardour had been cooled by age and disappointment; but his faithful disciples held fast the doctrine he had taught them, propagated the theory and extended the practice of Animal Magnetism, until they, at length, rendered it doubtful whether the ancient empire of medicine could be longer maintained in its integrity. The science has long been cultivated, with great zeal and success, throughout the whole of continental Europe; it has even been wafted across the Atlantic Ocean, and has found a hospitable reception amongst our American brethren. England, although tardy and reluctant, has, at length, been compelled to enter into a serious investigation of the subject; and, of late, immense progress has been made, by all ranks, in the study and consequent knowledge of the facts. The attention of our countrymen, however, has hitherto been almost exclusively directed to the practical utility, or profitable application, of the discovery, and they seem little disposed to enter into the general philosophical views to which the phenomena have a tendency to conduct us. The causes of this peculiarity are pretty obvious. England, in the opinion of her neighbours, has almost entirely fallen from that prominent station which she formerly occupied in the cultivation of moral and in-

* For an analysis of the First Report of the French Academicians, see *Isis Revelata*, and the documents therein referred to.

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tellectual philosophy; and all her mental activity has become completely absorbed in the eager pursuit of more material interests,—of more lucrative, perhaps, but more temporary and less dignified objects. We have become a nation almost entirely composed of politicians, of merchants, manufacturers, mechanics, and shopkeepers. We are rapidly losing all that intellectual refinement which ought to distinguish the civilised man, and gradually sinking into the mire of merely sensual gratifications. Physical and mechanical science are almost alone thought worthy of cultivation.* The analysis of a mineral, the

* The following opinion given of us and our pursuits by a late ingenious foreign traveller, although somewhat dilated into caricature, contains some truth, and is, at least, amusing. He describes us as "a people who can only contrive to get rid of their *ennui* by plunging into the vortex of political and mercantile activity. The perfection of the machines," says he, "which are here placed everywhere in bustling operation, and perform so many of the functions of human beings, made a disagreeable impression upon me. This artificial bustle of wheels, bars, cylinders, pistons, thousands of little blocks, pegs, teeth, &c., which move almost with passion, filled me with loathing. The determinate, the exact, the measured, and the precise, in the life of the English people, tormented me no less; for, as in England, the machines appear to us like men, so do the men there appear to us like machines. Wood, iron, and brass seem to have there usurped the functions of living man, and to have absolutely become insane from a superabundance of the spiritual principle; whereas, the spiritless man, like an empty and inanimate spectre, performs his usual routine of occupations after the manner of a machine; and at the exact predetermined minute, he eats his beef-steak, makes a speech in Parliament, steps into a stage-coach or railway-train, goes to bed, or hangs himself."

This picture may be rather overcharged; but it is a melancholy truth, that, while, with us, almost no studies are now cherished or appreciated, excepting such as have an immediate relation to worldly objects, are comparatively trivial in themselves, or merely subserve the gratification of an idle curiosity,—while we, in short, are amusing ourselves by playing at the childish game of philosophers, without apparently knowing what philosophy is; our neighbours and rivals, with all the freshness, and agility, and strength of mature manhood, are rapidly going a-head of us in the prosecution of all those nobler studies which tend to dignify human nature, to elevate the intellectual and moral character of the species, to confer stability upon civil institutions, and to promote and perpetuate the solid glory of nations.

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physiology of a plant, the anatomy of an insect, excite infinitely more interest amongst us, than the most curious and valuable phenomena of human nature. No wonder that, amidst the proscription of all higher intellect, some of our most popular physiologists have been induced to deny the very existence of a soul or mind. In such a state of things, indeed, the study of mental physiology, or psychology, is not likely to be prosecuted with much zeal or success.*

* We have, indeed, abundance of Royal Societies, and Royal Colleges, and Associations for the Advancement of Science. But what are the pursuits with which they are occupied? and what are the subjects which they decline to investigate? Look to what occurred not long ago in Manchester. "When the British Association, in one of its erratic flights, was preparing to visit that city, and by aid of railway excursions in the morning, and concerts and conversaziones in the evening, 'cram' its money-making population with the *arcana* of science, Mr Braid, a surgeon of that place, who had long devoted his attention to Mesmerism, offered a paper on the subject to the medical section, and offered '*to produce as many patients as possible, in proof of the curative agency of his particular system.*' He thought that 'gentlemen of scientific attainments might thus have an opportunity of investigating the subject, unbiassed by local or personal prejudice.' He himself 'hoped to *learn something from others*, on points which were mysterious to him, as to the cause of the phenomena.' And when we know the character of some of his alleged cures—when we learn that many successful cures in paralysis, in tic-douloureux, and in rheumatism, and of improvement in sight, were amongst them—the public might naturally conclude that these *savans* would gladly accept the offer, and bring their scientific knowledge to bear upon the subject. Here was a concentration of talent and philosophy met together; and now was a golden time for going into the question, and of putting down for ever a ridiculous pretension, or of satisfying their own minds as to the truth of the practice. But no: 'The committee of the medical section declined entertaining the subject.' As the professor at Padua refused to *look through* Galileo's telescope at the moon; so these gentlemen at Manchester were unwilling to *look at* Mr Braid's patients, for reasons that can only be known to themselves. Either they had some secret misgivings, some fears touching their own conversion, some dread of having to *unlearn* much of their former acquirements, or their time, perhaps, at this important juncture, was not quite at their own disposal. As a committee of the British Association for the Advancement of Science could scarcely be afraid of meeting facts,—let us see how the matter stood with them, in respect to time. On turning,

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It is, unquestionably, a strange and unaccountable thing, that, in this pretended "age of intellect"—and

then, to a record of their proceedings, we find, that the 'section was thinly attended,'—that several tedious papers were read, most of which could have been studied more profitably at home,—and that, out of the six days on which the sections met, there were two on which no business at all was transacted before the one for medicine, some part of which time might at least have been surrendered to Mr Braid and his experiments, even if the rules of the Society forbade a more formal lecture. These 'learned Thebans' had flitted from their homes, and travelled many a long and weary mile, and what was their object? Was it not the detection of error, the discovery of truth, and the good of human kind? and might not Mesmerism, or Neurypnology, fall under one of these classes? Oh! let us not be too severely critical: The visit to Manchester was not wholly without fruit. While one party was listening to a learned treatise on the '*Palpi of Spiders*,' by which the arachnologist 'would be prevented from falling into the *too common error of mistaking young spiders for old ones*,' another section was instructed by 'certain *microscopic researches in fibre*,'—and on the 'therapeutic application of air-tight fabrics.'—Released from these arduous duties, and this strain on their cerebral functions, our professors could only find repose by a promenade through the adjoining gardens; here where Flora and Pomona vied with their most tempting gifts, and the eyes of beauty smiled reward on the learned labours of the lecturer, who could expect even an anchorite to tear himself away, and find leisure for Mesmerism with all its cures? And then came the banquet with its venison and its wines;—and then the self-applauding speeches, where one section bepraised the other; and then followed music and the charm of song, till at length, wearied out with this train of occupations, 'Section E.' could only recline their heads upon the pillow, with the self-satisfied assurance that they had not, like Titus, lost a day!—To be serious—there is something melancholy in the state of mind here exhibited. These papers have their uses, and are valuable. But after all, 'the proper study of mankind is man;'—the palpi of spiders are not so interesting as the nervous system of a patient; and when a subject like Mesmerism professes to mitigate the maddening throes of pain—to give relief to thousands—and to effect a cure, where a cure had been pronounced impracticable, to see men of education, like those at Manchester, pass over to the other side, with offended dignity, rather than be spectators of the fact, is a scene both painful and humiliating. The question ran counter to all their previous views,—and so with sullen silence they declined to witness an art which promises to multiply their remedial resources to an extent, at this moment beyond calculation."—See *Mesmerism and its Opponents.* By the Rev. GEORGE SANDBY, Junior.

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more especially in our own country—men will voluntarily subject themselves to the severest labours and privations, in order to advance our knowledge of external nature, even in the most minute, and apparently trivial particulars: They will traverse the tempestuous ocean; penetrate almost impervious forests; ascend the loftiest mountains; descend into the bowels of the earth; with unwearied zeal, and inexhaustible ingenuity invent instruments for exploring the immeasurable heavens—(*cælum ipsum petimus stultitia*);—yet will they start in alarm, as if frightened for their own shadow, at the mere proposal to investigate a much nearer, and far more important and more interesting object—the wonderful microcosm of man—with the view of ascertaining the recondite phenomena of their own internal organization, and the laws by which they are governed; and of becoming thereby more intimately acquainted with that peculiar constitution of the sensitive and percipient being, upon which all our knowledge of external and internal nature must ultimately depend. In our own country, where, as has been remarked, the disposition in question principally prevails, this aversion from psychological studies may, no doubt, have been produced by the paramount importance which has long been assigned to physical and mechanical philosophy; to the absorbing pursuit of wealth through the means of manufacturing machinery and mercantile adventure; and, perhaps, in some degree, to a most mistaken notion that the philosophy of Bacon is hostile to the cultivation of anthropological and mental science. Nay, so far has this prejudice been carried, that all psychlogical inquiry is frequently reprobated as mere mysticism; while the veriest tyro in physical science, who has been taught to perform the most simple experiment in chemistry, or to carve the most trifling article on the turning-lathe, does not hesitate to sneer at the idea of any higher philosophy. But the notion referred to, in regard

Such is the present state of science in the land of BACON, of NEWTON, of LOCKE, of BERKELEY, of STEWART, and of BROWN.

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to the tendency of Lord Bacon's principles, is thoroughly erroneous. It is perfectly obvious to those who have really studied the writings of that eminent authority, that his Lordship reprobated merely those logical and metaphysical subtilties introduced by the schoolmen, which only tend to confuse and perplex our notions of things, and never can contribute to the solid improvement of the mind, or to the permanent advancement of our real knowledge of nature. The inductive method recommended by his Lordship—commencing with the observation, verification, and accumulation of facts, and from thence ascending cautiously to the discovery of general laws—is equally applicable, when properly pursued, to mental, as to physical science. Anthropology and psychology must have their true foundation in an enlarged physiology. Without a profound and intimate acquaintance with physiological facts, and the laws by which they are regulated, we shall never attain to an adequate knowledge of our own nature. But the psychological portion of physiology has been hitherto almost totally neglected in this country; and even the facts upon which it is founded, are generally regarded with listless apathy, if not with absolute and inexpugnable scepticism and prejudice. Yet a philosophical investigation of these facts may be productive of the most important acquisitions to our knowledge of human nature.

For example: History abounds in instances of individuals who have manifested, upon various occasions, a peculiar knowledge of present, although distant occurrences —present in time, but distant in space—and also a presentiment of future events, which have been subsequently verified, to the astonishment of their friends, and of all those who happened to be cognizant of the circumstances. This fact cannot reasonably be denied; for it is confirmed by the evidence of all ages; whatever difficulty may exist in attempting to account for it. In rude times, these phenomena have been generally ascribed to some miraculous celestial revelations, occurring during a sleep, or some

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analogous state. Thus, it has been maintained, in the language of the poet, that

> " Divinity hath oftentimes descended
> Upon our slumbers, and the blessed troops
> Have, in the calm and quiet of the soul,
> Convers'd with us."

The ancient physicians, too, gave the epithet *divine*, apparently to those states in which such phenomena were manifested.

Now, our common-sense, physical and mechanical philosophers, with whom it is a settled principle to believe nothing but what is visible and palpable, and familiar to the most ordinary observation, have almost unanimously agreed to banish all narratives of such supersensible and apparently inexplicable manifestations into the farthest realms of falsehood, imagination, and delusion. Some, indeed, have resolved the whole matter into mere *phantasmata*, or optical illusions. Many weak and superstitious persons, who are otherwise disposed to give credence to the facts, contemplate these phenomena with fear and abhorrence, as implying, in their estimation, an intimate converse with Satan, and the practice of diabolical arts. By such persons, the somnambulistic affections are generally ascribed to demoniacal possession, which must be abated by the religious discipline of exorcism. Hence, too, the belief, once so prevalent, in sorcery and witchcraft—the ecstatics of the Roman Catholic Church—the spiritual conversions of the Protestant sectaries, &c.

But may it not be a reasonable question, whether there are not certain physiological principles upon which all such phenomena may be philosophically explained, without the necessity of a general profession of scepticism, or of having constant recourse to the gordian knot-cutting hypothesis of supernatural agency!

Nec Deus intersit, nisi dignus vindice nodus.

Philosophy occasionally makes sad havoc among the phenomena which are usually ascribed to imaginative causes. Are we already sufficiently instructed in the nature and

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physiological principles of sleep itself, and of its analogous affections and their various graduations? We think not.

Several sages of ancient and modern times, indeed, have been led to take a different, and, as it appears to us, a more rational and correct view of this matter, than that which has been adopted by the vulgar and uninquiring, by ascribing the occurrences in question to a peculiar and abnormal condition of the animal organism—to a specific and appropriate faculty of the human soul, when left free to exercise its own independent energies, during the temporary abeyance of the ordinary corporeal powers. The reality of this last view, indeed, which had been previously advanced as a mere rational hypothesis, has been subsequently confirmed, and now abundantly demonstrated, by the important discoveries of Animal Magnetism—discoveries which have enabled us to correct many previous errors, and shed a flood of new light upon psychological science. It has now been rendered clear by the most ample and incontrovertible evidence that there exists in mankind a middle or intermediate state, between the normal exercise of the corporeal functions and the pure manifestations of spiritual being, in which the phenomena which have produced so much scepticism on the one hand, and so much mystical speculation on the other, are occasionally developed. It has been proved that this abnormal state of the organism, in which the spiritual faculties are more conspicuously manifested than in the ordinary state, sometimes occurs, as it were spontaneously —probably the offspring of some peculiar idiosyncrasy; —sometimes in consequence of a morbid affection of some portion of the system; and that it can be produced, in many instances, by artificial means. It has been shown, moreover, that this constitutional affection may exist in a greater or less degree of purity and intensity, in proportion to the more or less quiescent state of the whole sensitive apparatus of the corporeal organism; and that it is capable of being modified by skilful and judicious management. Many individuals—who by some have been thought to be Divinely inspired, or demoniacally possessed;

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and by others have been deemed mere insane mystics and visionaries—appear, in reality, to have constitutionally laboured under this affection. Such were JOAN OF ARC, JACOB BEHMEN, EMANUEL SCHWEDENBORG, MAD. BOURIGNON, and a great many other prophets and religious enthusiasts; and the legends of the Roman Catholic saints, as well as of the Protestant converts and martyrs, abound in instances of a similar nature. By some persons this constitutional affection has been considered as a disease: others have regarded it, not exactly as in itself an actually morbid, but merely as a temporary abnormal state of the organism, which may be symptomatic of some other diseased action. It is very frequently induced by a habit of profound abstraction, or by excessive religious devotion. Physicians, especially in modern times, appear to have paid little attention to this remarkable state, and either attempt to explain the phenomena upon erroneous or unsatisfactory principles, or generally admit, that, to them, it constitutes a perplexing puzzle. The animal magnetists, who have been led by circumstances emerging in the course of their practice to a more accurate and profound investigation of the whole subject, have alone, it is thought, succeeded, at length, in explaining the enigma of ages.

Whether, therefore, we consider the doctrine of Animal Magnetism as calculated to increase our therapeutic powers, or as constituting a valuable acquisition to our psychological knowledge, as well as to general philosophy, it must always continue to be an important subject of study, and will be depreciated by none but ignorant and intractable empirics in medicine and in science. The facts upon which this doctrine is founded have been long since fully demonstrated experimentally, to the entire satisfaction of every candid and inquiring mind; and, the more enlarged our experience in this particular department of knowledge, the more firmly must we be convinced, that, independently of the remarkable phenomena produced, the practical application of the treatment must necessarily be attended with inestimable advantages to society.

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It will not be denied, indeed, by any one who is conversant with the subject, that the discovery of the zoomagnetic influence by MESMER was as much an addition to our previous knowledge of nature, as the physical discoveries of NEWTON, TORRICELLI, GALVANI, OERSTED or DAVY. In its results to humanity, it promises to be of infinitely more importance than any of those alluded to. Whether the theories by means of which MESMER and others attempted to explain the fact be accounted satisfactory, or not, is a matter altogether of inferior importance; the fact itself remains, and stands quite independent of any theory. The fact, then, being established, it will be found to present a twofold interest to the intelligent and rationally inquisitive mind. The knowledge imparted by this discovery, has been abundantly proved to be a most valuable auxiliary in the hands of the physician, in as much as it confers upon him additional means of curing or alleviating many of those diseases which afflict humanity, and is calculated to give him a clearer insight into the origin and nature of disease in general, as well as of the operation of remedies. To the philosopher, the fact is invaluable; as it greatly extends his previous knowledge of the physiology of man: accounts for many obscure and hitherto unintelligible psychological influences; unravels the complicated character of those mixed states of being, in which the physical and psychical elements co-operate or alternate; and enables him to comprehend the causes of many curious and interesting phenomena, which were formerly deemed mysterious and miraculous, and were frequently employed to perpetuate the empire of superstition and delusion.

The medical efficacy of Animal Magnetism is a mere matter of experiment; and it has been long since sufficiently demonstrated, to the satisfaction of all competent judges, by an extensive practice of the art. Its philosophical importance has not hitherto attracted much attention in this country, where a great deal of timidity and reluctance, as already observed, has, for some time, prevailed,

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in regard to the cultivation of anthropological science, the study of which—with the exception of some physical theories of mind—has been almost entirely proscribed. It is to the phenomena of somnambulism that the attention of the reader is to be directed in the following pages —to the abolition of all external sensibility which occurs in that affection—and, in particular, to the extraordinary and much controverted fact of the exercise of vision, in that state, without the assistance of the usual organs of sight. But before proceeding to the interesting lectures of Dr WIENHOLT, the translator begs to be allowed to make a few preliminary observations on the philosophical principles applicable to the subject.

When the ascertained phenomena of nature are at variance with the established principles of science, the source of the contradiction cannot long be doubtful to the rational and intelligent mind. God made nature—man made science. Human reason is fallible; but nature, under the direction and control of Divine power and wisdom, cannot err. The prejudices of science, however, are generally the most obstinate of all, just because they are conceived to be founded in reason; and hence, even philosophers, who ought to be dispassionate and unbiassed lovers of truth, are frequently disposed to make the most desperate struggles, before they can be brought to abate their pride, and to admit the reality of a natural fact, which they have once taught themselves to believe to be inconsistent with any of their preconceived opinions. Hence, too, the tardy reception of all new truths, which cannot be immediately and satisfactorily connected with our previous acquirements. A certain German professor obstinately denied the existence of the new metals *(sodium and potassium)* discovered by SIR HUMPHRY DAVY, because they did not possess the characteristic property which he conceived to be essential to all metallic substances—*viz. gravity.*

When an humble individual, in this country, first announced the discovery of the curious and apparently anomalous fact, that, in certain abnormal states of the or-

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ganism—*e. g.* in somnambulism—many persons had been found capable of perceiving external objects, while the natural organ of vision was proved to be unsusceptible of the impressions of light, and, consequently, incapable of exercising its special functions, or of forming an image of outward things—unbounded were the scepticism and ridicule with which the information was received by the learned and the illiterate, by the philosopher and the clown. The proposition was almost universally declared to be incredible and absurd—the thing was absolutely impossible;—nay, grave and skilful anatomists—entirely misapprehending the nature of the problem to be solved, however,—actually set about demonstrating this impossibility and absurdity from a minute examination of the structure and conformation of the eye, whose peculiar functions, they maintained, could not be supplied by any other corporeal organ. The asserted fact, therefore, along with all the other phenomena of Animal Magnetism, although supported by the most complete demonstrative evidence, was thoroughly and contemptuously scouted and rejected, amidst many benevolent expressions of compassion for the unfortunate condition of the credulous simpletons, mystics or lunatics, who professed their belief of such glaring absurdities. Even to this day, although we have become a little wiser in regard to some of these matters, the fact in question still continues to be a prominent subject of jocularity; and many a jest upon this fertile theme of merriment is occasionally sported by the witty and the dull. Here, then, we have a very remarkable instance of antagonism between unquestionable observation and preconceived opinion, or, as some think, common sense. The fact itself has been completely demonstrated by the decisive experiments of PETETIN and RENARD—it is corroborated by the direct and unequivocal testimony of hundreds of enlightened and most unexceptionable witnesses, chiefly eminent medical men, who observed the phenomenon in a great variety of cases—and it has been found to occur in almost every instance of the more perfect somnambulism, whether natural or

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artificial, as has been shown in the Appendix to *Isis Revelata* (No. ii.), and in the first number of the *Zoo-magnetic Journal.* In these circumstances, to bring forward additional facts would probably be a vain, as it unquestionably would be a supererogatory labour; for what, in the estimation of the contradictors, are all the facts of nature, when placed in opposition to the preconceived opinions of mankind, nay, even to what are denominated the established principles of science? Let us, then, try a little philosophy: and as we conceive our facts to be perfectly authentic and incontrovertible, let us see whether our theoretical views may not, ultimately, be deemed quite as sound and satisfactory, as those of our merry and wise opponents.

The whole philosophy of perception is involved in obscurity. Dr REID—whose writings had, at one time, fallen a little into disrepute, but whose merits are now more justly and more universally appreciated, even upon the continent, and whose works, we believe, are recommended by Sir WILLIAM HAMILTON, the distinguished Professor of Logic and Metaphysics in the University of Edinburgh, as the most appropriate study for the tyro in mental philosophy—Dr REID observes, in the first chapter of his *Essay on the Organs of Sense*, that "the perception of external objects is one main link of that mysterious chain, which connects the material world with the intellectual. *We shall find,*" he adds, "*many things in this operation unaccountable; sufficient to convince us that we know but little of our own frame; and that a perfect comprehension of our mental powers, and of the manner of their operation, is beyond the reach of our understanding.*"—So that, in the opinion of Dr REID—and his is no contemptible authority—it would appear that ordinary vision, through the instrumentality of the eyes, is as much a miracle to the true philosopher, as the magnetic vision is considered to be by the sceptics in regard to the phenomena of animal magnetism.

After observing that "we perceive no external objects but by means of certain bodily organs, which God has

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given us for that purpose," &c. Dr REID proceeds: "All this is so well known from experience, that it needs no proof; but it ought to be observed, that we know it from *experience only*. We can give no reason for it, but that such is the will of our Maker. *No man can shew it to be impossible to the Supreme Being to have given us the power of perceiving external objects without such organs.* WE HAVE REASON TO BELIEVE, THAT WHEN WE PUT OFF THESE BODIES, AND ALL THE ORGANS BELONGING TO THEM, OUR PERCEPTIVE POWERS SHALL RATHER BE IMPROVED, THAN DESTROYED OR IMPAIRED. WE HAVE REASON TO BELIEVE THAT THE SUPREME BEING PERCEIVES EVERY THING IN A MUCH MORE PERFECT MANNER THAN WE DO, WITHOUT BODILY ORGANS. WE HAVE REASON TO BELIEVE, THAT THERE ARE OTHER CREATED BEINGS ENDOWED WITH POWERS OF PERCEPTION MORE PERFECT AND MORE EXTENSIVE THAN OURS, WITHOUT ANY SUCH ORGANS AS WE FIND NECESSARY."

Now, let us compare these opinions of Dr REID, which entirely coincide with our own, with the facts of animal magnetism, which, as facts derived from experience, our celebrated Scottish philosopher, with all his caution, could not rationally have rejected. No person, so far as we know, denies that, in the ordinary, normal state of existence, our perceptive powers are exercised through the instrumentality of certain appropriate organs of special sense; or that, by means of these organs, although in a manner to us, apparently, altogether incomprehensible, the impressions received from without are conveyed to the mind. All this, as Dr REID justly observes, we know from *experience*, and from experience *only*. But, it is presumed, we must all be convinced, that something more than the artificially constructed material organ—the eye, for example—is necessary to accomplish the perceptive process. The mere eye itself, —were the process to stop here,—could no more communicate an image—an idea—to the percipient mind, than a mirror could be made conscious of the presence

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of the object reflected in the *speculum*, or the trunk of a tree of the blast which agitates its branches. There must necessarily be some spiritual, ethereal, or other medium of communication between the material sensitive organ and the perceiving mind.

DIDEROT, the French philosopher, indeed, remarks upon the impropriety of the expressions—*the eye sees, the ear hears, the nose smells, &c.* These expressions, however common in vulgar language, are, in fact, quite unphilosophical. It is not the *material organ*, but the *internal sense*, which sees, hears, and smells. The organ, indeed, receives an impression of one kind or another; but how this impression should communicate a particular sensation, and this sensation produce a peculiar perception of an external object in the mind, constitutes the most obscure, the most mysterious, and the most perplexing circumstance in the whole philosophy of the perceptive process;—a problem, at all events, which, we conceive, is utterly incapable of being solved by any of the coarse theories of materialism. The materialist, indeed, merely cuts the Gordian knot, which he cannot untie. In order to obviate this difficulty, some late continental philosophers have had recourse to the hypothesis of an *organic ether*, as the intermediate agent between the objects, the organs, and the internal sense; and although a strict and perfectly satisfactory demonstration of the actual existence of this *ether* may not be easily obtained; yet there are certain facts, recently elicited, which seem to favour the assumption; and, at all events, some such hypothesis appears to be absolutely necessary, in order to enable us to explain the phenomena.

But be this as it may—Dr REID, as has been seen, acknowledges that the organs of external sense cannot be considered as indispensable to perception—that the mind may be made to perceive by other means; nay, he admits that we have reason to believe that, when these organs cease to exercise their functions, "our perceptive powers shall rather be improved than destroyed or impaired." Now, these are precisely the opinions which are

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held by the animal magnetists. They do not assert—although this seems to be implied in the objection of some of the sceptics—that, in the ordinary state of human existence, our powers of perception are exercised in any other than the usual way; but what they do maintain is this—and here they are supported by experience—that there are certain abnormal states of the organism—called by the various names of *Coma-vigil*, *Somno-vigilia*, *Sleep-waking*, or, more commonly, *Somnambulism* or *Ecstacy*—in which the activity of the special sensitive organs is frequently suspended—they "cease to perform their functions;" the act of perception, when it does occur, is accomplished by other means, in an extraordinary manner, and, apparently, without any assistance from these the usual organs. Both kinds of perception are known to us only from experience;—we are unacquainted with the *rationale* of either process;—both are equally unaccountable—miraculous, if you will. But there is nothing in the fact asserted by the animal magnetists which can, with any propriety, be said to be inconsistent with the soundest philosophy; it involves a question of fact alone, which, like all other facts, is capable of being demonstrated by evidence of its reality. The contradictors appeal to a narrow and partial experience—the assertors to a more enlarged and liberal observation of nature.

Were any person to assert that light is indispensably necessary to the exercise of vision, he might be thought to have merely expressed a trite philosophical truth—a truism. Yet it is notorious that there are certain animals which manifest the faculty of vision perfectly well in the dark; some of them, indeed, more exquisitely in darkness than in light. This fact might be illustrated in various ways; but, at present, we shall only refer to the instances of the cat, the owl, the mole, the bat, several beasts of prey, &c. Light, therefore, is not "*indispensably* necessary to the exercise of vision." We may add, too, that many somnambulists have been known to see in complete darkness, while their eyes, besides, were proved to be insensible to the stimulus of light.

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There are two circumstances which have tended to promote scepticism in regard to the reality of this fact of vision without the use of the eyes. In the first place, the indisposition of the greater part of mankind to admit any truth that transcends the limits of the most ordinary observation—the incredulity of the philosophical vulgar. Had their mode of reasoning prevailed, the true theory of the planetary motions, and many other scientific truths, might have continued in abeyance to the present day. Had their authority prevailed, "the fourth part of the earth had been yet unknown, and Hercules' pillars had still been the world's *ne ultra:* Seneca's prophecy had been an unfulfilled prediction, and one moiety of our globe an empty hemisphere."* The individuals in question do not know what somnambulism is—they have never examined, and are consequently ignorant of the phenomena which it manifests; and they are unwilling to listen to the evidence of others in favour of a fact, which they have once been induced to include in their category of impossibilities.

In the second place, the materialists—whose opinions, in one form or another, have been, for some time, the most prevalent among philosophists, in this country—acknowledge no functional manifestation excepting such as can be immediately referred to the instrumentality of some special corporeal organ. According to the doctrines taught by the philosophers of this school, mind, *per se*, is a complete phantom—a nonentity: man is altogether a mere machine, and in this, as in all other machines, every faculty must necessarily have its own distinct specific and appropriate material apparatus, without which it would be incapable of manifesting itself. To them, therefore, that which is usually denominated *mental* energy is merely a result of the activity of some particular portion of the corporeal organism.† But we must avoid en-

* JOSEPH GLANVILL.

† *Craniology*, or *phrenology*, is the newest form in which the doctrines of materialism have been promulgated; and it differs little, if at all, from its predecessors. When the phrenological theory was

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tering at large into the materialistic controversy upon the present occasion. It has been already observed that the

first introduced into this country, it was at once perceived by the most competent judges of the logical tendencies of philosophical doctrines, that it was a mere revival of old and exploded errors, and that, if accredited, it must ultimately conduct its unwary disciples to a system of the grossest materialism—we might add, perhaps, the grossest absurdity. This—the materialism—was but feebly denied by the phrenological doctors themselves, who either attempted to evade the imputation, or to make it appear that this was, in reality, a matter of no essential importance. Dr GALL, the *modern* inventor of the craniological or phrenological hypothesis—for it is by no means new—was, at least, much more ingenuous and consistent. He did not pretend to deny, or even to evade the inevitable consequences of the doctrine he taught; and, if we are correctly informed, he lived and died in the uncompromising profession of materialism and atheism. His admirers, indeed, eulogise his "philosophical dignity," his "uncompromising declaration of infidelity." Viewing phrenology as a system of materialism, we are told, he "pronounced it to be incompatible with any existing theology whatever." And so it unquestionably is.—See an Account of the Life, Death, and Character of Dr GALL, in the London *Morning Chronicle* of 17th September 1828.

The specious arguments, however, of the supporters of the doctrine in this country, appear to have succeeded in allaying the apprehensions of their unphilosophical disciples. Nay, so extraordinary was the delusion, that, at one time, phrenology had nearly become an orthodox dogma of religious belief in Scotland. But the most active advocates of this theory have now, in the fulness of time, acquired sufficient confidence to throw off the mask, and expose to the public the true features of their system, in all its nakedness and deformity.

Some short time ago an ADDRESS was delivered to the *Phrenological Association* in London, by Dr ENGLEDUE, which was afterwards published with the entire approbation and solemn *imprimatur* of Dr ELLIOTSON. In this laboured *Address*, which is avowedly calculated to produce a thorough revolution in science and society, the medico-philosophical author expatiates with great boldness and apparent originality upon *Cerebral Physiology*—a new name, we presume, for phrenology—and *materialism*. A very few extracts, with appropriate remarks, will be quite sufficient, we should think, to convey a tolerably accurate notion of the scope and tendency of this notable production, which professes to demolish and supersede all previous systems of the philosophy of mind.

The intrepid author thus announces his main proposition, which he evidently wishes to be received as a first truth—a philosophical axiom. "WE contend that *mind has but an imaginary exist-*

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subject we are now considering involves a mere question of fact, and not of speculation, and cannot, therefore, be

ence ;" and he soundly chastises the stolidity of our ingenious countryman, Mr GEORGE COMBE, for expressing the following flimsy and heterodox opinion upon this subject. " We do not in this life know *mind* as one entity and body as another, but we are acquainted only with the compound existence of *mind* and *body*, which act constantly together, and are so intimately connected, that every state of the *mind* involves a corresponding state of certain *corporeal organs*, and every state of these organs involves a certain condition of the mind." Dr ENGLEDUE does not seem to be aware that ARTHUR COLLIER, BISHOP BERKELEY, and the other idealists, had long ago disproved the existence of matter in the universe ; and if he—the doctor—shall be thought to have succeeded in exploding *mind*, we shall then have arrived at the *non plus ultra* of the sublime in philosophy—*a plenary vacuum*, in which " nothing is but what is not."

What philosophers, in general, denominate *mind*, Dr ENGLEDUE proposes to designate by the much more appropriate, and far more intelligible name of *Cerebration ;* and we are told that *cerebration* " expresses the manifestation of a series of actions resulting from the properties possessed by a particular portion of organism—*brain*—when acted upon by *appropriate powers.*" What the appropriate powers of the cerebration-philosopher may be we are not informed, further than that they are " certain necessary stimuli"—not mental, of course. And here our redoubted *Cerebrationist* seems to be fairly stranded at the very outset, and can only rescue himself and his system from their awkward embarrassment by one of these arbitrary and authoritative *dicta* so frequently resorted to, in their manifold difficulties, by the *esprits forts* in philosophy.

"The 'why or how' such a form of matter is capable of manifesting such peculiar functions, WE cannot explain." We are not in the least surprised at this inability. But then, it seems, " it is sufficient for our purpose"—the purpose of the cerebration philosophers—" *to* DECIDE *that it is so.*" No doubt it may ; and such an arbitrary decision, too, may be very convenient for system-mongers, when their proofs are defective. But the weaker brethren in philosophy—such as ourselves—very absurdly, perhaps, require some evidence of a proposition before giving their assent to it. They foolishly imagine that it is necessary to apprehend, to reflect, to compare, to reason, to judge, before pronouncing a decision. All this, no doubt, may be quite superfluous in the more condensed logic of the cerebration school of philosophy ; but its teachers surely might condescend to adapt their lessons more to the capacity of less prominent intellectual developments.

The products of cerebral manifestation—manifestation of cerebration—however evolved—are afterwards aptly and most ingeniously assimilated to the " *bile* or the *saliva*," which " are secreted by

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determined, *a priori*, upon any abstract principles of possibility or impossibility, which are founded upon gratui-

their respective glands." This, we thought, had been a brilliant discovery of Dr ELLIOTSON's; but it has been adopted, at least, if not actually first discovered, by Dr ENGLEDUE—(*vitula tu dignus, et hic*); and having now the decisive authority of both of the learned doctors (*Arcades ambo*) for the fact, philosophers may now be completely assured that what have hitherto been vulgarly denominated *mental phenomena*, are, in reality, nothing more than *bile* and *saliva*, or something of a similar nature. It is fortunate, perhaps, that they have not been discovered to be something even more nauseous. For, further—we are informed that "the process of *thinking* is precisely analogous] to that of *digestion*." "WE"—that is the cerebration philosophers—"we *see* that certain articles of food conveyed to the stomach excite it to the performance of its function—*digestion*. In like manner, the external senses receive impressions and convey them to the brain,"—*how* it is not said,—"and excite it to the performance of its functions—*cerebration*." All this is in perfect accordance with the *dictum* of some of the ancient schoolmen—*Nihil est in intellectu quod non prius fuerit in sensu*. Grain thrown into the receiver of a mill excites it to the performance of its function—*grinding*. Moreover, as the perfect performance of digestion depends on the healthy state of its organ—*stomach*; so the perfect performance of cerebration depends on the healthy state of its organ—*brain*; as the perfect performance of the process of grinding depends on the sound state of the machinery of the mill. To continue the parallel, the author might have added, that, as it is the business of the stomachic *viscera* to separate the wholesome and nutritive from the deleterious and excrementitious matter of our food; so ought it to be the business of the cerebral *viscus* to separate the product of healthy thought from the filthy excrement of insane and unwholesome drivelling—a function of no unimportant nature, in its consequences to the individual and to society.

But, exclaims some ignorant antagonist, "this is not the doctrine of GALL;" to which our indignant author emphatically replies:.. "This *is* GALL's doctrine."—*Lis est de paupere regno*. Moreover, "the science which he (GALL) left in its infancy, has been cradled and nursed"—to little purpose, it would appear, for the bantling, confessedly, is still rickety—"we find it still comparatively in its infancy." But the greater the infancy of the science—the weaker, in short, our premises—the bolder and stronger, it would appear from the new philosophy, are the conclusions we are warranted in deducing from it. This, we are led to presume, is a fundamental principle in the new science of *cerebration*.

So much for the science—now for the consequences.

And, in the first place, with regard to the "*conjectural* doctrine of mind," let us listen to the irrefragable refutation of this monstrous hallucination by the profound excogitations and irresistible

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tous and questionable opinion and, without manifest absurdity, cannot be applied to the actually observed phe-

reasoning of our most subtile cerebration philosophers. "WE"—the united CEREBRATIONISTS of England—"WE"—the renowned Doctors ELLIOTSON and ENGLEDUE—"WE oppose this system (viz. the doctrine of mind) by the antagonism of *Reason* and *Nature*. It is impossible any longer to countenance this opinion. It must be rooted out. It is like a *malignant disease*."—Here the M.D. is quite at home; but he ought not to be so *malignant* and vituperative—we might, perhaps, say *demented*.—Mind, however, according to the cerebration philosophers, is a *disease*—a MALIGNANT DISEASE—like a cancer, we presume,—"which can only be cured by extermination." "Let it be boldly stated, *because it is true*, that, as philosophers, we"—the cerebrationists aforesaid—"have to deal simply and *exclusively with matter*."—Now, is there any person so pig-headed—so cerebrally obtuse—as not to perceive that *mind* has now been utterly exterminated? WE philosophers (God help us!) have boldly and oracularly declared, "IT IS TRUE!" and that single argument is a finisher.

But however undaunted in the fearless announcement of such vastly original, and laboriously excogitated, and profound discoveries, our truly philosophical author appears to have also his occasional moments of doubt, of modesty and of diffidence—qualities rarely to be found, we should presume, in a cerebration philosopher; and in one of these we find him exclaiming, in a rather melancholy and lugubrious tone:—"TRUE, WE KNOW LITTLE ABOUT THE MATTER!" Now, this, we apprehend is by much the truest proposition he has stumbled upon throughout the whole of his eloquent Address; and we just thought that it might have saved himself a great deal of laborious trifling, and his audience an useless expenditure of time and patience, had he only made this highly important discovery a little sooner. But, then, no doubt, they would have been deprived of this exquisite exemplification of the *parturiunt montes*. We have generally found that the dogmatic arrogance and pretension of the would-be-philosopher are in the exact ratio of his ignorance and imbecility. If there be any truth in the cerebration-philosophy, the brain of a thorough-going cerebrationist must bear a very striking resemblance to—a poached egg.

The *Address* of Dr ENGLEDUE is followed by a *Letter* to the author by Dr ELLIOTSON, approbatory of the whole doctrines of cerebration, and, more especially, of the *nullification* of mind. Of this letter we have little to say, and, perhaps, the less that is said of it the better. This learned Doctor is continually carried off his feet by every novelty—his mind (if any mind he has,) is eminently disqualified for philosophical research,—when he happens to get hold of any truth, he seems incapable of making a right use of it—he seems incapable of distinguishing truth from illusion. A consider-

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nomena of nature. A demonstrated fact precludes all speculation with regard to its possibility or reality. We

able part of his letter, upon the present occasion, is taken up with an account of certain experiments in that new *bastard science* called PHRENO-MESMERISM, of which he speaks in terms of the most rapturous delight. "Oh!" he exclaims,—"Oh, that GALL could have lived to see this day—*these astounding proofs of the truth of phrenology!*" We have taken another occasion to make some observations upon this subject, sufficient, we should think, to make the intelligent portion of the public aware of the complete *hocus-pocus* of these experiments. (See *the* FALLACY *of* PHRENO-MAGNETISM *detected and exposed.* Edinburgh, 1843.) If fairly conducted and correctly reported, they afford, indeed, conclusive evidence of the influence of animal magnetism, but they present no proofs whatever of the truth of phrenology. One assertion of Dr ELLIOTSON's, however, did really astonish us. He says, "I have made experiments in mesmerising daily"—"and I have never once discovered the influence of my will. I have never produced any effect by *merely* willing." This is, at best ambiguous; but must we suppose the learned doctor to be utterly ignorant of the only conceivable mode in which such phenomena can be produced in the particular circumstances? If so, he has, as yet, made but little progress in his mesmeric studies, and his experiments are of small value. What can the phrenological doctor mean by the foregoing assertion? Does he not pretend to magnetise a particular organ with the *intention* of producing a certain manifestation; and does not this very act itself imply an exercise of the will? And how does he contrive to magnetise an organ? If the doctor does not discover his own will, he may depend upon it that, if in the requisite state, his magnetic patients will not fail to do so for him. Moreover, he does not appear to be aware that similar phenomena have been manifested in cases of the idio-somnambulism, by psychical means alone, and without any co-operation of magnetism or mesmerism. Let him attentively peruse the work of his ingenious friend Mr Townshend, in which this subject, amongst others, is well handled, as it has been indeed, by almost every writer on zoo-magnetism. It has frequently appeared to us that Dr ELLIOTSON merely skims along the surface of a science; and that he is incapable of penetrating to any depth. Hence, all his knowledge is merely superficial, and generally conducts him to a series of ingenious blunders.

We knew Dr ELLIOTSON of old as a *whole-hog* materialist. He has not changed his opinions, and to our regret, probably never will. He cannot cast off his leaden shoes. In his letter, now before us, to Dr ENGLEDUE, he makes some garbled extracts from the works of certain philosophers and divines of the *sensualist* school, in support of his own views. There are few philosophers, however, even of repute, who have not, in their unguarded moments, uttered some fool-

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have endeavoured to prove, however,—although to the enlightened reader this may appear to have been a work of supererogation—that the fact in question is nowise inconsistent with philosophy, and, on the other hand, that it has been actually observed in hundreds of instances both of the natural and of the magnetic somnambulism. Moreover, this very fact may go a great way towards determining the controversy which has so long subsisted between the materialists and their opponents.

In the somnambulistic affections—the symptoms of which have been hitherto far too little attended to—it has been proved beyond the possibility of doubt, that the entire sensibility undergoes a very remarkable change—that the ordinary sensation is sometimes totally abolished, and that the faculty of perception is then exercised in a manner entirely different from that which takes place in the normal condition of the organism—in the ordinary state of existence. It is in vain to object that we are incapable of accounting for this fact upon any acknowledged philosophical principle; for, in treating of perception in

ish, hasty, or heterodox opinion; and such *obiter dicta* are of little value. But we are pretty confident that not one of the authors referred to would have given his serious and deliberate assent to the principles and conclusions of the phrenological materialism, as expounded by the cerebration-philosophers.

We are informed that, in the society to which it was read, the *Address* of Dr ENGLEDUE was received with almost universal disgust. We are surprised that the feeling excited was not of a totally different character; for the paper in question only wanted the classical elegance and inimitable humour of MARTINUS SCRIBBLERUS to render it superlatively ludicrous. We should hope, however, that the *physic* of the two phrenological doctors is somewhat more palatable than their philosophy; for

> "There is no taste in *this* philosophy,
> 'Tis like a potion that a man should drink,
> But turns his stomach with the sight of it."
>
> BEN JOHNSON.

The system, indeed, as we have already hinted, has not even the equivocal merit of novelty or originality. It will be found far more ingeniously developed in the works of PRIESTLEY, DELAMETRIE, the author of the *Systeme de la Nature*, the French *Encyclopedistes*, BROUSSAIS, &c.

There is nothing new under the sun.

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its ordinary form, Dr Reid justly observes, that "we shall find many things in this operation unaccountable." We can assign no reason, *a priori*, why perception may not be exercised without the assistance of the usual bodily organs; whereas, when we reason *a posteriori*, from the facts, we find the strongest grounds for believing that such an extraordinary exercise of the perceptive powers not only may, but actually does occasionally take place during the temporary suspension, or quiescence, of the ordinary sensibility, by means, probably, of some awakened instinct, or of some process of more immediate intuition;—a phenomenon which, philosophically considered, is no more incomprehensible or inexplicable, than are the normal manifestations of sense and intellect. Our faculties are insufficient to enable us to determine the extent of natural causalties, and to fix their bounds, and to say to Nature: *Hitherto canst thou go, and no further*; and he who adopts this standard of judgment, "is himself the greatest miracle of knowledge or immodesty."

Those individuals, it is apprehended, who are free and unshackled by the "gives and fetters" of material systems of philosophy, will not hesitate to acknowledge that the foregoing observations are perfectly consistent with the deductions of right reason. It may farther gratify the feelings of many other most respectable persons, to whom the whole of this matter has been wilfully and most egregiously misrepresented, to be made aware that these observations are entirely consonant to the scriptural doctrines of Christianity, as expounded by St Paul; who, with all his devotional zeal and fervid eloquence, frequently displays more philosophical learning and acuteness than he generally gets credit for. We acknowledge, indeed, that it is not always advisable, and may sometimes be improper or even dangerous, to refer to scriptural texts in support of philosophical dogmas; because it frequently happens that these texts cannot be shown to be applicable to the points in hand, without being wrested, with some violence, from their proper and genuine meaning. Upon the present occasion, however, we deem this

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proceeding perfectly justifiable, seeing that the passages to be referred to appear to us to be clearly in point, and that those who maintain the proposition for the truth of which we are now contending, have, singularly enough, been accused by the sceptics of holding opinions contrary to the divine order of things.

Now, in some of the Epistles of St Paul, the distinction between the spiritual and the corporeal portion of our being is laid down with such clearness, and insisted upon with such earnestness, that, from the circumstance already alluded to, we can feel no hesitation in appealing to the authoritative inspiration of the apostle in aid of our philosophy. We confess, too, that we have sincere pleasure in contemplating the perfect agreement between the phenomena of nature, the deductions of reason, and the tenets of our Christian faith.*

In the first Epistle to the Corinthians, (chap. xv. 40,) St Paul informs us that "there are celestial bodies, and bodies terrestrial;" and in the 44th verse of the same chapter, we are told, in regard to our own bodies, that "it is sown a *natural* body; it is raised a *spiritual* body;" and then follows the important declaration:—"*There is a natural body, and there is a spiritual body.*" Man, in short, is composed of two different natures—the physical or corporeal, and the psychical or spiritual. In our present state, these two natures are conjoined; in the future state, the soul, or spirit, will be disembodied, and our knowledge, instead of being acquired through the instrumentality of material organs, will probably be derived from immediate intuition—the product of pure consciousness. In the first Epistle to the Thessalonians, St Paul speaks of our "whole *spirit*, and *soul*, and *body*;" and in several of the other writings of the same apostle, there occur frequent allusions to the

* From some of the opinions expressed in my former writings, the sceptics and infidels took occasion to denounce me as a *bigot*: the same opinions, I believe, were considered too lax by some of the stricter sectarians. I fear I must be content to run the risk of martyrdom on both sides. But I may shelter myself in the meantime, under the old maxim—*in medio tutissimus ibis.*

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same distinction and antagonism between the *flesh* and the *spirit*; but, as "*flesh* and *blood* cannot inherit the kingdom of heaven," no such antagonism can exist in a future life, because, then, "mortality will put on immortality," and man will become an entirely spiritual being. In what peculiar manner matter and spirit are connected in us, in our present state, is a problem which appears to be placed far beyond the reach of our human comprehension.

The very significant apostolic intimations, above referred to, ought to be well considered by those well-meaning, it may be, but, assuredly, mistaken individuals, who attempt to reconcile the philosophical doctrine of materialism with the paramount truths of Christianity. Even in this life, however, we may perceive a pregnant proof of the reality of the important distinction in question in some of the higher phenomena of somnambulism, or the ecstatic crisis; in which the spiritual faculties are so remarkably developed, during the temporary suspension of the corporeal sensibility. Similar phenomena, too, have been occasionally observed in many individuals upon the near approach of dissolution, when the soul appeared to be in the act of disentangling itself from the impediments of the mortal body, and preparing to launch upon another, and a purer and more glorious state of existence.

But we must refrain from pursuing this subject any farther at present, lest we be accused of mysticism by the ignorant and the thoughtless. We must maintain, however, that there is no arrogance more presumptuous than the arrogance of those who pretend to deny the reality, and even to cast ridicule upon the belief of every thing which is incapable of immediate sensible demonstration. In our present state of existence, indeed, we see only in part; but, from the things which are seen, are we not entitled to form an augury in regard to those which are placed beyond the sphere of our natural vision? The blear-eyed materialist, indeed, will continue to hold up his farthing candle before your eyes, and endeavour to obscure the light of the sun. Foolish creature!—"Thou wilt have no mystery and mysticism?

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Wilt walk through the world by the sunshine of what thou callest logic? Thou wilt explain all, account for all, or believe nothing of it? Nay, thou wilt even attempt laughter!

"Whoso recognises the unfathomable, all-prevading domain of mystery, which is everywhere under our feet and among our hands; to whom the universe is an oracle and a temple, as well as kitchen and cattle-stall—he shall be called a mystic, and delirious. To him thou, with sniffing charity, wilt protrusively proffer thy hand-lamp, and shriek, as one injured, when he kicks his foot through it. Wert thou not born? Wilt thou not die? Explain me all this—or do one of two things: Retire into private places with thy foolish cackle; or, what were better, give it up; and weep not that the reign of wonder is done, and God's world all disembellished and prosaic, but that thou thyself art hitherto a sand-blind pedant."—CARLYLE.

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BIOGRAPHICAL NOTICE OF WIENHOLT.

ARNOLD WIENHOLT, the author of the following Lectures, was born at Bremen on the 18th of August, 1740, and died in his native town on the 1st of September, 1804.

He studied medicine, took his degree, and, from that time, seems to have devoted himself entirely to the duties of his profession. We have not been able to collect any particulars of his private life; but he would appear to have been a man of quiet and unostentatious habits, and much addicted to study and research, especially upon subjects connected with his professional pursuits. His excellent sense, and perfect probity of moral character, gained him the esteem and affection of all who came within the circle of his acquaintance. Contemporary writers, who have occasion to mention his name, uniformly represent him as a man of amiable feelings and strict integrity. Sir J. D. BRANDIS, physician to the King of Denmark, who enjoyed his friendship, and knew him well, speaks of him as "my honest and upright WIENHOLT;" and other writers ascribe to him the same character of ingenuousness and devotion to truth.

In the year 1787, the attention of the physicians of Bremen was directed, by LAVATER, to the great discovery of MESMER. At first, considerable scepticism on the subject was very naturally manifested; but, soon after, in consequence of experimental investigation, the reality of the agent, and the utility of the processes in medical practice, were recognised by several able and learned men, some of whom were induced to communicate the

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result of their experience to the public. Among these early magnetists of the school of Bremen were BICKER, BÖCKMANN, GMELIN, HEINECKEN, and our author. In his experimental researches, WIENHOLT was assisted by some of his friends and colleagues—two of whom subsequently acquired celebrity in other departments of scientific inquiry—OLBERS the astronomer, and TREVIRANUS, author of the *Biologie*.

WIENHOLT, like the rest of his professional brethren, had been originally sceptical upon the subject of animal magnetism; but his candid spirit of research would not permit him, like many others in the same situation, to continue satisfied with doubting, or, at least, to remain in the scepticism of ignorance. He was induced to make experiments in the course of his medical practice; the results were most satisfactory; and from that period, he became a decided convert to the new doctrine—heretical, as it was then esteemed. In 1787, he communicated the grounds of his conviction to the public, in a small work, entitled, *Beytrag zu den Erfahrungen über den thierischen Magnetismus*. Other writings upon the subject appeared about the same time—all of them published by medical practitioners—and many converts to the new doctrine daily announced themselves.

Such an innovation upon the established routine of medical practice, however, was not likely to be calmly tolerated, or tamely submitted to. Controversies, accordingly, arose upon the subject of the new discoveries, which were then, as now, conducted with great heat, acrimony, and intemperance, on the part of the sceptics. WIENHOLT, who was a man of quiet temper and retiring habits, now stood aloof, and declined taking any part in these unseemly contentions, but calmly continued to prosecute his own private investigations. His magnetic practice was attended with much success; and one of its most gratifying results to the personal feelings of the subject of this memoir, was the complete cure of his own son—a very delicate child, apparently of an epileptic constitution—who, after all other means had been resorted to in vain,

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was restored to perfect health by the mesmeric treatment, and afterwards grew up to vigorous manhood.

The cases magnetically treated by the author himself, with the occasional assistance of some one or other of his colleagues, amounted to nearly eighty; the whole details of which are carefully reported in his largest and principal work: *Heilkraft des thierischen Magnetismus nach eigenen Beobachtungen;* 3 vols. 8vo, Lemgo, 1802–1805: the last volume being a posthumous publication. This work forms a rich treasure of practical observations for the student of magnetism.

WIENHOLT, however, was no less distinguished by his ingenious and able efforts to illustrate the more obscure phenomena of animal magnetism, than for his quiet zeal and assiduity in expiscating the facts. The following Lectures constitute only a small portion of the product of his indefatigable ardour and industry in the cultivation of this interesting field of experiment and observation. By devoting himself, however, to the study and improvement of scientific medicine, and especially by his interesting researches in the department of zoo-magnetic science, he exposed himself to the open attacks or covert sneers of those of his professional brethren who preferred remaining in self-satisfied ignorance, or who entertained an inveterate jealousy of the new practice; but his talents for observation, and his undeviating rectitude and honesty of purpose were universally acknowledged. When this irrational jealousy shall be superseded by impartial inquiry, and the heat of controversial discussion shall have yielded to the calm and equable temper of philosophical conviction, the name of ARNOLD WIENHOLT will unquestionably be held in estimation, as that of one of the most judicious and disinterested friends and promoters of the once obnoxious and calumniated science.

During his lifetime, WIENHOLT published some other small treatises on medical subjects; but these have been placed in comparative obscurity by his more important publications in the department of Animal Magnetism.

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SEVEN LECTURES

ON

SOMNAMBULISM.

FROM THE GERMAN OF WIENHOLT.

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LECTURE I.

It is a matter of general notoriety that our philosophy has undergone a great change within the last twenty years.* The edifice which had been erected with so much labour, and which appeared to be so firmly established, has been shaken to its foundations, and now lies, for the most part, in ruins. The most important doctrines have become doubtful. The arguments by which they were supported have been deprived of their strength, and many laboriously excogitated hypotheses and explanations have been buried under the remaining rubbish. Instead of all this, a new edifice has been raised, erected upon a different, and, as it would appear, a more solid foundation, which, more inviting from its form, its simplicity, and its apparently better connection, seems to promise more convenient and more permanent accommodation. It is a pity that the path which leads to it is so narrow, so rugged and so toilsome, that few, it is to be feared, will attempt it, and still fewer persevere to the end. Whether this new edifice will compensate, to those who have obtained admission into the interior, the loss they have sustained in the destruction of the old fabric; whether it will accomplish its object; whether it will ultimately afford the anticipated convenience and security, as a permanent habitation;—all this must be left to the determination of futurity. But even should it be discovered, after a longer or shorter

* The reader will observe that this was written in Germany, at the period when the philosophy of Kant came into vogue, and gave full occupation to the speculative genius of the metaphysicians of that country.—*Trans.*

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period, that all these expectations have been disappointed, it would still imply no small degree of merit to have thus shaken, subverted, and overthrown. Mankind are apt to be too easily satisfied with the knowledge they may happen to have acquired, and are loath to allow themselves to be deprived of it, especially when it has grown old with them, or has cost them some trouble in the acquisition. They are disposed to look upon themselves as the creators of this knowledge, whether it be self-acquired, or borrowed from others; it has become amalgamated with their being—a part of themselves; and their pride will not permit them to consider it as something unconnected or imperfect. But nothing is more injurious to the development of the intellectual faculties, nothing imposes such heavy fetters upon the spirit of inquiry, as this self-complacency—this illusion of having already attained the goal from which we are yet so far distant; and nothing, therefore, can be more salutary to the mind than such an occasional convulsion, as a means of laying open to view the faults and imperfections of our systems. Every new investigation tends to enrich us; the more searching it is, so much the more useful; and that which cannot brook such an ordeal, is not worth our trouble to acquire, or our efforts to preserve. The great reform in question, therefore, however it may have been opposed, regretted or condemned by many, is, in this respect, deserving of our warmest acknowledgments.

Would that this salutary improvement had pervaded every department of our philosophy! But there is one branch of it—and one of great importance to humanity—which it has not yet reached; that branch which is conversant with the noblest portion of our being, so far as it can be considered an object of experimental inquiry;—that which has been denominated *empirical psychology*. In this department, the spirit of the old system is still predominant. Here, the limits assigned to our knowledge are no longer to be respected; here, every thing must be comprehended, explained, and made evident to our senses.

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The philosopher knows, indeed, that he has here to do with something transcending the boundaries of our sensible experience, cognisable only by the internal consciousness, which unequivocally announces its existence, its difference from all *material* being, its simplicity and independence. But he sees, also, that this transcendent something is most intimately connected and interwoven with his body; that the one affects the other by reciprocal action and reaction; that the brain and the nerves, in their proper condition, are necessary to the soul, in the due exercise of its functions; and that the former are as dependent upon it, as it is upon them. Here, however, the philosopher is unwilling to distinguish. He does not, or will not, see, that this compound being, so far as relates to the functions of the supersensible principle, lies beyond the sphere of his knowledge. He insists upon applying his knowledge of bodies, of the phenomena he observes in them, and the laws by which they are governed, to the compound and heterogeneous being, *Man;* and he forgets that they are applicable only to one portion of this aggregate. Thus, he must explain all the manifestations of the perceptive faculty, from simple sensation to the highest operations of the soul—the imagination and the memory, if not even the thinking power itself—upon mechanical principles, and ascribe them to corporeal motions, agitations, impressions, and the agency of different fluids.

Had these hypotheses been merely assumed for the purpose of aiding our incapacity, as a means of more easily communicating our ideas to others, and regarded as mere representative images substituted for the things themselves, which could not be rendered objective to sense—all this might have been allowed to pass. But our philosophers were not so modest and cautious. The sign was set down for the very thing itself. They thought they had now apprehended the true nature of our perceptive faculty; they pretended to be in a situation to decypher the whole of the various mental manifestations, and believed that, by means of this finer or

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grosser materialism, they had exhausted the philosophy of this important subject. A few individuals only—among whom REIMARUS and HERZ are the most eminent*—placed themselves in an attitude of determined opposition to this false and debasing theory, but not with that success which might have been reasonably expected. The mechanical explanations of the operations of the soul still predominate in our latest physiological and psychological text-books, although deprived of that grosser garment in which they were formerly enveloped. Mankind are still unwilling to abandon their supposed acquisitions ; and it is to be feared that these doctrines will obtain still greater vogue, now that we have commenced to apply our knowledge of the gaseous fluids—an otherwise most important discovery, for which we are indebted to our own age—to the explanation of the more

* HERRMANN SAMUEL REIMARUS was born at Hamburgh in 1694. He received his elementary education in his native city, and afterwards repaired to the universities of Jena and Wittenberg, at which last he took his degree of A. M. He then made a journey to Holland and England, and, on his return, was appointed to the rectorate at Wismar, which he held during four years, and then accepted a call to Hamburgh, as Professor of Oriental Languages in the Gymnasium of that city. This situation he retained until the period of his death, in the year 1768.

His chief work, on the Principles of Natural Religion, is well known, and has been much esteemed. A translation of it exists in our language. He was also the author of a Treatise on the Instinct of Animals, and of various other learned works.

MARCUS HERZ was the son of a schoolmaster at Berlin, of a Jewish family, and was born there on the 17th of January 1747. He studied medicine, took his degree, and acquired distinction as a physician ; and he increased his reputation by delivering lectures upon philosophical subjects, particularly on the Philosophy of Kant. In this way he obtained great popularity, and was appointed to the situation of Professor of Philosophy. He died on the 20th of January 1803.

The most important and most popular publication of HERZ was his *Treatise on Vertigo*, (*Versuch über den Schwindel*, Berlin, 1786), which was much esteemed by his countrymen, and considered a classical production. He was also the author of several other treatises, especially on experimental physics. In his latter days, he was a violent opponent of the vaccine inoculation, and wrote a tract against that practice.

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delicate operations of the human machine. A wider field has thus been opened up for this mechanical psychology. Wherever the previous explanations are found to be inadequate, some of these gaseous fluids will probably be substituted in their place; and their various combinations and decompositions, real as well as possible, may become the fundamental principle of our next system of psychology; perhaps even our incomprehensible perceptive faculty may ultimately be analysed into the very intelligible chemical union and dissolution of some of these finer gases. It were desirable that other authors, such as REIMARUS and HERZ, might arise, to oppose, with all the energy of learning and talent, all future attempts to construct such visionary theories, by demonstrating their utter worthlessness. If we should then, at length, be compelled to retrace our steps; if it should appear that, in this province also, our knowledge is mere patch-work; thus much would still be gained—we should no longer make a parade of our false acquisitions, we should no longer contemptuously reject every thing that appeared incompatible with these theories. We should become wiser in consequence, and cease to waste our time and our faculties upon inquiries which transcend our comprehension, and which can terminate in nothing but useless speculations.

But our psychology still presents a side which requires to be narrowly investigated. In this science, we have to do with *that* state of the supersensible being, in which it apparently overleaps the boundary of its usual phenomena, relations and laws, and in which it exhibits properties which, at other times, it does not seem to possess at all, or, at least, not in the same degree.

Philosophers, when they have once deduced a number of general principles from a certain range of experience, are not easily brought to admit of exceptions from these general laws, when once established to their satisfaction. They endeavour to reduce all subsequently supervening facts, however anomalous, under subjection to these laws. They twist them in all directions, until they get them—

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nolentes, volentes—accommodated to their theory; and, if they do not succeed, they consider this circumstance as a perfectly good ground for throwing them aside; and, accordingly, notwithstanding all the evidence of their reality, they are, at once, struck out of the category of facts. This conduct is by no means philosophical. Every remarkable observation, attested by honest and competent witnesses, however much it may appear to deviate from the common path, should first be most strictly investigated, with a view to ascertain its historical accuracy; and after such sufficient inquiry, it ought to be either admitted or rejected, according to the result of the inquisition. Should it, at last, be found capable of being associated among the number of acknowledged facts, and that its divergence from the received laws of nature is only apparent, so much the better. On the other hand, should it appear that there is no room for accommodation, we ought to consider that the incomprehensible principle within us, attached to the body, and confined by it on all sides, if placed in other circumstances, if standing in a different situation, and in other relations towards the material world, might also be enabled to manifest itself otherwise, and to act in a different manner. We ought, therefore, to lay bye such a fact, until we have an opportunity of considering whether there may not exist other facts of the same kind, investigated and authenticated with the same strictness, which confirm the former, and are capable of being associated with it. And this procedure ought not to be neglected, even although great blanks should thereby occasionally arise in our combined knowledge. It might, perhaps, in the end, conduct us to the knowledge of that principal element of our being, of its independence on the body, of the powers that slumber within it, and the capability of their improvement. But this mode of proceeding has not been adopted; we have not endeavoured to derive our instruction from nature; we have not calmly and impartially investigated her laws, and also the exceptions to which they are liable; but we have dictated to her what

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laws she ought to follow. From the materials presented to us by the most common observation, we deduced general rules, applied these also to unusual occurrences, and appreciated the latter by the former. Examples of all this will be found in a recent work, rich, indeed, in facts, but really poor in satisfactory explanations: *The Psychological Magazine of* MORITZ.

Perhaps I owe you an apology for this long preface. It was intended to serve as an introduction not merely to the lecture of to-day, but to others, upon a series of phenomena which belong to the species of facts before-mentioned; *viz.* upon certain phenomena of somnambulism, on their peculiar nature, and the point of view in which they have been regarded by our late and latest philosophers. I flatter myself that I am sufficiently acquainted with these phenomena, from the writings of others, as well as from the personal observation of nature. I believe I am in a situation to be able to give you some information upon this subject, which may appear not altogether unworthy of your attention; and I am desirous of comparing the explanations usually given of the phenomena in question with the actual manifestations of nature. It must be understood that I am now going to speak of the NATURAL SOMNAMBULISM, or NOCTAMBULISM, as it frequently occurs in persons otherwise apparently healthy, especially in children during their sleep, or also, as a symptom in serious nervous diseases; and not of similar states, which, as is well known, have been produced, in recent times, by artificial means. In the former we have a series of facts, in which all suspicion of illusion, deception, influence of the imagination, &c. is so entirely out of the question, that, in regard to the main points, to which every thing else is accessary, we can entertain no doubt of the reality of the circumstances. Somnambulism is a phenomenon too important for the psychologist and observer of human nature, than that new investigations upon this subject, notwithstanding all that has been hitherto written upon it, should not still be regarded with

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interest. It exhibits man in a totally different situation towards the external world, displays the thinking and sentient principle as a differently acting being, which relapses again into its ordinary state, as soon as the curtain falls. Here we find a different distribution of the vital power, and, at the same time, many phenomena present themselves, which are quite out of harmony with all that we, at other times, observe in man. But permit me, to-day, to speak of only one of the various phenomena observed in sleep-walkers—which, however, is one of the most remarkable—of the *closed eyes*, with which these individuals perform actions, which, in his ordinary state, man can only undertake with the most perfect enjoyment of vision.

I need not call your attention to the great importance of this particular inquiry. Should the result of our investigation demonstrate the proposition, that, in certain circumstances, and under certain conditions, man may continue to receive visual impressions from external objects in the same manner as when awake, and, in the same manner, regulate his actions according to those impressions, without the use of his eyes: this would conduct us to consequences which, I apprehend, must be contemplated with no small interest by every educated man, who values the knowledge of himself, and of his future prospects. But these last considerations I shall reserve until the termination of our inquiry. Let us first obtain a more intimate acquaintance with the extraordinary state of which I am to treat in these Lectures.

The sleep-walker, when otherwise healthy, falls, at a particular period, into a common sleep, which cannot be distinguished from the natural state of repose. After a longer or shorter time, he rises from his couch, and walks about the room—sometimes about the house. He frequently goes out into the open air, walks upon known or unknown paths as quickly, and with as much activity and confidence, as in his waking state, avoids all obstacles which may stand, or have been designedly placed on his route, and makes his way along rugged paths, and climbs

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dangerous heights, which he would never have thought of attempting when awake. He reads printed and written papers, writes as well and as correctly as in his waking state, and performs many other operations requiring light and the natural use of the eyes. All these actions, however, are performed by the somnambulist in complete darkness as well as when awake, and, generally, with his eyes firmly closed. I shall afterwards speak of the exceptions, in which these persons have their eyes open. When the period of his somnambulism has elapsed, he returns to his bed, falls back again into his natural sleep, awakes at his usual time, and, in most instances, knows nothing of what he had done in the *sleep-waking* state. At the same time, there are very few persons who exhibit all of these phenomena, or even the greater number of them. For the most part, they only wander about, without any other peculiar manifestation; and the instances in which several of the phenomena in question are exhibited, are rare. This state, which is found in persons otherwise healthy, frequently occurs in diseases, especially in diseases of the nervous system. In the latter case, the affection usually commences with a paroxysm of convulsive motions, catalepsy, apparent syncope; and then passes over into a state precisely similar, so far as regards the principal symptoms, to somnambulism; only that, in this latter case, the patients not only act, but speak; which rarely happens in the former. Before these patients are completely restored to their ordinary waking state, their sleep is changed into a similar convulsive state, combined with want of consciousness. Of this species of somnambulism, occurring in nervous diseases, we are in possession of many curious instances, of which the Aulic Councillor MEINERS, a celebrated Professor at Goettingen, has inserted several very remarkable examples in his instructive collection. In respect to its chief characteristics, this species of somnambulism, occurring in nervous diseases, completely resembles the natural crisis; it is recognised by all competent judges as of the same

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kind, and is comprehended under the same class of diseases; and in this view I also coincide.

The annals of medicine contain many cases of somnambulism, which naturally differ from each other in respect of the witnesses who have described them, the fidelity and accuracy with which they were observed, and the remarkable character of the phenomena. But among this multitude of cases, there are, fortunately, several which are specially distinguished by all the attributes of authenticity. It is not difficult for me, therefore,—and it is necessary for the purpose I have in view—to present you with the details of some of these narratives, which appear to be, in all respects, unobjectionable.

I begin with the case in MORITZ's *Magazine*, which was first translated by M. Spalding, and afterwards inserted by MEINERS in his collection. This is a case of what has been called the "*louping ague*," which, unquestionably, is just one instance of that species of somnambulism which I have referred to as occasionally accompanying nervous diseases. The patient was a female of sixteen years of age. The paroxysm generally attacked her in the morning, and consisted of a profound sleep. In this state, she would jump, with astonishing activity, upon tables and chairs, run, when permitted, and with great rapidity, out of the house,—generally to a particular place in the neighbourhood; and when she did not awake, she would return immediately, but sometimes by a different road, and in a different direction. She not unfrequently left the high road, and ran straight through the fields. She never fell, nor injured herself, however rough her path might be, or however fast she might run; and her speed was sometimes so great, that her much stronger and more active brother could not keep pace with her. She frequently mounted upon the garden-wall, upon the uneven top of which she continued to run; nay, she even went upon the edge of the house-roof, without once stumbling, much less falling. *During all these hazardous operations, her eyes were fast closed,*

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*and she appeared to be deprived of all her other senses.**

The second volume of MORITZ's *Magazine* contains the history of a boy of nine years of age, who frequently fell into a species of somnolency, during which he was capable of carrying on a conversation. *His eyes were fast closed, but, notwithstanding of this circumstance, he saw and named all objects that were presented to him.*

A very remarkable case was related to me by a most trustworthy observer, the late Hamburgh physician Dr SCHULZ, from whom the Aulic Councillor MEINERS of Göttingen also received it, and inserted it in his well-known collection. It was that of a girl between twelve and thirteen years of age, belonging to a family of some distinction, who was afflicted with a violent nervous complaint, in which strong convulsive motions alternated with catalepsy and syncope. Besides, she frequently had paroxysms, during which she conversed with much liveliness and ingenuity. *In this state, she distinguished, without difficulty, all colours that were presented to her, recognised the numbers of cards, and the stripes upon those which were variegated. She described the colour of the binding of books, when shown to her. She wrote in the same manner as usual, and cut figures in paper, as she was accustomed to do, for pastime, in her waking state. Her eyes, at this time, were firmly closed. But in order to be assured that she made no use of them, a bandage was placed over them on the approach of the paroxysm.*†

Another very remarkable case will be found in the *Breslau Medical Collections*, and in MORITZ's *Magazine* (vol. vii. p. 35). It relates to a rope-maker, who was frequently overtaken by sleep, even in the day-time, and in the midst of his usual occupations. While in this state, he sometimes recommenced doing all that he

* This is the case originally reported by Lord Monboddo, in his *Ancient Metaphysics*, and noticed in *Isis Revelata*, vol. i. p. 339, &c.

† This case is also noticed in *Isis Revelata*, vol. i. pp. 342, &c.

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had been engaged in during the previous part of the day; at other times, he would continue the work in which he happened to be engaged at the commencement of the paroxysm, and finished his business with as great ease and success as when awake. When the fit overtook him in travelling, he proceeded on his journey, with the same facility, and almost faster, than when awake, without missing the road or stumbling over any thing. In this manner he repeatedly went from Naumburgh to Weimar. Upon one of these occasions, he came into a narrow lane, where there lay some timber. He passed over it regularly, without injury; and with equal caution and dexterity he avoided the horses and carriages which came in his way. At another time, he was overtaken by sleep, just as he was about to set out for Weimar on horseback. He rode through the river Ilme, allowed his horse to drink, and drew up his legs to prevent them from getting wet; then passed through several streets, crossed the market place, which was, at that time, full of people, carts, and booths; and arrived in safety at the house of an acquaintance, where he awoke. These, and many similar facts, requiring the use of the eyes, he performed in darkness, as well as by day-light. *His eyes, however, were firmly closed, and he could not see when they were forced open, and stimulated by light brought near them.* His other senses appeared to be equally dormant, as were his eyes. He could not smell even the most volatile spirit. He felt nothing when pinched, pricked, or struck. He heard nothing when called by his name, or even when a pistol was discharged close beside him.*

There is another case, somewhat older, observed and circumstantially reported by a trustworthy physician, Dr Knoll, which equally deserves our attention. The subject of his observation was a young man, a gardener, who became somnambulist, and, while in that state, performed many extraordinary operations. He generally fell asleep about eight o'clock in the evening, and then began

* See *Isis Revelata*, vol. i. pp. 331.

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to utter devotional sentences and prayers. Afterwards, he went out of the house, clambered over a high wooden partition and a still higher wall, uninjured, passed through several streets, and returned. At another time, he climbed up to the roof of the house, and rode astride upon the gutter, as if upon horseback, clambered about for some time upon the roof, and, at length, descended in safety. With a view to prevent accidents, he was locked up in a room, and watched. When he became somnambulist, at the usual time, he began to perform all sorts of operations upon his clothes, and the furniture of the room. He climbed up to the window sole, and from thence to a stove, which was much higher and at some distance, and rode upon the latter, as if upon a horse. The heighth of the stove, its distance from the window, and its small breadth, were such, that a person awake would scarcely have ventured to attempt these operations. After descending from the stove, he knocked a large table about, hither and thither, and finding that it was likely to fall upon himself, he very dexterously contrived to evade it. He gathered together all the clothes he could find in the room, mixed them together, then separated them carefully, and hung them up, each article in its proper place. The old stockings and shoes he endeavoured to arrange in pairs, according to their shape and colour, as if he actually saw them. He laid hold of a needle, which he had stuck into the wall some weeks before, and sewed his small clothes. Besides these, he performed a variety of other operations—*all requiring light and the use of the eyes, with which, it would appear, he was enabled to dispense.**

In addition to the foregoing instances, I must here notice two remarkable cases, which were both observed with great accuracy by individuals who are elevated far above all suspicion of credulity, deceit, and imposture. The one is reported by the Professor and Aulic Councillor, FEDER. The subject of his observations was a stu-

* See *Isis Revelata*, vol. i. pp. 333, &c.

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dent, who, during a severe nervous complaint, experienced several attacks of somnambulism. Upon these occasions, he would go from his bed-room to his parlour and back, open and shut the doors, as well as his closet, and take out of the latter whatever he wanted—pieces of music, pen, ink, and paper—*and all this with his eyes shut.* From among his music he selected a march from the opera *Medea*, laid the sheet in a proper situation, before him, and having found the appropriate key, he played the whole piece, with his usual skill, upon the harpsichord. In the same manner he also played one of Bach's Sonatas, and gave the most expressive passages with surprising effect. One of the persons present turned the notes upside down: This he immediately perceived, and when he recommenced playing, he replaced the sheet in its proper position. While playing, he remarked a string out of tune, upon which he stopt, put it in order, and again proceeded. He wrote a letter to his brother, and what he wrote was not only perfectly rational, but straight and legible. While Professor FEDER was upon a visit to him one afternoon, he (the somnambulist) observed that it was snowing, which was actually the case. On the same occasion, *notwithstanding his eyes were still completely closed*, he remarked that the landlord of the opposite house was standing at the window, which was true, and that hats were hanging at the window of another room, which was also the fact. He opened Professor FEDER's *Compendium* of Logic and Metaphysics, and pointed out to him several passages which he thought interesting, as also some of his own written notes of the Professor's Lectures in a volume which had been recently bound. He pointed out to another of his teachers the exact place where he had left off in his last theological lecture. We must, however, observe the remarkable circumstance—common to him, indeed, with several other somnambulists—that there were many things which he did not perceive. Thus, while writing to his brother, he did not observe that there was no more ink in the pen, and continued to write on. At one

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time, he struck fire, and held the tinder to his ear, as if to hear the crackling, and thus ascertain whether it was burning.* He lighted a match, came to the candle, and held it in the middle of the flame.†

In conclusion, I may refer to the case observed by the Archbishop of Bourdeaux, and reported in the great French Encyclopædia. It is the case of a young ecclesiastic in the same seminary with the Archbishop, who was in the habit of getting up during the night, in a state of somnambulism, of going to his room, taking pen, ink, and paper, and composing and writing sermons. When he had finished one page of the paper on which he was writing, he would read over what he had written and correct it. Upon one occasion he had made use of the expression: *Ce divin enfant.* In reading over the passage, he changed the adjective *divin* into *adorable.* Perceiving, however, that the pronoun *ce* could not stand before the word *adorable*, he added to the former the letter *t.*

In order to ascertain whether the somnambulist made any use of his eyes, the Archbishop held a piece of pasteboard under his chin, to prevent him from seeing the paper upon which he was writing; but he continued to write on, without appearing to be incommoded in the slightest degree. The paper upon which he was writing was taken away, and other paper laid before him; but the somnambulist immediately perceived the change.

He wrote pieces of music while in this state, and in the same manner, *with his eyes closed.* The words were placed under the musical notes. It happened, upon one occasion, that the words were written in too large a character, and did not stand precisely under the corresponding notes. He soon perceived the error, blotted out the part, and wrote it over again with great exactness.‡

* It is a curious fact, demonstrated in many instances, that somnambulists do not appear to become cognizant of the presence of artificial light. Some, during their operations, are found to see better in total darkness, than with light of any kind.—*(Trans.)*

† See also Moritz's *Magazine*, ii. 2, p. 83, and *Isis Revelata*, vol. i. p. 330.

‡ See *Isis Revelata*, vol. i. p. 323, and Appendix, No. 2. For a

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I hope that these examples, to which I might add a great many others, will be sufficient to show that the somnambulist, during this extraordinary state, is enabled, apparently without the use of his eyes, to receive impressions equally well, or, at least, with the same consequences to his perceptive faculty, as when awake. Whether his eyes only *appear* to be closed—whether there be deception here—or whether they are *really* shut; this will be the subject of our following inquiry.

number of additional instances of the same phenomenon, see Appendix to this volume

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LECTURE II.

In my former lecture, I began to direct your attention to those actions of the somnambulist, which, in the waking man, absolutely presuppose the use of the eyes, and which the other, at least to appearance, performs with his eyes completely closed. I consider this point as deserving still more serious consideration, because we have here to do with an organ, with which, so far as regards its parts and their different functions, we are intimately acquainted; upon which certain *stimuli* have an operation as peculiar as emetics on the stomach, opium on the brain, metallic irritation on the nerves and muscles; and which, in many of its changes, is as independent of the will as the motion of the heart, and the beating of the pulse; in respect to which, therefore, there can be no deception, no influence of the imagination, still less any simulation.

In my last lecture, I adduced some examples, which have been reported by impartial and most competent observers, philosophers, or physicians; the result of experiments which had been made, not upon the suggestion of the actual moment, for the purpose of confirming any particular theory or opinion, but many of them a considerable time ago, and without any determinate object in view. Persons were observed who sprang with the greatest agility upon tables and chairs, rode, walked, or ran long distances, sometimes many miles, with great speed, frequently faster than when awake, without betraying anxiety or suffering injury, and dexterously avoiding all obstacles that lay in their way. They were seen to mount upon garden-walls and the roofs of houses, and, in

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such situations, to walk about with as much ease and freedom as upon the ground. Some of them were found to be capable of distinguishing colours—of separating and gathering together pieces of clothing, and restoring each to its proper place—of cutting figures out of paper—of threading a needle, &c. They were seen to distinguish other objects at a distance from them; to open and fasten locks; to take what they wanted out of a press; to read the notes of pieces of music, and to play upon the harpsichord as well as when awake; to write letters, or even entire tracts, with perfect correctness; to read over and correct what they had written; to compose music, &c. And, as we are assured by the observers, all these persons, while performing these operations, *had their eyes completely closed;* the operations were partly performed during the darkness of night; and when they awoke they knew nothing of what had occurred during their sleep. Besides the eyes, all the other senses appeared to have been deprived of their affectability; at least, the ordinary *stimuli* produced no such change as usually takes place in the case of actual sensations.

I now come to the explanation of these extraordinary phenomena: and, passing over the reveries of former ages, I shall proceed, at once, to consider the opinions of the most eminent psychologists and physicians of the present century. Almost all of those authors who wrote upon this subject before the appearance of the treatise of G. F. MEIER, (in his day a very celebrated philosopher of Halle,)* published in 1758—of whom I shall mention only F. HOFMANN, the BARON DE SWIETEN, M. DE HAEN, and M. DE HALLER—almost all of these authors were of opinion that, in somnambulism, no use was made of the eyes, but that the organ of sight was supplied by other means. Among these means was the *imagination*, which presented the somnambulists with a faithful picture of the way they were to traverse, and recalled to the mind a lively impression, from former experience, of the known locality of certain apartments, streets, roofs of houses, &c. Besides this, the other senses, particularly

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the touch, were conceived to act in place of the eyes, and to supply all that the imagination alone was incapable of performing. Only in one part of the *sensorium commune*, says M. DE HALLER, is there increased activity; all the rest is nearly in repose. Some predominant and very lively ideas, and certain voluntary motions connected with and dependent upon them, still continue, while every thing else is enveloped in profound sleep, which those strong and lively ideas are incapable of interrupting. In their perambulations, they are guided by the sense of touch, and by a strong impression of the topography of their bed-chamber, &c. F. HOFMANN looked upon somnambulism as a waking dream, which is only distinguished from a real dream by the circumstance, that, in somnambulism, the ideas, so far as we can judge from the actions performed, are better connected, possess more unity, and that frequently the design and object cannot be mistaken. In this case, therefore, the volition must also be active—the mind seeks to convert the dream into reality—the muscles obey the will, and accomplish the object desired.

I cannot for a moment doubt, that the insufficiency of these explanations will be obvious to every one, without any farther analysis, and, therefore, I am unwilling to enter into any more circumstantial inquiry concerning them; but shall confine myself merely to a few observations, principally with a view to a similar hypothesis, at present most prevalent among physicians and philosophers.

Let us assume that all the perceptions of the somnambulist consist merely of remembrances of former visual impressions, which are only distinguished from the former in so far as the imagination paints them in livelier colours, and represents them more exactly—in short, that the individual has before him a striking picture, comprehending even the most minute details of his previous experience, of the way he has to go, the roof he has to ascend, the writing he has to read, the letter he has to write, &c.—still we shall always have good rea-

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son to ask, How comes it that the perceptions and actions always correspond so exactly at the time, and with the external objects? In the waking state, perceptions and actions may always accompany each other. We can detain the former, ponder over them, reproduce them, compare the present with the past, and both with that which is to follow. In this state, we can call in the assistance of our other senses, and, in every moment, bring thought and action together, dwell upon the former, or interpose others, until the latter is accomplished. But how is all this possible in dreaming? Besides that, in this state, our perceptions follow each other with extreme rapidity—that all the causes which retard their march, in the waking state, are here inoperative, and that they cannot for a moment continue in harmony with our bodily motions; —we find, in sleep, nothing that can serve to connect them together—nothing that can produce a continued correspondence between our perceptions, the motion of our body, and the situation of the external objects. It rather appears that something else must come into play, in order to supply what is wanting.

But even supposing that the picture present to the mind did correspond completely with the actions of the somnambulist, and the position of the external objects, and changed along with the latter, how can such an individual acquire a perception of the objects that come between, and which cannot be created by the imagination, of the obstructions designedly placed in his way, or occurring accidentally, the representations of places where he has never been, of the roof of a house, the top of a garden wall, and other dangerous places, upon which he never would have ventured in his waking state, and upon which, therefore, his foot certainly never trod? How came he by the perception of the letters, the discourses, which he now writes for the first time? how is he enabled to handle objects whose situation is easily changed, and whose change of situation requires a change of the direction of the hands? and how can he perform so many

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operations, in which the waking man necessarily requires the use of his hands?

In vain did some have recourse to the other senses, especially the *touch*, in order to supply the place of the eye. Experience, indeed, teaches us that, upon the loss of *one* sense, another frequently becomes more acute and sensitive, particularly in the case of blind persons, in whom the touch often becomes so much invigorated, that the individual is enabled, by its means, to recognise many objects which, usually, can only be perceived by the eye. Thus a great Roman virtuoso, the Cardinal d'Alba, acquired such an increase of sensibility in his fingers, after he had lost his sight, that, by means of them alone, he could distinguish genuine antiques from artificial imitations. But how does the blind person come to acquire this faculty? Assuredly, only in consequence of long practice and comparison. It is only in this way that he could ultimately arrive at such a delicacy of touch, that the same object which impressed upon the retina the representation of a particular form or colour, should now make a determinate impression upon the points of his fingers. In consequence of repeated attempts, and greatly concentrated attention, (which, unimpeded by the various impressions made upon the eye, is directed especially to those of the touch,) the mind is, at length, enabled to distinguish even the most delicate impressions made upon this sense, which, otherwise, would not have been perceived at all.

But can any application of these facts be made to the phenomena presented by the somnambulists of whom we have just spoken? These phenomena have an entirely different character. In the case of the somnambulist, do we find a comparison between the sensation of sight and touch? Is he assisted by habitual practice? Does he not conduct himself as perfectly in his first sleep as in his tenth? Are not all his actions performed as rapidly and with the same facility and skill as when awake? No —if we properly and impartially analyse and compare the phenomena presented by the blind man and by the som-

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nambulist, we shall be compelled to admit that they result from quite different causes.

But there are some observations, which we have all had an opportunity of making in early life, which completely demolish this theory of our older physicians and philosophers. We may all recollect the well-known childish game of blind-man's-buff—how difficult we found it to advance a few steps forward in a straight direction, when our eyes were completely closed. We may repeat this experiment every day of our lives. Even in a room with which we are perfectly well acquainted, and with the most strenuous efforts to represent its whole localities, we shall find how speedily we become afraid of losing the straight direction! and to prevent this, we sometimes advance a foot to the right or to the left, in order to re-inforce our centre of gravity, and sometimes, before we are aware, we diverge from the straight line, which we had intended to preserve. If we continue this exercise for some time, we become giddy, begin to totter, and are soon compelled to abandon our efforts.

I doubt not that the foregoing observations are quite sufficient to show the unsatisfactory nature of the hypothesis we have been considering, upon which I have probably dwelt longer than necessary, partly for the reasons already given, and also because it has been entertained by such respectable men. It is, therefore, not to be wondered at, that later inquirers, if unwilling to confess their ignorance—and how could we expect such a confession, especially from the philosophers of the Wolfian school? —sh ould look round for some other explanation, which might prove more satisfactory to the inquisitive mind. Whether they have found such an explanation, and, if so, whether this acquisition has not been made at the expense of the facts—and whether we can hope to gain more from such an explanation, than from the former, which left the facts entire;—of this every one, who seeks to attain the truth, may judge for himself. But I shall now proceed to the examination of this new hypothesis.

According to this theory, also, the imagination predo-

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minates in the somnambulist; and the phenomena he presents are, for the most part, the expression of a lively dream, distinguished, however, from the common dream by its greater regularity, connection, and determinate object; but his motions are not entirely the result of these phantasms, but also of intermingled sensations. He sees, feels, and hears with sufficient acuteness, and moves his body voluntarily, in a manner corresponding with these sensible impressions, and the position of the external objects. But these impressions are not sufficiently lively to enable him to distinguish between them and the creations of his imagination and fancy.

With very few exceptions, almost all the later physiologists and psychologists have followed the above-mentioned philosopher of Halle, in considering somnambulism as a middle state between waking and dreaming, in which the individual is not, as in sleep, entirely deprived of the sensation of external objects, but has still some perception of the things which surround him. He continues to acquire from without a number of perceptions through the medium of his senses, and regulates his conduct, less or more, according to them; although the imagination also has no small influence over him, and modifies the external sensations. This, or a similar opinion, was held by the Aulic Councillors FEDER and MEINERS; by M. POCKELS, one of the editors of the *Magazine for empirical psychology;* by two later writers who have handled the theory of somnambulism,—NUDOW and DAVIDSON; and by an ingenious English author, DARWIN—who, however, has given a distinctive form to his hypothesis;—for which reason, I shall devote some more particular attention to it in the sequel. In the main circumstances, however, DARWIN coincides with the other authors above-named, especially in holding that the actions of the somnambulist are regulated by the influence of external objects upon his senses.

On the other hand, there are also eminent men, to whom this explanation was not satisfactory. Thus, the ingenious author of the periodical work, entitled *The*

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Physician,* maintains, that the somnambulist still continues a stumbling-block to the true philosopher of the human mind, that, notwithstanding all the explanations hitherto given, his actions are still miracles for us, and that we can with difficulty persuade ourselves that they have actually performed the operations which are related of them. He maintains expressly that, during this state, all the external senses, including the eye, are dormant; but he does not venture to give any explanation of his own. In one of my journeys, I had also the pleasure of conversing, upon this subject, with one of the most eminent philosophers and physicians of Germany. This honourable and truth-loving man, whose knowledge of nature is not derived merely from books, and dogmatically propounded *ex cathedra*, but who has investigated her most minute phenomena,—this eminent person acknowledged to me his dissatisfaction with all the explanations of somnambulism, and especially of the various operations which somnambulists perform with their eyes closed.

But in a matter of such importance as this, we ought not to permit authorities to determine our judgment, but to institute a close and sifting investigation of the facts, and to weigh well the reasons which influence our opinion. Before we proceed farther, then, let us examine a little more narrowly the phenomena of sleep itself—of which somnambulism is merely a modification—in its relation to the condition of the eye and its susceptibility of visual impressions during sleep, and also to the perceptive faculty of the soul.

At the commencement of the natural sleep, the attention is first withdrawn from the sensations of sight; our eyes become confused; the eye-lids become heavy, and close involuntarily; although we are still able to speak, to hear, and to move our hands and feet. On awaking out of a natural and refreshing sleep, all the above-mentioned phenomena occur, but in an inverted order; and it is only when we open our eyes, that we again become

* Dr Unzer.

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completely conscious and awake. In sleep itself, all external sensations cease, as well as all the influence of the mind over the involuntary muscles. This portion of the nervous system becomes dormant. Both the sensitive organs and the muscles are deprived of that principle which is the cause of sensation and motion, and which connects the senses and the limbs with the mental organ. There is a want of this power, and not merely, according to a very recent philosopher, of the attention of the mind. By exertion, indeed, we may retard sleep; but the instant it comes upon us, in spite of our continued efforts, our sensations are less delicate, our sight less correct, our hearing less acute, than when fully awake; nor can we move our body, even when we wish it, so easily as before. There is, therefore, at the commencement of sleep, not merely diminished activity of the mental organ, and enfeebled attention; but also diminished power of sensation, and of the activity of the voluntary muscles.

When the sleep is profound, the previous excitability of the nerves by the usual *stimuli* appears to be completely abolished. The ear is no longer susceptible of the usual impressions of sound, the olfactory nerves not even of the more powerful smells; and the eye, even were it open, would not be affected by the light reflected by external objects, which, otherwise, renders them visible. At least, there are animals—such for example as the hare—which never close their eyes when asleep; and instances are not awanting of men who are found sleeping with their eyes open.

The senses of sight and hearing, however, evidently perform the principal parts in sleep, and the act of awaking depends as essentially upon the renewed sensibility of these organs, as sleep does on the contrary condition. At the commencement, and in the middle of sleep, when the sensorial power of the nerves of sensation has not yet become renovated, a more powerful *stimulus* is required, in order to excite the eye and the ear. Towards the end of sleep, a fainter light or sound is perceived, is communicated to the mental organ, reaches the consciousness—

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and this is the moment of awaking. Moreover, of all the sensitive perceptions, there is none so incompatible with the natural sleep as those acquired through the medium of the eye—this principal entrance to the seat of the soul. Through this organ, we receive the greatest number, and the liveliest of our perceptions. With these, our other ideas and motions are too multifariously associated, than that they should not be excited by them, which must have the immediate consequence of inducing wakefulness. For this reason, probably, nature has provided that in man, as well as in the other *mammalia*, no ray of light should penetrate, during sleep, into the interior of the eye. For this reason, too, the closing of the eye-lids is intimately connected with the diminishing sensibility of the optic nerves, and their opening again follows upon the renewed activity of the latter. The state and condition of the eye-lids, therefore, is always the principal criterion by which we judge of the drowsiness, or actual sleep, of an individual.

Permit me now to apply these well-known phenomena of the natural sleep to the state of the eyes in somnambulism. The common somnambulism is merely a peculiar occurrence during sleep. The latter is never interrupted by the former. An individual is never placed in somnambulism directly out of the waking state. He is first affected, for a longer or shorter period, by an ordinary sleep; and the somnambulist, when he has run through the circle of his operations, again returns to his bed, and sleeps naturally, until his usual time of awaking. Here, indeed, a violent awakening makes an exception. But here, too, as in the immediate transition from somnambulism to the waking state, if this should sometimes happen, we shall perceive similar feelings, similar emotion and surprise, as in the case of the usual awaking.

Somnambulism, moreover, so far from being capable of being compared with what has been called a *half-sleep* —is, in several respects, a more profound state of sleep, seeing that individuals can with much more difficulty be aroused out of it, than out of a common sleep; and that,

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afterwards, they never, or, at least, very seldom remember those actions which they performed while under its influence.

In conformity with these undeniable facts, we must admit, until convinced of the contrary by other cogent reasons, that the above-mentioned essential requisites of the natural sleep also occur in the state of somnambulism; that the senses remain unaffected by external *stimuli*; at least, that these are not transmitted to the mind, and perceived as such. This applies in a preeminent degree to the eye, which nature, by the strong protection with which she has provided it in the eye-lids, has so carefully secured from all external *stimuli* by which it might otherwise be affected.

But have we not probable grounds for believing that, in somnambulism, the mind receives sensible impressions, and is thus placed in a situation to perform those operations which are otherwise incomprehensible? Here we evidently see activity in a part of the system which usually sleeps. The connection between the mind and the voluntary muscles, which, otherwise, is always obstructed, is here found to be restored, and the latter become obedient to the will, often with a more lively activity and greater freedom than in the waking state. Mental perceptions, which, in ordinary dreams, are irregular and confused, and composed of heterogeneous materials, are here, it would appear, so far as relates to their connection, as consistent with truth and order, as in the waking state. One or other of the senses, as is sufficiently clear from other observations, must occasionally be awake in the somnambulist; why should not, therefore, during the sleep of the other senses, the sensibility of the eye be sometimes restored, the optic nerve again become awake, and, by this means, perceptions of sight be transmitted to the mind, without the other parts of the system being, on this account, disturbed in their repose? Is it not, then, more than probable that these patients either have their eyes not completely closed—there being a small opening left, sufficient to permit as much light to pass as

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is necessary to convey visual impressions to the mind, or the eye opens at times, in order that the mind may receive the impressions which are necessary for the performance of her external operations.

Let us examine these notions a little more narrowly. In the first place, you will doubtless agree with me that this is reasoning, and not observation—not even reasoning from professed observation. For the foundation of such an hypothesis lies only in the *possibility* that other parts, which usually repose during sleep, or exhibit an irregular activity, are in the same condition in the somnambulists, as in the waking state; and because, if this were not assumed in regard to the eye, many of their actions would be incapable of explanation. Of the correctness of such reasoning I am unwilling to say anything farther; all sound logic, I conceive, has already pronounced a decided judgment upon it.

But we shall admit, for a moment, that an inexplicable opening of the eyes does take place in the somnambulist, and see what assistance this circumstance would afford him in his peregrinations. It is well known that it is only through the pupil that the rays of light penetrate into the interior of the eye, and can affect the optic nerve. All other rays falling upon the eye are absorbed or refracted. In order, therefore, to enable the mind to receive visual impressions from surrounding objects, the pupil must not be covered by the eye-lids. The greater the part which is left uncovered, the larger is the horizon, and—which must be well considered—the more distinct; and, *vice versa*, this horizon becomes more limited and more obscure, the more the pupil is covered. When the eye-lids are nearly closed, we see only the small circle which more immediately surrounds us, and even this, in consequence of the small quantity of light which can enter the eye, only faintly illuminated; and this circle vanishes whenever the eye-lids become united. But the somnambulist requires visual perceptions of distant as well as of near objects; he requires, in those perilous operations which he performs with such ease and rapidity—in

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his running, leaping, dancing, climbing, &c. rather stronger and more lively perceptions than usual; he cannot be satisfied with the aspect of that which is nearest to him; but, for his security, it is necessary that he should have a view of things farther away from him; which the hypothesis of a small part of the pupil only being uncovered does not afford him. Add to this, that these perambulations are undertaken chiefly during the night, not only in moon-light, but in complete darkness, in the absence of all *stimulus* which could produce visual perceptions, or when such *stimulus* exists in a very small degree; when light and shade are awanting; and, therefore, an individual would require a complete and continued opening of the eye, and the whole field of vision must be exposed, in order to receive undivided all the little light reflected from the objects. It is impossible that such a small, imperceptible opening of the eye-lids, as that supposed to occur in somnambulists, could be sufficient to regulate his actions, if he were directed by visual perceptions of external objects, or to explain the smallest part of his actions. He must, therefore, possess other resources; and then the principal of these might be imagined to consist in the imperceptible, but complete opening of the eye from time to time.

But upon analysing this hypothesis also, we shall soon perceive how little it suffices to explain the actions of the somnambulist. Granting that the somnambulist usually has his eyes shut, but occasionally opens them; this must be produced by an act of volition. Should this sometimes occur *by chance*, this would be without use or object to the somnambulist, who, perhaps, might receive visual impressions when he had no need of them, and be deprived of them when most necessary to him. Should this act be at times occasioned by some external impulse, by an impression made by external objects upon the eye, we shall here be compelled to presuppose something which does not yet exist—a more or less open eye; for it might frequently happen that a number of sensible impressions might be made upon the *retina*, which, when perceived,

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would not convey to the mind those impressions which were most necessary to it, but others of a nature altogether foreign. This frequent opening and shutting of the eye-lids, however, must be accomplished by an act of mental volition. And here, it may be asked with great propriety: If the will possesses such a command over the eye, why does it not always remain open? And as this last is not the case, what is it that induces the somnambulist to open his eyes occasionally, and then to shut them again? No one certainly will find any other reason than this, that the individual requires the use of his eyes at the particular moment. But whence comes this feeling of necessity? No other natural reason can easily be assigned but this: The individual stumbles upon something in his way; he finds an impediment to some particular exertion of his activity, which he cannot surmount without seeing the object. But if we impartially examine the actions of the somnambulist, we shall perceive nothing of the kind. He is never observed to hesitate in his progress, to meet with difficulties, or to rectify his proceedings. No—he conducts himself, and continually acts, just as he would do if he possessed the complete use of his eyes.

Let us here make a farther application of the arguments I formerly adduced against the hypothesis of HOFMANN and HALLER, in regard to the insuperable difficulties we shall encounter, were we to consider the somnambulist as a mere dreamer, and you will be forced to agree with me, that such an individual continually requires the use of his eyes; that, in his rapid movements, in his perilous undertakings, amidst the obstacles he unexpectedly meets with and dexterously evades, in his perambulations on new and dangerous paths, he can, at no moment, dispense with it. He could not otherwise proceed with such a firm and assured step; he could not possess such complete knowledge of the particular spot where he is at any time placed, and this spot would not correspond so exactly with his perceptions. Moreover, recall to your minds what I have already said upon the

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nature of sleep, and the condition of the eye in that state: Would this sleep continue, if the eye were so frequently opened, and the present train of perceptions so often interrupted by the ideas suggested by new *stimuli*? The perceptions we acquire by means of the eye are associated with too many other perceptions, than that, if new objects were continually presented to the mind by this sense, the current of ideas should not be interrupted, and the individual awake. That, in this case, only such perceptions reach the consciousness as are comprehended in the train of ideas with which the mind is occupied at the time, may, indeed, be asserted; but this assertion is supported by no rational argument; and I hope to meet this evasion in my next lecture, in which I propose to analyse the hypothesis of DARWIN.

But all we have hitherto said, upon this subject, appears superfluous, if we contemplate nature herself. The eyes of those somnambulists, with whose history I formerly made you acquainted, were not half-open, as the observers unanimously declare, but firmly closed. It is entirely an arbitrary and gratuitous supposition, unconfirmed by any experience, that the somnambulist occasionally opens and then shuts his eyes. No—his sensitive organs are not so inconstant—there is no such alternate flow and interruption of the vital power in the organs—the connection of the mind with one part of the organism is not thus suddenly broken off, and then renewed. When one sense is once awake in a somnambulist, it continues in the same state during the whole period of the affection; when certain muscles are once dormant, or in a state of inactivity, they continue to be so; when the eye of the somnambulist is open—a circumstance which sometimes occurs, and of which I shall have more to say in the sequel—it continues open; when closed, it continues closed. The same muscles of the eye-lids, which keep them open or shut, are constantly exerting their influence, indeed, in a spasmodic manner, and cannot thus be alternately exerting and relaxing their force, and are not thus subjected to the caprice of the will. But then, among the exam-

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ples formerly given, I have noticed one, where the eyes of the somnambulist were firmly bandaged, and, notwithstanding, the distinguishing of colours, and the cutting of paper, were performed with the same facility as in the normal state; and another, where, although a pasteboard cover was held immediately before the closed eyes, the somnambulist continued to write on as well as previously.

But we must not leave a single doubt remaining; and I hope that none will exist, when I shall have proved to your satisfaction that the eye of the somnambulist is wholly insensible; that, in him, the condition of the eye, and the inactivity of the optic nerve, are the same as in an individual affected with amaurosis.

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LECTURE III.

When we examine the eyes of somnambulists, we find them either completely closed, as the eyes of those persons whose histories I used as the ground-work of my inquiry; or they are completely open, and then larger and more open than in the waking state. There is no medium; and if, as may have occasionally happened, especially in the case of artificial somnambulists, we perceive the one or the other eye somewhat open, still we see nothing but the *white* of the eye; the coloured part, and still more the pupil, is quite concealed under the upper eye-lid. Such an occasional opening of the eye is an extraordinary phenomenon to the physician. In spasmodic diseases, especially when the brain is affected, and consciousness is dormant—towards the close of life, when profound, unnatural slumber, convulsive motions, and calm delirium are perceived, the half-open eye is frequently observed. It is also remarked in the sleep of many children—especially such as are afflicted with worms.

If we examine the eyes of those artificial somnambulists whose eye-lids are closed—and this I have repeatedly done in the presence of perfectly unsuspicious witnesses, of whom I shall mention a well-known author, M. Spazier, who has publicly acknowledged the truth of what I am now about to relate—if we examine the eyes of these persons, the following circumstances, well deserving our consideration, will appear. If we attempt to draw their eye-lids asunder, we meet with resistance. The antagonist muscles of those which usually keep the eyes open act strongly in opposition to our efforts, and

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the latter are at rest. The former appear to be in a state of spasm, and the latter as if paralysed. The eye can be opened only to the extent of one-half. When this takes place, the apple of the eye is perceived to be turned upwards towards the internal angle, and we see only the margin of the iris peeping from under the upper eye-lid, and remaining immovable in the same place. The approach of light to the eye does not occasion the slightest change. There is no winking of the eye-lids, no expression of feeling, when the light is brought ever so near to the half-opened eye. These experiments I have frequently made upon several of my magnetic patients; always with the same result; and I have always repeated them, when I had an opportunity of showing them to strangers.

But I trust you will excuse me if, in explaining this matter, I have taken the liberty of referring to some of my own experiments; as I should wish my inquiry to be entirely independent of them. I trust you will immediately perceive, that there are several observations of others, which prove the point I wish to establish still more cogently than the experiments in question. One of these observations I have already noticed in my first lecture. I told you the story of a rope-maker, who travelled many miles of road in his sleep, sometimes on foot, and sometimes on horseback. He went boldly forward every where, in the dark or in day-light, and, in all his operations, conducted himself like a waking person. This man felt nothing when his skin was ever so much stimulated, when strong-smelling substances were held to his nose, or when a pistol was discharged close beside him. His eyes were constantly shut, but the eye-lids could be drawn asunder, his eye opened, a brilliant light held to it, without his exhibiting the slightest symptom of feeling. The well known somnambulist of Vicenza (NEGRETTI), whose history has been repeated in almost all the later writings upon this subject, who was long and carefully observed, who went about and performed all his usual domestic duties, gave, as it were, a theatri-

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cal representation of several parts of his service, and all this without committing any mistake, and with the same ease and readiness as a waking man with the complete use of his eyes ;—this individual also exhibited no sign of sensibility when a candle was brought so close to his eye, that his eye-brows were singed by it.

The insensibility of the eyes, however, is most remarkably shown by those somnambulists who perform their various operations with their eyes wide open. In these persons, too, this organ is in a state the best adapted for examination, as, in them, it is generally large, fixed, and immovable ; and, consequently, any changes which may take place in it can easily be observed. I have so much the more satisfaction, too, in adducing cases of such somnambulists, because they enable me to supply the deficiency of my inquiry, arising from the spasmodic state of the eye-lids in the cases formerly referred to. All those physicians, who have themselves examined the eyes of somnambulists, admit, so far as I am aware, that the organ, in the state in question, is exactly as I have above described it. " All somnambulists," says VAN SWIETEN, " whom I have seen, had their eyes wide open, and a very large aperture of the pupil, as is usual in the case of amaurosis. This aperture did not contract on the approach of light, nor did the eye-lids wink, but remained quite motionless. When they were forcibly awakened, however, the eyes immediately closed, and they felt the inconvenience of the light when brought near them."*

* *Comment. in Boerhaav. Aphorism*, T. iii. v. 1086.

GERARD VAN SWIETEN, one of the most celebrated disciples of BOERHAAVE, and most learned pathologists of the last century, was born at Leyden in the year 1700. He studied humanity at the university of his native town, and philosophy at Louvain ; and he then returned to Leyden for the purpose of studying medicine under BOERHAAVE, whose friendship he obtained. He afterwards became physician to Maria Theresa of Austria, in 1745 ; and distinguished himself by founding and greatly improving the medical schools of Vienna, which he brought to a high degree of repute. His Commentaries on the Aphorisms of Boerhaave display a vast erudition in practical medicine, and have been frequently reprint-

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Another very exact and trustworthy observer, M. DE HAEN, has given us an account of the disease of a young girl, who had frequent fits of catalepsy, which soon passed into paroxysms exhibiting the principal characteristics of somnambulism, during which her eyes were wide open. He caused a light to be brought near them, which, however, produced neither a contraction of the pupil, nor any other marks of sensibility. As little effect was manifested when strong stimulants were applied to her skin, when she was pricked with a needle, &c.*

A very recent author, ELLERT, has described, in a small publication, the history of a severe nervous disorder, in which the lady who was afflicted with it, after suffering very violent spasmodic attacks of various kinds, fell into extraordinary paroxysms, which, as M. ELLERT expresses it, presented a middle state between ecstasis and somnambulism. In this state, in which she used to conduct herself, in many respects, like a person awake—spoke, related stories, sometimes scolded, sometimes contradicted, sometimes appeared anxious, sometimes cheerful—none of her senses manifested any sensibility. Her eyes, indeed, were open and brilliant, but fixed and motionless; and the aperture of the pupil was very large. She might be called by her name, pinched, pricked; spirit of hartshorn might be applied to her nose—a burning candle held before her eyes; and however sudden

ed; and he is the author of several other learned works. As a teacher he was remarkably distinguished. He died in 1772.—*(Trans.)*

* DE HAEN; *Ratio Medendi*, p. iv. c. v. § 3. ANTHONY DE HAEN was born at the Hague, in 1704, studied medicine under BOERHAAVE, and became a distinguished pupil of that great master.

For twenty years he practised medicine in his native town. In 1754, he was invited to Vienna by VAN SWIETEN, and was appointed principal Professor of Practical Medicine in that city. Crowds of students attended his clinical lectures. Upon the death of VAN SWIETEN, he was appointed principal Physician to the Court, and acquired immense reputation in his profession. As a physician, he was particularly distinguished by his great acuteness of observation. He published a number of works, and died in 1776.—*(Trans.)*

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and unexpected the *stimulus* might be, she did not manifest the slightest symptom of feeling.

I cannot avoid adding a highly interesting investigation of this subject, which will be found in the Memoirs of the Parisian,* and also in those of the Upsal Academy of Sciences, and which was transmitted to these academies by SAUVAGES DE LA CROIX, who originally observed the case, in the year 1741. It relates to a young lady, who, during a severe nervous complaint, after similar convulsive attacks, fell into similar paroxysms to those above-mentioned, during which, however, she walked about the sick room. Like the former patient, she had her eyes wide open, which, in other respects, appeared to be quite insensible. SAUVAGES, who suspected deception, made use of several means of ascertaining the truth. He caused her arm to be deeply pricked with a needle, the soles of her feet to be gently tickled with the points of the fingers—poured spirit of hartshorn into her mouth, held it to her nostrils, and blew Spanish snuff up her nose. He caused her to be addressed unexpectedly in a loud voice. A person, who had been concealed, suddenly uttered a piercing cry close to her ear, and, at another time, he suddenly threw a stone violently against her bed-stead. But all this produced, in this otherwise so excitable person, not the slightest mark of feeling, and occasioned no motion. The attempts, too, made by SAUVAGES, to produce some effects upon her eyes, were quite as ineffectual. In vain did he, unexpectedly, aim a blow at her with his hand: She made no effort to evade it, nor did she interrupt her discourse; and the eye-lids did not move in the slightest degree. He held spirit of hartshorn before her eye; moistened a feather with it, and applied it to the *cornea*; suddenly touched one of the eye-balls with his finger; nay, at last, he held a lighted candle so close to her open eye that her eye-lashes were burnt. During this insensibility of her eyes, she rose from her bed, walked about the room, kept the middle way between the bed-

* 1742, Ed. 4, p. 409.—Ed. 8, p. 551.

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steads, as well as she could have done when awake, turned round at the proper time, did not once stumble against any thing, although several things were placed in her way; and all this she did without touching the objects. These experiments and observations were repeated at various times, and in presence of several competent witnesses.

After all these experiments, instituted by skilful and trustworthy men, with such similar results, to which I know not a single case that can be opposed, which could lead us to suspect any thing of a contrary nature, but to which, if necessary, I could add much from my own experience; after all this, I say, it surely cannot be denied that the eye of the somnambulist is not only incapable of receiving the usual impressions from light, and its transmission to the *sensorium commune*, but also that its principal functions are temporarily abolished. But if any one relying upon the hypothesis of DARWIN—of which I shall have more to say presently—could or would oppose any objection to this conclusion; it is hoped, at least, that nobody will now venture to argue from the circumstance of the eyes being open in some somnambulists, to the use and continued functions of this organ; and it is manifestly quite clear from our previous investigation, that sensibility is withdrawn from them for the time, and that the power of volition does not affect its appropriate muscles.

But if—from the circumstance that, in some somnambulists, either for a continuance, or during certain periods of this state, the eyes are open—any person were to allow himself to draw the conclusion, that those among them who walk about with their eyes closed, opened them frequently, at times, in order that they might receive the usual visual sensations—and of such a conclusion more than one respectable philosopher have been guilty; this would either imply an ignorance of all those cases I have adduced, which ought not to be disposed of in so summary a manner; or it would exhibit an error in logic

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which could only be excused by thoughtlessness, or committed from a spirit of cavilling and obstinate self-conceit.

I do not conceive that any even plausible argument could be opposed to my previous reasoning, unless it be the hypothesis regarding somnambulism which DARWIN has brought forward in several passages of his *Zoonomia*. He assumes, namely, that the nerves of sensation are equally lively and susceptible of irritation in the state of sleep, as when we are awake; but that they are secluded from stimulating objects, or rendered unfit to receive them. In somnambulism, according to this hypothesis, the immediate organs of sense are exposed to their usual *stimuli*; but are either not excited into action at all, or not into so great action as to produce attention or sensation. The prevailing train of ideas, and concomitant efforts of the will, which both absorb and occupy the whole power of the mind, prevent it from attending to the influence of external *stimuli*. Therefore, no sensible impression is permanent, and no perception follows upon it. It is only when the impression accidentally happens to harmonise with the train of ideas which is present to the mind at the time, and mingles with it, that it is perceived. The perception thus arising, however, does not interrupt the previous train of ideas; no new train ensues; on the contrary, the individual finds himself capable, by means of the external perceptions, of continuing, and even of rectifying the previous course of his ideas. For this reason, we need not be surprised to find that, frequently, even very powerful *stimuli*, which, at other times, would place the organ in a state of very violent agitation, are not at all remarked; while weak impressions, lying within the circle of the somnambulist, are immediately perceived.

What appears to confirm the theory of this ingenious author is the not uncommon phenomenon of individuals, who are so abstracted, in consequence of the powerful effect with which they pursue a particular train of ideas, that they do not become aware of many other sensible impressions, or are capable of suppressing them. To

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what an extent this may happen in individuals, especially in the case of learned men, we know from too many examples to render it necessary to refer to any single instance. And how much some individuals, when their attention is deeply fixed upon a certain train of ideas, are capable of withdrawing their thoughts from sensible impressions, requires no proof, because history has made us sufficiently acquainted with the fact; and I need only recall to your recollection the anecdote of the Roman criminal, who endured the highest degree of the punishment of the rack without exhibiting any impression of pain, by merely repeating a certain word, which, as he afterwards confessed, produced in him a lively idea of the gallows.

But still more apparently favourable to the Darwinian hypothesis is the observation, that the somnambulist is conscious of some sensible impressions, but not of others; that he observes very distinctly many objects which lie within the sphere of his vision, but does not perceive others which are in the same situation. And we find, not unfrequently, that the sensations of which he is conscious are nearly allied to those, with which, according to his own expressions, he is occupied at the moment, or to which the latter might easily conduct him. We can peruse scarcely a single account of a true somnambulist, without meeting with something of this kind. In my first lecture, I have noticed a remarkable instance of this in the history of the young student observed by Professor FEDER, to which others might easily be added.

But, as I conceive, we may reasonably object to the Darwinian hypothesis, that the author was not sufficiently acquainted with the state he attempted to describe, and that he represents the phenomenon in a different aspect from that in which it usually manifests itself in nature. This author founds his arguments upon only two cases observed by himself, and adds to them that which is related in the French Encyclopædia, which I have noticed at greater length, in my first lecture—the case of the young theologian observed by the Archbishop of Bourdeaux. But in respect to the main circumstances, with

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which we are chiefly concerned at present, this last case is completely misrepresented. DARWIN makes the young theologian occasionally open his eyes for a short time, for the purpose of discovering his own situation, and the position of his ink-stand, and then shut them again. This circumstance would here be, indeed, very conclusive. But, unfortunately, the story itself mentions nothing of the kind, while, on the contrary, the commentators upon it expressly maintain the reverse. Moreover, the English philosopher seems to be totally unacquainted with the various other cases of somnambulists, for which we are indebted especially to the physicians and philosophers of Germany. For this reason, indeed, we might set this hypothesis wholly aside, because it does not, in the slightest degree, weaken what has been hitherto said, and affords no explanation of those cases upon which my enquiry proceeds. But I am anxious to remove all doubt, and cannot, therefore, overlook a theory which is quite new, which has been propounded by a deep-thinking man, and carries with it no little plausibility and appearance of truth. Besides, what I have to say upon it may tend to confirm, and place in a clearer light, many of the observations made in my last lecture.

I might have a good many objections to make to the proposition from which the Darwinian hypothesis sets out, and upon which it is founded, *viz.* that, during sleep, the nerves of sensation are as lively, and as susceptible of external *stimuli*, as in the waking state. I might show that this is a mere opinion of the author—that the arguments in favour of it are very far from being conclusive—that in the experiments by which it is supported there was probably illusion; and I might appeal to the most eminent recent as well as older physiologists. I might prove the contrary from the very nature of sleep, from the phenomena by which it is accompanied, from the manifest decrease of the activity of all the functions, from the causes which promote and prevent sleep;—but all this would carry me too far away from my principal object. I must, therefore, refer you here to what I have

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already said upon this subject, in my second lecture, and, in other respects, confine myself to the state of the organs in question, and especially of the eye, as it is found in somnambulists.

From the cases formerly adduced you must have seen, that, during somnambulism, the whole visual organ has undergone a complete change, which makes it quite a different thing from what it was during the waking state. The machine seems to stand still, and the motion of its parts appears to be obstructed, so that they are incapable of being affected either from without or from within. And, in this state, can the sensibility of the nerve, nevertheless, continue—can this organ still continue to perform its usual functions? Impossible! The entire condition of the eye, as it manifests itself to the sight, makes it but too probable that it is, in every respect, at rest, and that it cannot renew any of its functions, until all its wheels are again set in motion.

But here we will not rest satisfied with conjectures and probabilities, but rather, as far as is possible, endeavour to approach nearer to certainty. Let us, for the present, assume that the optic nerve retains its sensibility during sleep, as also in somnambulism, and then see if this assumption can be reconciled with the observed phenomena.

From the result of the cases formerly noticed, it appeared that, in somnambulism, the *iris* was immovable, and continued in that state, whether light fell upon the eye, or not—whether there were much or little light. It seemed to be in a state of complete inactivity, and, in the strongest light, appeared the same as if no *stimulus* were present. But the rest and motion of the *iris*, or the contraction and dilatation of the pupil, does in no degree depend upon our mental volition, nor upon the light which may happen to fall upon the external part of the eye, but only upon that which penetrates to the *retina*, and stimulates the optic nerve. This *stimulus* then reacts upon the *iris*, causing it to dilate, and the pupil to contract; and this in proportion to the quantity of light

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which has penetrated into the eye. The *retina* and the *iris* are so intimately connected, that when the latter remains immovable by the action of light, we may assume the insensibility of the former—*i. e.* blindness—although not always *vice versa*,—provided there be no organic defect in the *iris*. All poisons which act upon the eye, and destroy the sensibility of the optic nerve, also impede, according to the extent of this privation, the mobility of the *iris*. A moderate dose of belladonna has this effect, and such a dose of opium as shall produce a more profound sleep. When, in the course of a disease, the optic nerve is mediately or immediately affected, and the eye becomes insensible to visual impressions, we find, in the same proportion, immobility of the pupil. Amaurosis, when complete, is, in the opinion of some physicians, always, according to others, in most cases, accompanied by the same symptoms. In fainting fits, profound sleep, severe apoplexy, hydrocephalus, and in dying persons, the immobility of the pupil is also manifested. May we not conclude that the same condition of the *retina* exists in the somnambulist, who exhibits the same immobility of the iris, and unchangeableness of the pupil when exposed to light, as we observe in the diseased, and in the action of the poisons above-mentioned? And have we the slightest reason to presume this continued sensibility in the one case, while, with all physicians, we reject it in the other?

But notwithstanding the immobility of the pupil, let us now, with DARWIN, assume, for a moment, the same sensibility of the *retina* as in the waking state, and conceive that somnambulism constitutes an exception from the above general rule; in this case, you must admit that now, in proportion to the very large aperture which leads to the interior of the eye, a much larger quantity of light must also flow into it; and, therefore, in proportion to the enlarged surface of the pupil, at other times so contracted, more rays of light must fall upon the *retina*. But the rays which flow into the eye by the narrow aperture in the waking state, are quite sufficient for

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the purposes of common and distinct vision. A greater quantity would too much stimulate the sensitive nerves of the eye, and occasion pain. Now, should the great quantity of light, which penetrates into the widely opened internal eye of the somnambulist, produce not the slightest sensation? Should even a burning candle, which, when held so close to the eye of a waking person, in such a dilated state of the pupil, would, according to all experience, by such an overwhelming irritation occasion sudden blindness;—should this not produce the slightest excitement in the somnambulist? But, on the other hand, could a very slight *stimulus* be felt, when the volition is directed to the eye, or when the mind is occupied with similar ideas to those which might be produced by it? And, moreover, in a quite different manner, and with much weaker effect, than takes place in the waking state? All this is evidently nothing more than hypothesis, which exists only in the mind of its author, and is directly opposed to all the laws which regulate the action of *stimuli* upon the nervous system, and their transmission to the organ of vision.—The examples of reverie, or of the forcible abstraction of mental attention from the organs of the senses, can have no application to the present case. There is no doubt that an individual may occupy himself so profoundly, and so constantly with one particular train of ideas, that other objects falling within the sphere of his senses are not perceived. But what a difference between this state and that of which we are now speaking! In the former case, there is manifestly no organic change; in the latter, there is a change so remarkable and so permanent, during which all the usually active parts of the eye are in a condition so very different;—in the former, merely psychological causes,—in the latter, at the same time, a very important physical cause. The sensations which are not remarked by these individuals in their reveries, are sensible impressions of the usual kind. But unexpected sensations of a particular kind, or affecting the nerves in an unusual degree;—such as an unexpected flash of lightning, a

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violent clap of thunder, a musket discharged in the neighbourhood, shaking the body, powerful irritation of the skin, the excitement of severe pain ;—these, and several other unusual influences on several senses at once, certainly would, however deep the abstraction, occasion immediate awaking out of such a dreamy state of absence.

An important circumstance, which completely distinguishes the state of the somnambulists from that of mere absence of mind, manifestly shows that, in the former, there is not merely a want of attention to sensible impressions, but a real insensibility, and, therefore, presents a decisive contradiction of the hypothesis of DARWIN. It is this, that, in some somnambulists, while the rest of the senses are completely dormant, the nerves of the tongue, or of the skin, appear to be awake, and to admit of certain impressions being conveyed, through one or other of these nerves, to the mind. This phenomenon is so common, and so generally admitted, that I consider it unnecessary to adduce any examples of it. If the cause of the apparent insensibility of the other senses depended merely upon mental abstraction, we cannot find the slightest reason why these senses should be neglected, and the active power of the mind extended only to the others.

I am much mistaken, if what I have already said upon this subject be not found sufficient to shake the very foundation of the Darwinian hypothesis. But permit me, once more, to draw your attention to a phenomenon, which we observed in the cases formerly noticed, *viz.* the fixed and complete immobility of the whole eye. In such a state of this organ, there can be no distinct seeing of objects, either near or at a distance ; nor of such as lie immediately before or beside us. For the principal functions of the muscles of the eye, which are here in a spasmodic state, are intended to give to the organ, according to the dictate of the will, the particular direction corresponding to the situation of those objects which most interest the mind at the time ; and also to enable us to adapt this organ to the different distances of objects, in order that we

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may see the nearer and the more remote with equal distinctness. In the somnambulists, however, the muscles of the eye are entirely deprived of this power of adaptation. Their axis remains constantly directed to the same point, and the distance between the *retina* and the *cornea* is always the same. Only those objects, therefore, can be seen by the somnambulist which are placed in a straight direction before him, and of those only which lie at a certain distance can a distinct image be formed upon the *retina*. Those, on the contrary, which are not at the particular distance from the eye in this direction, cannot be distinctly represented upon it. But this is quite inconsistent with the phenomena observed in the somnambulist, who, as we know from experience, must distinctly recognise all such objects, nearer or more remote, whether they lie immediately before him, or are situated on one side or the other. Somnambulists, also, and I have already given an instance of this in the case reported by Professor FEDER, observe many objects which are placed within their sphere of vision, and correspond with their train of ideas, and upon which their attention, at the time, appears to be fixed, either not at all, or only in a very imperfect manner. (And this is quite as true, and happens just as frequently, nay even more frequently, than that they—as I have already remarked in confirmation of DARWIN'S hypothesis—observe those objects to which they are led by their train of ideas.) If DARWIN'S hypothesis were correct, the objects in question, according to the otherwise known laws of sensible perception, must be recognised under these circumstances; for no reason can be assigned why this should not be the case. On the other hand, their mind—as appears chiefly in those in whom one or other of the senses seems to be awake—frequently receives sensible perceptions, which do not harmonize with the train of ideas with which they are occupied at the time; which it, nevertheless, receives, and by which it is induced to abandon the former, and to commence a new train. If time permitted, I could adduce many decisive instances of this fact. Of this description

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were the cases I formerly mentioned in favour of DARWIN's hypothesis, which, when more closely examined, would have a directly contrary tendency.

One other objection to DARWIN's theory, and I may then proceed to something more interesting. All the cases of somnambulism, mentioned in my first lecture, were confined to those, of whom the observers say that their eyes were closed. To these, the hypothesis of the English philosopher is wholly inapplicable. In regard to them, therefore, all the observations I made in my last lecture, upon the supposition that their eyes were not completely closed, or were opened occasionally, still remain in their full force; and they derive double strength from what I have now said respecting the condition of the eyes of somnambulists—the insensibility of the optic nerve, the state of the muscles of the eye, and the impossibility, in such a state of the organ, of receiving the usual impressions necessary for requisite and distinct vision.

Notwithstanding all I have hitherto said in this and in the former lecture, against the hypothesis of those writers, who maintain that the somnambulist receives the visual perceptions necessary to guide him in his operations, in the same way as the waking man, through the medium of his eyes; one argument must have impressed itself upon you, which appears to outweigh every other. In the hypothesis in question, you will have found a harmony with all the other known laws of physiology and psychology; with our knowledge of sensation and perception; while, in every other explanation, you may have remarked something unharmonious, something unusual, and, apparently, unnatural. What! the eye! this organ so peculiar in its nature, so entirely formed for the purpose of vision, so universally distributed throughout the whole of the animal creation! Shall an individual be capable of dispensing with the use of the eye, and yet see? Impossible! Not in vain has nature created an organ so complicated, composed of so many heterogeneous materials, and yet so well adapted to *one* specific object—to the reception and transmission, to the due direction and

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union of the rays of light; an organ of which no part can be wanted, none can be otherwise constituted, none can occupy the place of the other. Not in vain did she, in pursuance of her design, give to each of these parts, according to the nicest calculation, the requisite degree of transparency and opaqueness, of firmness and pliancy, of sensibility and irritability; not in vain did she bestow upon this organ so much of her most precious materials, provide it with so many and such important organs; she, who generally manages her resources with so much economy; placed it in a secure situation, protected on all sides, and applied it with such an appropriate covering, dependent on the will. And could all these precautions have been taken for no purpose? Can the eye be dispensed with, and yet the same object be attained? And —which is more—can we conceive the mind to be capable of receiving visual perceptions without this medium, which, properly speaking, creates them, and upon which they so entirely depend? Can it be capable of receiving *that* to which colours, light and shade alone give consistency; and receive it, too, without colour, light and shade, and yet in the same manner as if it were communicated through the medium of the eye?

I feel the weight of this objection, and, therefore, shall devote the whole of my attention to it in my next lecture, when I hope to arrive at the result of the whole of this investigation—a result which, I trust, will not be entirely unimportant and uninteresting for those who desire to elevate themselves a little above the usual phenomena of the sensible world.

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LECTURE IV.

HITHERTO, in our inquiries into somnambulism, every thing seemed to compel us to abandon the common route, and to seek a new one for ourselves. But, immediately on our entering upon it, a series of inaccessible eminences appeared to present insurmountable obstacles to our further progress, and to admonish us to return to the old road. But let us boldly approach a little nearer to these obstructions; perhaps, upon a closer inspection, they may lose somewhat of their heighth and ruggedness; perhaps we may be fortunate enough to find a path, which, if it does not conduct us over, may yet lead us past them. Let us examine the two most formidable difficulties—that we should receive visual impressions without the assistance of that sense, which is constructed so entirely and peculiarly for this purpose; and this without the co-operation of that matter, which otherwise is alone capable of procuring them.

In order to the due investigation of this objection, permit me to throw a few preliminary glances upon our sensitive faculty in general, and to ascertain how far our assured knowledge of it extends.

It has been demonstrated that, in all our sensations, certain *stimuli* operate upon our sensitive organs, produce some change in them, are thence communicated to the mind, and, at last, effectuate in it what we denominate sensible perceptions. This change which the sensitive organ undergoes, it either receives immediately from the object itself which affects it—as in the smell, taste, and touch; or it acquires it through the medium of

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the two universally diffused natural substances, light and air—as in hearing and seeing. In the former case, the nerve—the chief component part of every sensitive organ—is immediately affected by the operating *stimulus*, and it is so intimately interwoven with all that which otherwise belongs to its organization, that the immediate contact of the sensitive organ and its nerve takes place in the same instant; while, on the contrary, the agitation of the air, when sounds are produced, must first be reflected by the external ear into the auditory passages, and must penetrate from thence to the tympanum and small bones of the ear, before it can arrive at the acoustic nerve; as the rays of light, also, when visual perceptions are to be produced in the mind, must first penetrate through the different membranes and humours of the eye, must become refracted by them, and united in a small image, before the optic nerve is affected. We know, too, that, in all our sensations, a change takes place in the nerve of the organ of sense; and that, when the latter has lost its irritability by the substances which principally affect it, the mind acquires no perception—however sound the other parts of the organ may be, however strong the impression, and however duly modified by the other parts of the sensitive organ it may reach the seat of the nerve. As certain is it, too, that, in order that sensations may be produced by contact, the nerve, in its farther progress to the brain, and so far as it can be traced there, must be in proper condition. If the nerve, in its progress into the internal part of the brain, is subjected to pressure, or to *stimulus*, or if it be otherwise decidedly defective, either there will be no sensation at all, or the sensation will not correspond with the impression made by the object.

Now, in this consists all the real knowledge we possess respecting the origin and nature of our sensitive faculty, and to this, also, it is limited. What changes the *stimuli* acting upon the sensitive organs may produce upon the nerves, whether they excite shocks or contractions in the numerous fibres, or whether they operate upon that

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fluid which is said to vivify the nerves; whether they produce in it a change of motion, which extends from thence to its origin in the brain, whether the affection of the nerve, as DARWIN maintains, extends only to the marrow diffused in the sensitive organ, or whether the motions excited in it are transmitted through the brain to the origin of the nerves:—upon these points there are abundance of opinions; and many fine theories, and demonstrations, if you will, may be propounded on the subject; but, after all, they remain opinions and hypotheses only. But, then, there appears here a large chasm, or *hiatus*, in our knowledge, which, it is probable, we shall never be enabled to fill up. Admitting that all we have hitherto mentioned could be incontrovertibly established, still we have here only a constant effect of one body upon another, in which the object which *gives*, and that which *receives*, are of the same kind; where *action* and *passion* are of the same nature, and where communication and transmission take place according to the same known laws of motion. But here there arises an entirely different series of phenomena. Upon this change, this shock, this contraction of the nervous fibres, by which we represent to ourselves those changes which they undergo, there follows something quite heterogeneous—PERCEPTION. The tremulous motion of the *tympanum*, and of the other parts of the ear is transmuted into a sound. The image of the object, reduced in its proportions, which is represented on the *retina* of our eye, and the change thereby produced in the optic nerve, excites in the mind a large picture, which completely corresponds with that which lies before the eye, and with the notices received through our other senses. We do not hear the undulations of the air, which penetrate into the ear; no—our mind apprehends sounds. It is not the image formed upon the *retina* which penetrates through the long and dark avenue to the origin of the nerves:—no—immediately behind the point where it was formed, the rays of light again disperse, and the image ceases to exist. This image is nothing more than a picture on the white wall

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of an optic *camera;* nothing but a transient affection of the optic nerve from the contact of light, which contains subjective colours, as the prism, whose different colours vanish as soon as their place is occupied by another series of refracted rays.

Even on the *retina*, the image in question is the last of the series of corporeal effects; and it produces a change totally incapable of being compared with any bodily affection—a *perception*. In our visual perceptions, we see no more the small inverted image: The former are something quite different from the latter—something existing *without* us—something permanent. Would we absolutely penetrate farther—would we extend the corporeal effects deeper into the substance of the nerves, and allow this nervous operation on the *retina* to be transmitted to the alleged seat of the soul; still, we should not have advanced a single step; it is yet only corporeal motions with which we have to do, and, therefore, quite heterogeneous to that of which we wish to ascertain the origin —*perception*. Here, there always remains the same incomprehensibility of the transition of motion to idea, of the connection between matter and spirit. We may interpose as many material processes as we please, we may allow these and their motions to become as minute and delicate as possible, we may call in to our assistance all the modern discoveries of anatomy, physics, and chemistry; we may fill the nerves with animal spirits, with electrical substances or chemical gases, and assume that, by their means, motions are transmitted to the *sensorium;* we may allow them to terminate in the cerebral cavity, which the anatomical knife of SOEMMERING has rendered so famous, and in the very problematical humour with which it is supposed to be filled;—we may assume, with KANT, that this last is produced by a suppositious power of the nerves of decomposing themselves into their various elementary substances, and thus conceive that different sensations may arise in consequence of the disengagement of the one or the other of these substances: Still must we, at last, arrive at the great gulf we are anxious

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to avoid. From those substances, thus developed and set in motion, we must proceed to that which receives them, and in which these motions become metamorphosed into sensations and perceptions—this variety is combined into unity, and this transient converted into something permanent. In all our attempts, therefore, to explain our faculty of sensible perception, we undeniably advance beyond the limits of our present knowledge, and lose ourselves in a province which lies beyond all experience. Our reason—and herein consists its whole essence—only enables us to analyse such notions as are contained in or developed from each other; and these are either presented to us by experience, or formed by the mind itself. Here, however, we find something which is not subjected to such a power, *viz.* a simple fundamental change between two essences quite foreign to each other, which cannot be deduced from any other higher principle, which cannot be combined with any other associated change—consequently, is incapable of derivation or analysis, and, therefore, lies beyond the domain of reason.

From all that has been said, it follows that, in the end, it must always remain a complete enigma for us, how perceptions arise out of those changes which our organs undergo, in consequence of sensible impressions. This only do we know from experience, that both are always to be found together, accompany, or follow each other. But, in fact, this close connection is something arbitrary, established by the author of our being, only necessary in regard to us, and that merely in appearance. We perceive no proper casual connection. We see no relation between these causes and these effects. We can perceive no reason why the author of our being might not have attached such a phenomenon to something different; and why he might not as well have appointed those perceptions, which we now appear to receive through the medium of our sensitive organs, to arise in the mind from other causes, and through other channels.

To this may be added, that the being in which all sensations become, at last, concentrated, and which perceives

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them, even in this first operation, is not merely passive, but, as in all its other functions, completely active. Our judgment mingles with our sensible perceptions, and modifies them; the impressions made upon *one* of our organs are, without our being conscious of it, rectified by the previous or contemporaneous sensations of the others; and thus association of ideas, custom, &c. also influence our sensible perceptions. How little the latter can be considered as quite pure may be most distinctly seen in the expressions of the blind-born, when, with the assistance of the instrument for operating upon cataract, light, for the first time, flows into their eye, and, in this way, a new world has been opened up to their mind. How different the effect which appears to be produced by objects upon *their* eye from that produced in our own! How different are their notions of distance, of size, of form, &c., from those of an individual who gradually learns to use his sensitive organs, and to combine the information he receives through them! By referring to the same source—the influence of the mind upon our sensible perceptions—and only in this way, can we explain how the double image, by which every object is represented in our eyes, does not lead us into error, but enables us to see single; and how the objects appear to stand upright, although the picture on the *retina* is inverted.

What has been hitherto said is, in my opinion, so well founded in the nature of the thing, and proceeds from such well-known observations and reasonings, that it appears to require no farther authority for its confirmation. In order, however, that you may be convinced that similar ideas are by no means foreign to our philosophy, permit me to quote only one passage from a recent author. JACOB, in his *Psychology*, expresses himself thus: "From what we know in regard to the wonderful conformation and objects of the various parts of the eye, we must not imagine that we are also acquainted with the mode in which sensations are produced in the mind, when we only know the changes that take place in the sensitive organs. The peculiar modification of the organ of vision is only

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the external condition under which an external object can be seen. For what reason nature has adopted precisely these, and no other provisions for this object, we cannot tell. If creatures could be found, whose eyes represented objects awry, and in a caricatured form, we should not be entitled to conclude from this that there was an absolute necessity for their seeing objects only in this way. Nay, if creatures could be found, who, merely by their organs of touch, without any of our provisions for light, received visual perceptions, we could not reasonably object to the possibility of such a contrivance. That with *two* eyes we see only *one* object, is a fact. Perhaps other creatures may require a thousand eyes for the same purpose. Perhaps nature might annihilate all eyes but one, nay, this one also, and yet attain her object. We can give no reason whatever for such a proceeding—we know nothing about it excepting from experience," And, again, in another passage, the same author asks, "whether there may not possibly be various kinds of external senses; whether those we possess can be considered as absolutely and necessarily attached to our organization; and whether the conditions, under which our senses operate in our present state, are the only conditions under which they could operate in any circumstances? Of all this we know nothing *a priori;* and experience affords us too little information to enable us to give a satisfactory answer to these questions. But there exist animals which possess either very dissimilar, or totally different organs, and yet seem to be affected in the same way as man."

After all that has been said on the subject, no one will deny it to be possible that the incomprehensible self-conscious being within us—so variously active within and without us—capable of acting and suffering in a manner elevated above its own cognitive faculty—might also acquire similar sensible perceptions in a different manner, without the assistance of those organs through which we, at present, receive them. Whether this be actually the case can be determined only by experience; but this must be, indeed, certain experience, frequently

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repeated, and placed beyond all doubt. Whether the observations I formerly laid before you be of this nature, it is for you to judge. By those who have occupied themselves with the investigation, no doubt has been raised in regard to their historical authenticity. But, assuredly, this belief will be strengthened, and the notions even involuntarily arising in the minds of many, in regard to the great improbability of such facts, will be more effectually removed, when many other observations, of a quite different kind, are presented to them, from which it would appear, that even in the case of a total want, or of a different number and condition of the sensitive organs, the same sensations are produced as in man. And if it should be found, that, after the entire destruction of the eye, the mind can, nevertheless, acquire the same perceptions which, usually, could only be obtained through the instrumentality of this organ, then, it is hoped, will that apparent eminence, which opposed our farther progress, soon become more level.

I formerly mentioned to you from JACOB's *Psychology*, that this author, in confirmation of his opinion, noticed several animals possessing very dissimilar, or quite different organs from ours, which were, nevertheless, affected as we are. Here, without doubt, he had in view the observations which are so copiously presented to us by natural history, especially by that of the insect tribes. In many of these animals, we can find no vestige of an organ of smell; and yet many of their operations evince a very high degree of this sense. Most insects possess eyes; but in regard to their number, as well as their form and condition, these organs differ, not only among themselves, but also from those of other animals. The eyes of the common fly, for example, are sex-angular; the spider has no less than six of these organs; and yet, judging from their operations, they appear to receive only a single perception from these various images. The chameleon moves only the one eye, without the other, and can thus see before and behind, towards the sides, upwards and downwards. In birds, the eyes are placed on the sides

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of the head; they do not, therefore, like us, see only one object with their two eyes, but several. In the polypi, we perceive nothing analogous to our finer senses, and yet, without eyes, they manifest the most delicate sensibility to light—they are visibly affected by light and darkness; and when any nourishment comes near them, they immediately perceive it. Fishes have no external organ of hearing, and the internal organ is so imperfect, that it has been doubted, down to the most recent times, whether they really possess any organ of the kind. They live, also, in an element, which, in consequence of its little elasticity, permits sound to be transmitted in a very weak degree; and yet it is known that some, at least, of these animals, without being distinguished from others by their auditory organs, become accustomed, in this element, to attend to the voice of man; nay, as we learn from a trust-worthy author, they will even approach when they are called by the names which have been given them. Finally, it is a well-known fact that cats and owls see in the dark; and that the visual perceptions they receive from objects become stronger in proportion to the diminution of the element which assists us in obtaining similar perceptions.*

Here, then, we have a series of phenomena in the animal kingdom which seem to demonstrate the independence of perception upon organic structure. But I suspect that still more decisive proofs will be demanded. It might be said that, from the circumstance of the organs of hearing not having yet been discovered in insects, we

* The same phenomenon has been distinctly observed in some somnambulists. They complain of the light, whether natural or artificial, and, in performing their various operations, manifest a preference for total darkness.—(*Transl.*)

In the *Mus typhlus*, LIN. the younger GMELIN, (*Journey through Russia*, vol. i. p. 132,) found that this animal must have many visual perceptions, although no vestige of an external eye can be discovered in it. In the mole, the elder Dr TREVIRANUS found that the optic nerve has the same origin with the nerve which goes to the snout; that the former is very small—the latter remarkably large; and that the eye itself consists of a small, opaque, simple mass.—(*Author.*)

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only conclude, *per saltum*, that no such organs exist. The observations we made in regard to the sensibility of the Polypi for light, and the stretching out of their arms towards the substances from which they derive nourishment; while the organs of hearing, smelling, and sight, are entirely deficient, might be very well explained by their sense of touch, especially if we take into our consideration the recent discoveries which have been made in regard to the sphere of action of the living animal body, which sphere, in the polypi, might be more extensive and more energetic than in other animals. The peculiar organs of vision in insects, and their greater number, when compared with the want of correspondence between the organs and the perceptions, might be explained in the same way as the hearing of man with two ears, the seeing with two eyes, and the single perception of the external object. As little does the observation in regard to fishes appear to many to be decisive in our present argument, because, notwithstanding their imperfect organs of hearing, a sensitive nerve might quicken it, and supply the defect. Besides, it is well known that habit and practice are capable of greatly increasing the sensibility of an organ, and of rendering it affectable by very weak *stimuli*. Finally, it is an undoubted observation, that many animals see better in the dark than in day-light; but the same observation likewise teaches us, that, in them, the *iris* reflects an uncommon quantity of light, which may illuminate the near objects—that the aperture of the pupil is then much enlarged, and that the *retina*, therefore, receives more light than usual. The attention of these animals is, probably, then more attracted to the objects immediately before them, and being more intently fixed upon them, they feel the weaker affections of the *retina* more strongly than usual, and this membrane may possess a higher degree of sensibility at night than during the day. To these objections many apposite remarks might be opposed; but while in possession of decisive proofs, we are unwilling to dwell upon such as are doubtful. Let us, therefore, proceed immediately to such as,

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If found to be just, may, at once, place the whole subject in a clear point of view, and render farther reasoning superfluous.

A series of recent and decisive experiments has demonstrated the fact, that, in the *bat*, the faculty of vision continues even after the organ has been completely destroyed. Eminent philosophical naturalists, with SPALLANZANI at their head, instituted these experiments, and verified the fact, in different parts of Italy—in Pavia, Pisa, and Turin; and in Genoa, also, they have been repeated, with the same success, by SPADONE, ROSSI, VASALLI, and JURINE; and no objection has been made to their accuracy. Frequently—in various circumstances, and in different ways—have these experiments been repeated; the utmost attention has been employed in order to obviate every possibility of deception; and the observations have been communicated with the most minute detail. In short, we have the most ample guaranty for the credibility of the observers, as well as for the truth of the facts. Now, these naturalists discovered that the bat, even when blinded, regulates its motions in the same manner as when possessing the complete use of the eyes. In several of these animals, they destroyed both organs of vision, depriving them of their transparency by means of a red-hot iron, or picking out the whole eye with the point of a pair of scissors, cutting away the roots, and filling the cavities with melted wax. These completely blinded bats were not in the slightest degree obstructed in their motions. They flew about, by night or by day, with their wonted ease and rapidity, avoiding all obstacles which lay, or were intentionally placed, in their way, as dexterously as if in full possession of their sight. They turned round at the right time when they approached a wall, rested in a convenient situation when fatigued, and struck against nothing. The experiments were multiplied in the most varied and ingenious manner. A room was filled with thin twigs; in another, silken threads were suspended from the roof, and preserved in the same position, and at the same distance from each other, by means

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of small weights attached to them. The bat, although deprived of its eyes, flew through the intervals of these threads, as well as of the twigs, without touching them; and when the intervals were too small, it drew its wings more closely together. In another room, a net was placed, leaving occasional, irregular spaces for the bat to fly through; the net being so arranged as to form a small labyrinth. But the blind bat was not to be deceived. In proportion as the difficulties were increased, the dexterity of the animal was augmented. When it flew over the upper extremity of the net, and seemed imprisoned between it and the wall, it was frequently observed to make its escape most dexterously. When, at length, it became so fatigued as to be unable to raise itself up in its flights, it still flew rapidly along the ground, fluttered about between the feet of the tables, chairs and sofas, and even in this situation, surrounded by so many difficulties, avoided touching any thing with its wings. Its walk was as secure as its flight. Through the different corners of a small, purposely constructed labyrinth of windings, it threaded its way with as much caution and dexterity of motion, and extricated itself with as much facility as if possessed of sight. But even in the open air, its flight was as prompt, easy, and secure as in the close rooms; and in both situations, altogether similar to that of its associates who had the use of their eyes. When let loose from a high tower, both descended perpendicularly, then took a horizontal direction, skimmed along a wall, and endeavoured to find a hole to creep into. One of those which had been deprived of their eyes, made its escape through one of the meshes of the net, reached the open air, hovered, at first, round a lofty cypress-bower, without resting on it, then raised itself in its flight to the nearest house-roof.

I could recount more of these remarkable experiments, but I fear I have been already too diffuse, and must refer those, who are desirous of more copious details, to the first volume of GREEN's *Journal of Physics*, p. 399, &c. I also request to call your attention, in the work referred

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to, to the precautions taken in regard to the other senses, with a view to prevent deception, and ascribing to a new faculty what belongs to one already known.* It is not

* Since this lecture was written, JURINE has published some new experiments made upon the *Vespertilio auritus* and *Vespert. ferrum equinum*, which coincide with those of SPALLANZANI, in so far as relates to the fact, that the flight of these animals is not impeded by the deprivation of sight, but differs from them in this, that covering, and at the same time, stopping up the ears, certainly makes the flight of the bat unsteady. Hence, JURINE concludes that, in this animal, the organ of hearing supplies the place of the blinded eye; and, in confirmation of this opinion, he refers to the fact, that, in bats, the nerves of the ear and the snout, as well as the whole ear itself, are of an extraordinary size, (*Journ. de Phys. par* DELAMETHERIE, T. iii. p. 145. GILBERT'S *Annalen der Physik*, B. iii. p. 461.) But these experiments can scarcely make any change in the result which the author has drawn from *Spallanzani's* observations. For even if, in the bat, the auditory nerve is capable of supplying the place of the optical, it would be absurd to assume that it should possess this capability as an *auditory* nerve. In his experiments, the Genevese philosopher, as CUVIER has already remarked, went greater lengths than merely depriving these animals of their sight and hearing. The other proof, which he derives from the extraordinary size of the nerves of the ear and the snout, is also of no weight. For not only these, but all the nerves of the bat are of an extraordinary size. CUVIER afterwards gave another explanation of all the phenomena observed in bats. (See his Lectures on Comparat. Anatomy, T. ii. p. 625.) To him it appeared that all these phenomena may be explained by referring them to the sense of feeling. "In point of fact," says he, "the bones of the middle of the hand and the joints of the fingers, which proceed from the thumb, are very large. The skin which unites them presents an extraordinary surface to the air; the nerves distributed to these parts are numerous and much divided; they form a wonderful species of network for its fineness and the number of its anastomoses. It is probable that in the operation of flying, the air struck by the wing, or by this so sensible skin, impresses upon this organ a sensation of heat, cold, motility, resistance, which indicate to the animals the obstacles and the facilities which are found in their way. But against this explanation, we find, in the author's papers, the well-founded objection, that the bats suddenly acquire the facility of employing another sense instead of the eyes, as soon as they are blinded, while, on the other hand, they could acquire the art of substituting feeling for vision only by slow degrees, by frequent practice, and in the same manner as we, when in the dark, learn to supply the want of sight by groping around us."—*Note by* Dr TREVIRANUS *the elder*.

See the opinion of Sir Charles Bell upon this subject, referred to in *Isis Revelata*, v. ii. p. 8.—(*Transl.*)

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to be expected, however, that naturalists will be satisfied with experiments, upon this one species of animals. It is to be hoped that they will soon be induced to extend them to other animals, and enrich the annals of physics with new, and perhaps, still more remarkable observations. For can it be supposed that the bat alone is endowed by nature with this faculty, and that it may not also be extended to many other animals? May we not suspect that something similar may take place in man, the noblest work of creation. May not similar powers lie dormant in him, which are only developed, and called into action in similar circumstances. In his case, indeed, we cannot make such experiments; scarcely could an Asiatic despot venture to do so, even on the person of a criminal. But nature, unfortunately, sometimes presents us with similar cases, and, by afflicting some individuals of our species with complete and incurable blindness, affords us sufficient opportunities of making explanatory observations upon this subject. It is unfortunate that so little use is made of these phenomena, that they are always regarded through the spectacles of hypothesis, abstracted from known experience. If viewed without prejudice, these experiments might, unquestionably, be to psychology that which the phenomena presented by the blind-born, after their sight has been artificially restored, have been to that science and to physiology. But upon this subject, which might lead me too far at present, I shall make some observations in my next lecture. Should it appear from these observations, that, under certain circumstances, a man may continue to receive visual impressions which cannot be acquired from any other of the senses, after he has completely lost the use of his eyes, these experiments would not only give decisive support to my proposition, but would also contribute new light, new truth, and new force, to our other proofs.

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LECTURE V.

We have now nearly passed the apparently insurmountable eminence, which seemed to have arrested our progress. Let us proceed a little way onwards, and, it is hoped, we shall see it entirely behind us, and a free passage opened up for us, which may facilitate our farther advance. Whether, by pursuing this path, we shall attain the object we have in view; whether the demands of our reason will be here satisfied; whether we shall find an accordance between these phenomena and the known laws of nature—between the facts I have laid before you and our knowledge of man;—all this will immediately be seen. But even if these wonderful operations of the somnambulist should not become in the least more comprehensible to us; if here, too, as in many other inquiries, we should soon reach the natural limits of all our investigations—that boundless ocean of the supersensible—yet will it be a sufficient reward for all our toils to have advanced so far. For we should then be convinced that we have not yet attained the goal; we should then, too, have here found the limits of our knowledge; our curiosity and conceit would be somewhat humiliated, and we should learn to exercise a little modesty in deciding upon other extraordinary phenomena. But perhaps I may be fortunate enough to conduct you, by another than the usual route, to the shore of that immeasurable ocean; perhaps we may from thence attain a somewhat clearer prospect towards that land of futurity, the land of faith and of hope; perhaps the clouds by which it is enveloped may disperse a little here and there, and some partial

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rays peep forth amidst the obscurity. In that case, I trust, we shall have no reason to repent that we have been induced to traverse the previous, although by no means flowery path; and perhaps you will thank me more than if I had analyzed, in the usual manner, the problem which our psychologists have hitherto vainly attempted to solve.

I concluded my last lecture with a promise to point out to you, in the human species also, similar phenomena to those which SPALLANZANI, and other natural philosophers, discovered in the bat; and this promise I now hasten to fulfil.

Several individuals, who lost their eye-sight by accident or disease, have, as is well known, presented us with interesting observations on the improvement of our other organs of sense, especially of the touch, which, in such unfortunate persons, became so wonderfully delicate, as, in many respects, to supply the place of the lost eyes. We have all heard of the instance of the famous organist of Ammerfort, who not only played upon his organ with great skill, recognised the impression and the value of all sorts of coins merely by feeling them with his fingers, but could even distinguish colours by the same means. In various other individuals this same faculty has been developed in a still higher degree, enabling them to distinguish genuine from false antiques and imitations; to recognise not only the primary, but also mixed colours, and, by means of their fingers, to read print. From these indisputable facts, philosophers proceeded to many other remarkable operations of blind-born individuals, and explained them upon the same principle. Increased delicacy of the touch, of the smell, and of hearing, must be the common and the sole cause of all.

The expressions, the motions, and the actions of many blind persons manifestly prove that they have the same perceptions which other men obtain by means of their eyes. How do they acquire these perceptions? Are they supplied by the other senses? Are these other senses—in consequence of increased delicacy acquired by

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practice and continued mental attention—capable of producing those perceptions which they appear to possess? A more close and impartial investigation of those facts, and a right appreciation of them, founded upon an adequate knowledge of what sort of perceptions we are capable of acquiring through our other organs of sensation, when deprived of sight, may enable us to arrive at a just conclusion in this matter. Here, again, well-authenticated facts are the principal requisites; and of such I am able to bring several under your notice. But before I proceed, allow me to premise a few general remarks.

In the first place, when I maintain that many blind persons continue to receive visual impressions which cannot be presented to them by their other senses, the appreciation of the source of these impressions must depend more upon their nature and quality than upon the manner in which they are represented by the individual. It is natural, in this case, that they should combine a different feeling with them, than when they are acquired through the medium of the eye. In the latter case, they are conscious of the organ through which they receive them—that by this means they become masters of them—that they are capable of changing their sphere of vision through the influence of the muscles of the eye—that they may annihilate this sphere, or render it permanent—may enlarge or contract it. The really blind person cannot do this. To him, these perceptions, if he actually receives them, must appear like dreams, of which he knows not whence they come. But this cannot prevent us from designating these perceptions and notions of things external to him as visual perceptions. In order to be entitled so to call them, it is only necessary that we be convinced that the expressions and actions of these persons are founded upon sensations, which otherwise they could receive only by means of the eye. To this point, therefore, it is only necessary that my demonstration should extend.

In the second place, should this new view turn out to be correct, we shall not be led into error, if these indivi-

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duals themselves believe that they receive this perception by means of another sense, especially that of the touch. Touch was the first thing which came to their assistance when they lost their eyes; which so often guided them when deprived of that organ; upon which their attention was principally fixed; the impressions of which they remarked more acutely; and to which, at first, they could reduce all sensations which they did not acquire through the other senses. Accordingly, they continued to exercise chiefly this sense, remarked that it gradually became stronger and more delicate, and, on many occasions, supplied the place of the eye. The opinion of other persons strengthened them in this notion, for they also viewed the matter in the same light, and admired the wonderful exaltation of this and the other senses. No serious investigation was instituted into the fact—whether the phenomena observed in these blind persons could all be deduced from this known cause. It was enough that, in many cases, no other efficient cause was perceived; and, from the remarkable perfection to which our sense of touch may attain, philosophers believed themselves compelled to refer everything to it. No one thought of any other channels, which were not clearly perceived; which we have the less reason to be surprised at, when we consider that, in our ordinary visual perceptions, we forget the influence which our feeling has in their formation, and that it is natural for us to set unknown causes aside, so long as we can employ such as are known. These reasons seem sufficient to account for the blind being themselves deceived in regard to the origin of their perceptions.

In the third place, must it not strike us as something very remarkable, that, in the case of these unfortunate persons, this unknown source of new perceptions is only developed by degrees, only gradually comes to their assistance, and, in this respect, does not manifest itself in such perfection as in the somnambulist, and the experiments of SPALLANZANI? In the somnambulist there is manifested a change in the mainsprings of our machine —in certain respects, an alteration of the unknown *inter-*

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medium between soul and body—of the organ of the soul. In the individuals of whom we have been speaking—the blind—there is merely the change occasioned by the privation of one of the grosser corporeal organs. In the former case, therefore, other phenomena may be presented, which are manifested with more rapidity, and immediately become conspicuous in a remarkable degree. We must not forget that we have here to do with a supersensible being, with whose nature and modes of action we are so little acquainted, and, least of all, when his whole condition is changed. It is only by experience, therefore, that we can acquire a nearer insight into the laws applicable to such a case. As little are we entitled to conclude from the rapidity with which this new faculty is developed in bats, and the high degree of perfection it exhibits immediately on its commencement—the very contrary of which we find in individuals who have lost their sight—to the non-existence of it in the latter. We know that nature always goes to work with the inferior animals, compared with man, in a similar manner. The instinct of animals, as soon as they are capable of manifesting it, is perfect, their mechanical skill is exercised from the first with the greatest facility; while man advances only step by step, and is only in his apprenticeship, while they are executing master-pieces. May not something similar take place here? At least, we should be hasty, were we to conclude from the inequality of this power in these two different beings, that it was entirely deficient in one of them.

In the fourth place, the great inequality which exists in different blind persons, in relation to their alleged new source of perceptions, can also afford no proof of its non-existence. This very slow progress towards development in man, this natural and artificially acquired difference of his nervous system and mental organ, and this unequal cultivation of his mental faculties, compared with that which we find in animals, must also—if this new faculty is otherwise real—develope itself variously, according to the variety of mind and body.

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But, in the fifth place, should it appear, at last, that the examples to be presently adduced afford us no good grounds for deciding in favour of the existence of this new source of visual perceptions, and should it appear to you that the co-operation of the other four senses is sufficient to produce it; still the chain of my previous inquiries would not thereby be broken; this limb, which was only intended to strengthen the rest, might, without disadvantage, be removed. The following narratives would still continue to be certain proofs of the great perfectibility of our mind, which, even when the principal sources of its ideas are closed up, is enabled, from quite different materials, to acquire that which, it appeared, could only be given by the former. And, even if considered in this point of view alone, I flatter myself that you will not be indisposed to listen to them.

Let us, then, proceed to the facts themselves, which appear to me to prove that the expressions and actions of many blind persons manifest the existence of such perceptions as, in a sound state, we commonly receive through the medium of the eyes. It is unfortunate that the greater number of the facts which have been published in relation to the exaltation of the faculty of sensible perception in man have been principally selected for the purpose of confirming the hypothesis of the great improvement of the other senses, after the loss of the eyes. These facts, therefore, cannot be considered as pure. There are still, however, many remarkable examples which tend to corroborate my opinion. I shall lay before you these facts quite naked, divested of all the reasonings of the narrators, and of the ideas of the patients themselves, relative to the manner in which they acquired such perceptions.

JOHN GENELLI, a blind man of Combassi, learned statuary in his twentieth year, after he had lost his sight; and, although blind, the figures he cut in profile were both beautiful, and resembled the originals. He is also said to have occasionally employed himself in crayon-

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painting.*—WEZEL, in the second volume of his *Essay on the Knowledge of Man*, mentions another blind man, who not only played skilfully at cards, but was also a good chess-player.

In DIDEROT's excellent letter *sur les aveugles, a l'usage de ceux qui voyent*, some notice is taken of a man born blind, who was living at the time the author wrote (1749). He was a chemist and a musician. He judged correctly as to beauty and symmetry—knew very well when another object came in his way—and made no mistake, in passing a street, whether it was a *cul-de-sac* or an ordinary thoroughfare. He wrought at the turning-lathe, and with the needle; took machinery to pieces, and re-constructed it, &c.

You must all have heard of the famous SAUNDERSON, the great, although blind mathematician. When only in the twelfth month of his life, he lost his sight by the small-pox. He had, therefore, no more idea of light than a person born blind, and he did not recollect to have ever seen. Yet he made very rapid progress in the acquisition of languages and sciences, and, in his thirtieth year, had attained such eminence in the mathematics, that, upon Newton's recommendation, he was appointed to succeed WHISTON in the mathematical chair, and became an excellent teacher. He wrote a work upon algebra, which was much esteemed by the learned; and what was the most remarkable, the blind man gave instruction regarding the laws of light, and taught optics. In regard to this most ingenious man, much has been commemorated respecting the aids of which he availed himself in his calculations, and in the acquisition of his mathematical knowledge; but little regarding the mode in which he was affected by external objects, the perceptions he acquired from them, and the activity of his imagination. I can communicate only the following facts respecting this extraordinary man. Every change in the state of the atmosphere, when calculated to excite visual perceptions, affected him; and he became aware, espe-

* *Acta eruditorum*, 1709. P. 71.

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cially in calm weather, when objects approached him. One day, in a large garden, while he was assisting some astronomers in making their observations, he always knew when clouds passed over the sun. He went out with his pupils, at night, into the open air, and pointed out to them the situation of each star. He married his wife from love of her bright eyes. The perception he had of these could have been derived only from the touch, and this could hardly have been sufficient to inspire him with love.*

In the fifth volume of FEST's *Consolation for Sufferers*, I find some remarkable observations relative to a blind lady, still living, which were communicated by another blind person, M. BACZKO, in Koningsburgh. At the age of eighteen months, this lady was so totally deprived of her sight, that the humours flowed out of her eyes; and the transparent *cornea* was entirely destroyed. Notwithstanding of this, she experienced a constant internal influence of her perceptive faculty on the eyes; she is always anxious to obtain information regarding external objects through them; and as often as anything occurs with which she wishes to be made acquainted, the eyes perform the motions as if she wished to direct them to the particular quarter, and she has a lively feeling that she should perceive the objects with them, if the external sense were not destroyed. This person walks not only about her own house, but wherever she has occasionally been, with as much freedom as if she had the most complete use of her eyes. She never injured herself on anything that lay in her way; one might believe that she had a presentiment of everything. She sews, knits, spins, and performs the greater part of the domestic business, so that, as the narrator adds, people are frequently deceived, and led to believe that she actually sees. She observes, at once, whether a room is large or small, high or low. As a person with vision at a single glance, she can judge of the whole form of the countenance at the first touch.

* *Nova Litter.* 1719. P. 38.—1720. P. 257.

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M. BACZKO, who has himself been blind for eighteen years, takes this opportunity to relate of himself, that he also possesses many of the faculties above-mentioned; that he, too, by the mere touch, acquires an idea of the forms of bodies, and, with no less facility, can distinguish the heighth, length, and breadth of a room. Moreover, he adds the interesting observation, that, in his frequent dreams, during his eighteen years' blindness, he has not six times dreamt that he was blind, but that, in this state, he sees and acts as if he had the complete use of his eyes.

In the thirtieth volume of the *Transactions of the Swedish Academy*, there is related the history of a countryman, then still living, who, although blind from his infancy, learnt to perform all those pieces of business in common life, which are performed by other persons who have the use of their sight. He lost his eyes from small-pox in his third year, and even the natural form of the eyes was destroyed. He retained only some small sense of light and darkness; but after his thirtieth year—he was at that time thirty-four—this impression also disappeared. Notwithstanding, he can travel very well, not only upon roads, but even through woods, without being led by any one; and he executes many pieces of work which, usually, require the use of the eyes. He cut down timber in the forest, constructed all sorts of machines, such as carts, carriages, sledges, &c., hooped barrels, made wheels, forged and hardened iron, made knives containing other small blades and saws in their handles; nay, he even built a house for himself; made the internal arrangements, planned and furnished the window sashes; cast buttons and buckles in forms constructed of fine sand of his own collecting; soldered metals; made shoes; sewed; threaded his needle; dressed skins; constructed bellows for his own smithy, as well as for others. All the work he executed without the use of his eyes was, if not perfect, yet wonderfully well-fashioned.

The first volume of the *Transactions of the Philosophical Society of Manchester* contains the history of two blind persons. The one is a Dr MOYES, a teacher

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of chemistry. Like SAUNDERSON, he lost his eyes from small-pox in his early childhood, and did not remember to have ever seen with them. At an early period of life, he made great progress in various sciences, and acquired a thorough knowledge of geometry, mechanics, optics, algebra, and astronomy. In his boyhood, mechanical contrivances were his favourite amusement. The turning and carving work he learnt so easily, and attained such skill in them, that he constructed for himself a small windmill, and even a weaver's loom. His eyes, indeed, were not insensible to a strong light; and the rays of the sun, when refracted by a prism, made a particular impression upon him. Red light, perhaps cloth or the like, produced in him a disagreeable sensation, which he compared to feeling a saw; green made an agreeable impression upon him, which he compared to the soft touch of a smooth, even surface. In other respects, all was dark around him, and he could distinguish no object.

The other blind man, who was also known in the neighbourhood of Manchester, was JOHN METCALF. Like the previous individuals, he also had lost his sight in early childhood, and had not the smallest idea of light and its effects. In his youth, he plied the business of a carrier, and was occasionally employed as a guide on unfrequented roads, or when the ground was covered with snow. He is now in a situation which we should conceive to be the least of all fitted for a blind person. He is surveyor of roads in a pathless, hilly country. BEW, who communicates this account, has often seen him, with his long staff, perambulating the roads, climbing steep hills, wandering through the valleys, and investigating their extent, form, and situation, in the way of his business. In his department he possesses so much skill, that he always finds sufficient employment. The most of the roads over the Peak in Derbyshire were altered and improved according to his plans; and very lately, as BEW says, he undertook the formation of a road between Wilmslow and Congleton, to communicate with the great London highway, and to avoid the hill. From what he

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communicated to his friend upon the subject of this new project, we perceive his exact knowledge of the various heights and hollows of the whole district through which the proposed road was to be conducted. He knows all the obstacles he meets in his way—morasses, rocks, hills, and such as arise from the operations of the workmen employed under him, and finds means of avoiding them.

In the *Gentleman's Magazine* for 1757, there is an account of a patient who was cured of small-pox by Sir HANS SLOANE, and who, at the termination of the complaint, was seized with violent convulsive fits. After the use of the cold bath, which had been resorted to after the failure of several other remedies, she lost first her sight, then her hearing and speech, and, besides, the power of deglutition. This last privation continued for three quarters of a year. During this period, her touch became so delicate, that, by means of her fingers, she could distinguish not only the principal colours of various stuffs, but even the mixed colours, and their finer shades. In other respects, too, she supplied, in this manner, the want of her eyes. But many of her actions and expressions showed that she must have acquired sensations and perceptions in some other way. Upon one occasion, her friends wished to conduct her into a room where they gave her to understand that she would find acquaintances only. When the door was opened, she drew back with displeasure, because, as she said, there were strangers in it, and her friends had deceived her. She occupied herself much with sewing, and her work was remarkably neat and regular. Among many things of this kind which were preserved in her family, there is a pincushion which is scarcely to be equalled. Sometimes, too, she wrote, and her writing was still more extraordinary than her sewing; perfectly regular and correct; the penmanship very beautiful; all the lines straight, and the letters at an equal distance from each other. The most astonishing thing during her writing was, that she always discovered when she had left out a letter, and placed it above the

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word to which it belonged, with the proper mark. She used to rise from her bed at all hours, and to sew or write, when her pains would not allow her to sleep. As all these operations in a blind and deaf person appeared so very extraordinary, it was imagined that she must still possess some feeble remnants of sight and hearing; but all experiments proved the contrary. One evening, a clergyman found her working at a table, on which there stood a light. He held his hat between her eyes and the light, so as to render the latter of not the smallest use to her. She continued her work undisturbed, until, accidentally raising her hand to rub her forehead, it came in contact with the hat, upon which she fell into violent convulsions. Thunder and lightning had no effect upon her, although she had formerly been very much frightened during stormy weather. Upon one occasion, she was sitting with her face to the window, during a violent storm of thunder and lightning, but she continued, undisturbed, at her work. Even her physician, Sir HANS SLOANE, who was for some time very sceptical in regard to the correctness of these facts, became, at length, completely convinced of their reality. In Bath her convulsive fits diminished, but she continued deaf, dumb, and blind.

Another celebrated, and in several respects very remarkable blind person, is Mademoiselle PARADIES, the great musician, with whose history I have the more pleasure in making you acquainted, because a very circumstantial account of her blindness and her talents, which has recently appeared in WAGNER'S *Beiträge zur philosophischen Anthropologie*, affords me abundant materials for the task. But here, too, I shall communicate to you only a few of the more remarkable passages of this history, namely those which belong to my subject, and more or less presuppose the existence of visual perceptions.

This lady, when only in the second or third year of her life, was seized with amaurosis, which entirely deprived her of sight. She never recovered, and became so

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blind, that she could neither perceive the lightning in a stormy night, nor the light of the sun at noon. When she approached a burning candle, her friends were obliged to give her warning, or to remove the light, otherwise she would have passed her hand through it or burned herself, which frequently happened. I shall say nothing of the great progress which this lady made in music, any more than I have thought proper to speak of SAUNDERSON's mathematical education. This much only I must mention, that, as the latter taught his science, so she gives instructions in her art to some young ladies, amongst others, to a very ignorant girl of sixteen years of age. This last-mentioned person she taught to sew, to play at cards, and, with incredible pains, succeeded in bringing her so far forward in music, as to perform several sonatas and a concerto. Mademoiselle PARADIES sews well, and, in her earlier years, made lace. She plays all games of cards, and is very fond of the game of skittles. Dancing is one of her favourite amusements, and she takes a part in all German and foreign dances. She is passionately fond of the theatre. In her youth, she frequently performed important characters in private companies. She is also sensible of the approach of other bodies, and judges correctly of their distance and magnitude. She clearly perceives when any larger body stands in her way. She goes about the whole house like a person possessed of sight. When chairs or tables are displaced, and stand in her way, it sometimes happens that she comes against them; but this never occurs in the case of a person. When she enters a strange room, in which she had never previously been, she perceives whether it is large, moderate, or small. When near the centre of the room, she can determine whether it is long, broad, or round. When taken to the street, she easily perceives when she passes a cross street; and this even when the air is perfectly calm. When led past a house or garden in the open air, nothing escapes her attention; she inquires to whom this house or this garden belongs. The most remarkable thing is, that she can distinguish

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whether a garden is surrounded by boards, walls, or stakes. Of her perception of near objects, she convinced one of her sceptical friends in a remarkable manner. He led her along a narrow path through an alley of trees, and, with a stick given her by this friend, she struck every tree in passing, drawing back her hand each time, and she did not miss a single tree out of twenty.

Her ideas of beauty are derived from the perception of proportion in examining statues. She has much æsthetic pleasure in feeling them. This pleasure is in proportion to the beauty and correctness of the work. In the Müllerian cabinet and collection of antiques, therefore, she experiences great delight; and the observations she makes upon the objects are quite wonderful. Laughing, angry, weeping, calm and quiet countenances she recognises in a moment. She possesses such a clear and lively idea of certain passions and caricatures, that she sometimes excites, in her imagination, images which make her laugh. In her melancholy hours, too, images sometimes present themselves to her, which excite terror. A short time ago, as she was driving with two female friends in an open carriage, on a summer evening, a little stout mannikin appeared to her to keep running alongside the carriage, looking in and showing his teeth, at which she was horrified, and had some trouble to get rid of the phantom.

She herself selects all the stuffs and colours for her clothes, and never could she be persuaded to choose a dress of green and yellow, black and green, or green and blue. Her head-dress, also, is of her own choosing; and she has her own little vanities in regard to her dress, as well as any other lady. Her relations and friends, who are accustomed to her ways, often forget that they are conversing with a blind person, and it happens not unfrequently that they consult this lady upon objects of sight—for example, in purchasing cloth, ribbons, and flowers. They show her every thing, and are not satisfied if anything displeases her. Although her eye can give her no perception of the objects around her, yet she exhibits a pre-

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ference for one situation over another. The *Augarten* pleases her more than the *Prater*. She prefers *Dornbach* to the *Augarten*. There she finds purer air, waterfalls, green fields, and hills. She likes those situations best where nature presents most variety of scenery, and where the activity of the senses and the imagination is equally excited.

But enough of this blind individual, who is so respectable on account of her talents, her accomplishments, and her worth; and enough of such instances, of which I might still adduce several of importance to our argument. In the meantime, I conceive that the facts I have mentioned are sufficient for my purpose. It remains to be considered how we are to account for these very curious phenomena. Does the soul receive the materials for such perceptions through the medium of the other senses, or must we resort to some other, perhaps higher principle? We cannot be guided by the causes assigned by these persons themselves, which may be fallacious. Nor can we reason from our own feelings, because these may be different in different individuals. We must, therefore, abide by that which we know of the nature of our hearing, seeing, and smelling, and of the particular perceptions we can acquire through these senses, when we compare them with the facts adduced. But of this in my next lecture.

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LECTURE VI.

In the actions of the various blind persons noticed in the preceding lecture, you will have again found several of the phenomena which I laid at the foundation of my inquiry into somnambulism; but, at the same time, you will have observed a very essential difference in these actions, which the more deserves our attention, as, in one of these classes of individuals, it appears to conduct us to a very different source of the perceptions requisite for the performance of these operations, than in the others. The faculty of performing operations for which the use of the eyes is indispensable, is slowly developed in the blind. They seem only capable of acquiring it by long-continued exercise. They appear to attain to it only by the example of other individuals—by a communication of ideas with them; while, on the other hand, in the somnambulist, this faculty presents itself immediately, as an already developed natural talent; he exercises it, at once, in its whole extent, as animals do their instinct; and they require no aid to bring it to perfection.

This must naturally lead to the question, whether repeated exercise, continued exertion of the mind, may indeed produce that which, in the preceding lecture, we admired in those blind persons, the more so, as the touch and the hearing in many of them so evidently manifested an exaltation and refinement of these senses, by means of continued exercise and attention; and many of their actions evidently originate from such an exaltation. This question, therefore, has been answered in the affirmative by all physical philosophers. I conceive that I have rea-

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son to doubt the correctness of this answer; in the facts adduced, there appeared to me to be something very different from the mere effects of the exaltation of any of the known sensitive organs of our usual perceptive faculty; and I endeavoured to convince you of this by grouping these facts together, and giving you an accurate but naked representation of them. I believe I may flatter myself, that the impression made upon you by the aggregate of these various remarkable phenomena will not be unfavourable to the proposition I am maintaining; but I willingly confess, that, in order to produce complete conviction, something more is still necessary. It is only an exact analysis of these facts, and a comparison with those perceptions which we acquire by our other senses when the eye is abstracted, and with those which the sight alone can procure for us, that we shall be enabled to arrive at a correct decision in this case.

Let us take a somewhat closer view of the phenomena with which those blind persons presented us. Almost all of those persons had a feeling of the presence or absence of corporeal objects in their neighbourhood. They knew if anything lay in their way; recognised the form, heighth, length, and breadth of a room, even when they entered it for the first time; they knew, when they were in the open air, whether they were passing streets, houses, or anything else. The blind-born person mentioned by DIDEROT knew, when passing a street, whether it was a *cul-de-sac* or a thoroughfare. Nothing escaped the attention of Mademoiselle PARADIES, when she, in the open country, passed houses, gardens, &c. and she knew whether these gardens were surrounded by boards, walls, or stakes. According to the opinion of the psychologists, this feeling is produced by the pressure of the air upon the organ of feeling diffused over the whole body. For instance, when a blind man passes a street, the surrounding air produces a different impression upon his body, than when he passes a row of houses. When he goes into a room of small dimensions, the air displaced by his body produces a strong resistance in yielding, in con-

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sequence of the confined space. We cannot be surprised that the blind person should become aware of this: then the feeling of his fingers may acquire such delicacy as to enable him to distinguish the finer *nuances* of the smoother or rougher, or otherwise differently formed surfaces of bodies, known to be occasioned by the colours—and this we learn from undoubted experience; so may the nerves of the skin also acquire an increased sensibility, in order to feel the increased or diminished pressure of the surrounding air. That this increased sensibility of the nerves of the skin is susceptible only of such an influence of the air, as may be occasioned by the reflection from such gross corporeal bodies, and the greater or less draught of air, and not also, in the same degree, of other changes in the same element—for instance, the different states of the barometer, cold and heat, increased or diminished electricity, stormy or calm weather; all this may arise from the intenseness with which the attention of the blind person is fixed upon the particular kind of impressions. He has more need of such a specific distinction; his attention is more frequently directed to this; and this influence can be readily distinguished from that produced upon his organs of feeling by other changes of the atmosphere.

But admitting that we were to rest satisfied with such an explanation in respect to many of the phenomena, especially were we to assume a nervous atmosphere in every individual—which he, indeed, possesses, as I have learnt from several experiments and observations—which surrounds his body to a certain extent; still this would not explain the mystery presented to us by several other phenomena. I can easily comprehend how, in this way, the length of a room might be felt; but how we can become aware of the breadth, the form, and especially the heighth, I cannot conceive. The front of the body displaces the air, the sides do not, and the air is not set in motion. Thus, too, I can easily conceive how these persons know when they pass a street. But how Mademoiselle PARADIES can always distinguish whether she

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passes a house or a garden, and whether the latter is inclosed by a wall, by boards, or by rails—how she can discover this in every state of the atmosphere—I cannot comprehend upon the foregoing hypothesis. If this knowledge depended upon the different effect of the air upon the organ of feeling, this feeling ought to be stronger in stormy weather; and when the wind is in another direction, a different effect ought to be produced upon the body. But, according to the representations of this blind lady, nothing of this kind occurs. But permit me to pass on to more important facts.

I observed in the last lecture, that Professor SAUNDERSON frequently went out with his pupils in the evenings, to communicate to them a knowledge of the starry heavens; that the blind lady mentioned by M. BACZKO, as well as Mademoiselle PARADIES, went about their respective houses like persons possessed of sight, and did the same in strange houses, after having been once or twice in them; that the latter conducted herself in a manner so easy and unconstrained, that her friends were frequently deceived, and conversed with her as with a person who saw; that the former took charge of all the domestic business. I made you acquainted with the history of the Swedish peasant, who, although blind, went alone to the forest, cut down timber, &c. And, finally, I told you the story of the blind-born METCALF, who was first a carrier; then a guide; who, in the darkness of night, and when the ground was deeply covered with snow, acted as a guide to persons who possessed their sight; who afterwards became surveyor of the roads in a pathless hilly district, and traversed the country alone with the assistance of his long staff, investigated the situation and form of the ground, planned several new roads over mountainous tracts, was considered the most intelligent man in his profession, and was much employed in it. Truly these are operations enough, quite similar to those, if not surpassing them, which astonished us in the somnambulists, and only differing from them in this, that the latter were more bold, more extraordinary, more danger-

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ous, and evinced less of any determinate object. I will not repeat what I formerly said of the hypothesis which ascribes these actions of the somnambulists to an exalted sensibility of the organ of feeling. The observations I formerly made are still completely applicable here ; for, if it is once admitted that this sense cannot in any way supply the place of the eyes, while proceeding in a straight direction upon unknown paths, no exercise can ever enable it to do so. Let us only dwell a little on the operations of the blind surveyor of roads. When any one, like him, traverses pathless mountains, climbs steep hills, and proceeds through deep valleys, he must have before him the respective situations of the different objects, the way he proposes to go, and that which he has already passed, and continually compare them with those notions which exist in his imagination. And in all this, his sense of touch, however constantly exercised, could not be of the slightest use to him. For here he requires, at every step, a consciousness of the particular spot upon which he happens to stand, and the direction of the way by which he is to proceed farther. Without eyes, or something that can supply their place in a more perfect manner than the other senses, he would be like a mariner on an extensive open sea without a compass. Give the latter all the other means for prosecuting his voyage—let him use his sounding line as assiduously as possible—let him observe the distance he has traversed, the nature and depth of the bottom, &c., all this will not enable him to discover his latitude, or assist him in his farther progress. For this he requires the constant use of the compass, just as the blind man, in order to keep the right direction, on such paths, would require the use of his eyes. Farther, this blind traveller, in order to proceed with safety, must possess a knowledge of all the obstacles which lie in his way, by which he may avoid or surmount them. These must be present to his mind, as well as to his body ; the picture of the landscape, with all its minute parts, must be constantly before his soul, and always continue in harmony with that which lies before his imagination ; both

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must change in the same way; and here, how could his touch or any other sense assist him? Consider also his business as a guide over the snow in a dark night, when the road becomes quite different from what it was, and, therefore, he could derive no assistance from his previous knowledge of the localities acquired through the touch, and when it is not easy to comprehend how he, without the use of his eyes, or something that might supply their place, could find his own way, far less act as a guide for others. For this last purpose, we should not be disposed to select a man who was himself obliged to grope in the dark, and has to seek his way by feeling. Lastly, throw a glance into the soul of this man who was about to construct a road through a wild, pathless district, taking the best possible direction, avoiding every thing that could make a road inconvenient, difficult, or expensive, and choosing the shortest and most suitable line:—What a detailed plan of the country must he not have had in his contemplation! how correct and definite must it not have existed in his mind, in order to enable him, amidst such various difficulties, to effectuate his object!

But have the goodness to accompany me to the other operations of these blind persons, and, first of all, to their manual labours. All the three ladies, whom I noticed, sewed, knitted, and performed other female work. Nay, one of them even wrote correctly—the lines all straight—the letters at equal distances from each other; and this at all times, in the dark as well as in day-light: Of the two blind chemists, mentioned by DIDEROT in his letter *sur les Aveugles*, and by Dr BEW, the first wrought at the turning-lathe, and employed himself with needle-work. The favourite employment of the other, in his earlier years, was mechanics;—he was expert at turning, and constructed for himself a small windmill and a weaving loom. The blind peasant, described in the thirty-fourth volume of the Stockholm Transactions, manufactured all kinds of articles — carts, carriages, sledges—melted and hardened iron—made knives, with forks and small saws in the handles—made shoes—sewed.

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and threaded his needle—built a house for himself;—to say nothing of several other operations mentioned in the previous lecture. Let us consider these operations a little more closely. I will not dwell upon the employments of the two chemists, as chemists, however much they might assist my argument. Those who are acquainted with the manipulations of this art are aware how much depends upon the nicest exactness, and how much, in the different experiments, from the easiest and most simple to the most difficult and most complicated, the colours of the substances employed, and the changes they undergo, must be taken into consideration, and how often such an artist, if deprived of sight, may not only run the risk of failure, but sometimes expose himself to dangerous consequences.

From these two individuals, I proceed immediately to the mechanical labours of those other persons I have mentioned. These blind persons, then, are supposed to be guided by *feeling*; for, in them, the other senses cannot be taken into account. Let us consider a little more narrowly what it is that we can perform with our hands, when engaged in the exercise of any art, any mechanical labour; and how far the mind alone can direct our hand, without the assistance of the eye. We shall probably find that, in this case, the object to be handled is either, in respect to us, immovable;—the space between it and our body, the relation, situation, and direction of the hand, in regard to the object, remain the same;—or it must be easily found again, if the whole business is not to stand still. Sight alone gives a certain steadiness to it, in all changes which the different substances undergo, during the operation, in the hands of the mechanic or the artist. By means of this sense, every displacement, every change of situation is immediately perceived; the whole relation of the object, in respect to our hand, and in respect to other bodies, is constantly present to the mind, with all its minute particulars; and the latter can, at every moment, direct the movements of the hand and fingers, according to the purpose we may have in view,

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and enable us to realise our particular objects. From the nature of the thing, no other sense can supply the place of that of vision, however much it may be exercised. Mental perceptions of objects present in space, which are constantly changing their position relative to each other and to us, cannot be uninterruptedly contemplated unless through the medium of the eye, or of something which supplies its place.

From what has been said you will be able to comprehend how a blind person may play very skilfully upon an instrument—the flute, for example, or the organ,—or may become a great musician, without requiring visual perceptions. For the instrument stands firm, or may be placed in a firm position. He knows, from practice, where every key of the harpsichord lies, where every hole of the flute is to be found, what space his hand has to traverse from the one to the other; and, by custom and long practice, the intervals of time, the exertion of force, and the direction of its application, become so familiar, that he frequently leaves the sight-enjoying man far behind him, as many blind virtuosi have more than sufficiently proved. But take only one of the arts or manual operations,—only one of the common handiworks, of which the blind Swedish peasant performed so many,—for example, the manufacture of a pocket-knife with a fork and small saw; think of the labour connected with the forging of iron—the constantly changing position and form of the red-hot iron, following no fixed and constant rule; how little capable are the other senses of directing the artist, and conducting his hand, during the gradual change which the iron undergoes. Pass on to the rest—the hammering, filing, polishing, &c.—and you will find operations all of which require activity of the organ of vision, in order to attain their object in any degree. Think of the manufacture of shoes, the sewing, threading the needle, &c.—then of all the other manual operations necessary to the construction of a mill, as performed by the blind Dr Moyes, and the building of a house by the Swedish peasant; think of the regular and elegant writ-

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ing of the blind lady described in UNZER's *Arzt*, and the careful revisal and correction of what she had written; and I believe you will be forced to confess with me, that, in these instances, the operations could not be ascribed to the touch, the hearing, or the smell, but that there must be some other guide, which, when deprived of vision, supplies the place of the eye.

Again, many sensations and expressions of the blind demonstrate an activity of the imagination, and its occupation with representations of external objects. But all of these belong to the sphere of those of which the materials are furnished by the eye. The ear cannot present us with these materials; for it can give us no idea of things placed beside each other in space. Neither can the touch. This last only suggests to us notions of resistance, and its various modifications,—of its presence or absence, of hardness and softness, of the length, breadth, and figure of a body. When representative perceptions enter the mind, they always perfectly resemble those we acquire through the medium of the eye, or of some adequate substitute for it.

After promising this remark, I might here appeal to the frequent dreams of M. BACZKO, who, although blind for eighteen years, always dreams that he sees. But I pass him bye, because it might be not unreasonably objected to me, that the principal elements of these fanciful representations might have already become familiar to him before he lost his sight. As little will I make any use of the preference which Mademoiselle PARADIES gives to one beautiful landscape over another, because this preference might be ascribed to the purer air, the singing of the birds, the murmuring of the water, &c. I am disposed to attach greater importance to those manifestations of æsthetic gratification which this lady, as well as the other blind persons described in FEST's *Beyträge*, exhibited when feeling beautiful statues. The mere gratification they experienced from the minute *nuances* of form, which the delicacy of their touch enabled them to distinguish, could not produce in them the sensations and

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notions which, according to their expressions, they must have thence acquired. That, at the first touch, the entire countenance of the one blind person assumes the same expression as that of a person who sees, at the first glance—this presupposes something more than can be communicated by the hearing and the touch. The fact, that Mademoiselle PARADIES recognises, at once frowning, weeping, laughing, calm and composed countenances, presupposes that she is capable of acquiring ideas of the particular expression which these different passions and states of the mind produce in the countenance. But her waking dreams are completely decisive in respect to the presence of those representative perceptions, and, in favour of my argument, throw an advantageous light upon the phenomena just mentioned. That she excites in her imagination certain caricatures—that these assume all varieties of countenance, *e. g.* fat cheeks with snub noses, hollow cheeks, countenances expressive of envy, avarice, pride, &c.—that, in her melancholy hours, she sometimes sees such countenances, nay, entire figures, as inspire her with terror:—all this demonstrates the existence of impressions for which visual perceptions only, or something equivalent to them, could furnish the materials. For such images must have, if not colours, at least light and shade, which render one part more prominent than another, and, by their various combinations and strength, give to such figures, and to all their parts, their appropriate form and perfection. Here, then, are perceptions which manifestly belong to the sphere of sight. How can such be acquired by a mind which has no idea of light and darkness, and of the difference between them? Not from previous visual perceptions preserved in the imagination. I conceive myself perfectly entitled to place dancing also—which was the favourite amusement of Mademoiselle PARADIES—among those actions which presuppose such perceptions. This art requires a constant local perception of the place where it is exercised, of the motions of the other parties engaged in the same exercise, and of their various positions. Our steps must

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be measured according to those of the other parties, and, for this purpose, the rule can be given only by the eye; our relative position must correspond with theirs, and our movements must be harmonious. These are all circumstances which presuppose, in the mind of Mademoiselle PARADIES, representative perceptions of what was going on around her. All this is still more applicable to her passion for the theatre, and to the characters which she herself undertook to represent upon the stage. If these be played in a truthful, natural, and appropriate manner, the player must necessarily have a representative perception of the whole position, direction, and expression of the other actors, and also of the theatre itself. I might say the same, and more, in regard to the game of chess. And this game was very well played by the blind person mentioned by WETZEL. The player must have his attention constantly fixed upon the whole field of battle, and the position of every piece; and the blind person, if he does not continually acquire such visual impressions in a way unknown to us, which correspond with the objects before him, must, at least, at the commencement, have had a perception of the whole chess-board; and always remember every move made by himself and his adversary, and all the changes thereby produced, and be able, every moment, to combine the whole, so as to discover the plans of his antagonist, to frustrate them, and to take advantage of his errors and unskilfulness. At every move he must have perceptions in regard to the distance of the pieces from each other, and the state of the chess-board. But what does all this imply, than, in other words—he must be able to see the chess-board.

Finally, in investigating these alleged visual perceptions of the blind, I must draw your attention to the conduct of Mademoiselle PARADIES in regard to many things relating to colours, and comparison of colours, and to the æsthetic pleasure or displeasure thence derived. She herself selects the colours as well as the materials for her dress, and her choice appears to coincide with that of every other person of taste. She herself would

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never wear unharmonious colours, or such as did not become her; and she had her own little vanities in regard to dress, as well as other ladies. Her choice is so tasteful, that even her friends appear to forget that she is blind, and take her advice in making their own purchases; nay, they are not satisfied when the article displeases her.

Here we have an opinion upon things which can be recognised by the mind only through the medium of the eye—ideas of what is suitable, especially in regard to colours; a comparison of several colours with each other, and with reference to the individual who is to wear them; and an agreement in opinion with the latter upon subjects of which other persons can only judge by means of the eye. To be successful in the selection of things which can only please as objects of sight—to choose that which is pleasing to the eyes of others by merely feeling with the fingers;—this would be bringing quite heterogeneous ideas into the minds of two persons, and then educing the same result in respect of æsthetical feeling. Therefore, there must be some other means of perception to supply the place of sight.

I conceive that the objection arising from the explanations hitherto given with regard to the origin of the perception of somnambulists, and against my hypothesis, is now sufficiently obviated. Not only has the possibility been shown that the mind may continue to acquire sensitive perceptions even without the use of the appropriate organs, but that this may daily happen, under certain circumstances, in men as well as in other animals, in reference to our most important and most artificially constructed sense. I may now be permitted to go farther, and proceed to answer the question: By what means can the mind of the sleep-walker acquire visual perceptions, if it does not obtain them through the medium of the eye?

The most natural solution which occurs to an unprejudiced person, is to assume the existence of a sixth sense, which is awakened in the blind, and supplies the place of the eyes. About fifteen years ago, the magnetisers of the school of PUYSEGUR fell upon an idea of this kind, which

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they regarded as the only means of explaining many extraordinary phenomena which they observed in their somnambulists. And this idea seemed to derive confirmation from the expressions of the somnambulists themselves. Nay, they pointed out the particular situation of this new sense, and placed it in the great abdominal nervous *plexus*; and to this opinion they were led by the assertions of several such persons, and by many striking facts. It is well known that this idea was received, at the time, with ridicule and contempt, by the greatest part of the philosophical and medical public, until SPALLANZANI'S curious experiments on bats taught them a different lesson. In the midst of such a mass of undeniable facts, something of a new sense must have been assumed, or the matter must have been left unexplained; and many philosophers, it is well known, unwillingly adopt the latter alternative. A new sense, therefore, was ascribed to these animals; and all naturalists, so far as I know, adopted this hypothesis, as the only means of explaining the new phenomena. But this new sense must remain the exclusive property of these animals. They could not bring themselves to ascribe any such thing to man. Only the French magnetisers, and their followers, entertained such a belief.

But if we direct our serious attention to this hypothesis, we shall find that it had its foundation only in the rage for explanation peculiar to our age—that a dark enigma is attempted to be solved by something else certainly not a whit clearer—by taking away an occult quality, and placing another as occult in its stead—by endeavouring to interpret nature, and leaving it in complete obscurity. In assuming a sense—if we do not give a new and unusual signification to the word—we must presuppose nerves that, in the way and manner in which they terminate, are modified and disposed so as to be susceptible of the influence of particular corporeal *stimuli*, to be able to communicate these impressions to the mind, and thus produce in it certain sensations of a peculiar nature. This is what we invariably find in the case of all senses

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—what appears to be essential to them—and to which we must resort when we speak of a sense, if we do not mean to play with words. Besides, every sense has its own peculiar mechanism, more simple or more complex, according as its appropriate *stimuli*, before they affect the nerves, must previously undergo certain modifications. Let us see now how far the assumption of a new sense will assist us in explaining the phenomena which occur in bats, in somnambulists, and in the blind.

Let us take a particular nerve as the representative of the eye—for we cannot ascribe this privilege to all the nerves of the skin, and recognise in man, as in several insects, a multiplicity of eyes ;—let us, for a moment, assume, with the magnetisers, that the great nervous *plexus* in the abdominal region is the proper seat of this new sense—for it is a matter of indifference, in the end, where we place it,—and we shall, without difficulty, see that we can expect absolutely nothing from it of all that is performed by the eye, with all its muscles and humours, the ear with all its constituent parts, and both with their respective nerves. The light cannot reach that nervous *plexus ;* it would be previously absorbed by the clothes : It cannot penetrate through the skin, the muscles, and the intervening parts. The rays of light cannot combine—cannot become an image ; nor can they be, in any way, to these nerves what they were to the optic nerve. As little can this nerve supply the place of the auditory nerve, as is supposed. For neither the rays of light, nor the undulations of the air—whose motions, for the most part, cease upon contact with the clothes—can produce any effect upon the nerves. And even if both—light as well as air—could penetrate thither in some incomprehensible manner, yet it is well known that these nerves are adapted to the influence of quite different *stimuli*, to the production of quite different sensations, and, moreover, to quite different functions, and are, therefore, from their nature, not susceptible of impressions from light and air ; and these nerves, even if capable of being so affected, could not awaken the perceptions which the

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optic and auditory nerves convey by means of the *stimuli* of light and air,

From what has been said, I trust you will have already perceived, that the assumption of such a new sense does not advance us a single step towards an explanation of the phenomena in question. *Here* there must exist something quite different from what we are accustomed to denominate sensible impression, an entirely different species of communication between the mind and the external world, from that which occurs in our ordinary perceptions. But to call this a new *sense* is an abuse of the word. In this way, therefore, we have no chance of success. But if we must have an explanation, I can recommend nothing better than a recourse to the high ideas of LEIBNITZ, and to contemplate our mind, and its relation to the external world, from the same or a similar point of view as that from which he regarded it. If we assume, for example, that our perceptions arise in the mind by virtue of their own proper laws, as if in a peculiar world; that these perceptions, conform to the internal principle, arise in the same series, and with the same consecutiveness as the external material objects; that matter does not influence our mind, but is all illusion; that only a continual harmony can subsist between the train of our perceptions and the succession of the objects around us; and, therefore, that all beings of our species represent the phenomena of the universe according to the same necessary sequence, because they all possess the same nature;—if we give in to this hypothesis, I think we may comprehend how the blind and the somnambulists may, without the use of the eyes, perform the same operations as the individuals who are possessed of sight. For in both the one and the other, the motions of their bodies are regulated according to the consecutive ideas of their minds. Now, if these have not their origin in the sensible world of the individual, the one may occur to us independently of the other—the principal organ of sense, which appeared to connect them together, may have been annihilated or become useless—the succession

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of our ideas still continues the same, because this separation is only apparent, and the chasm, which we think we have now observed for the first time, was already in existence. Whether this mode of explanation may be more satisfactory to you than those we previously examined, I know not. With regard to myself, I freely confess my ignorance in this matter, and desire not to comprehend things which belong to another, supersensible world, the nature of which transcends the limits of our present cognitive faculties.

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LECTURE VII.

In my last lecture, I candidly confessed, that the phenomena, of which we have been hitherto investigating the origin, are placed beyond the domain of our present knowledge and comprehension; and that we should find it difficult to arrive at such an explanation as would throw full light upon them, and bring them into harmony with our usual experience.

But to what purpose, then, have we entered into so circumstantial an analysis of these phenomena, if it is to lead us no farther,—if it only takes, and does not give? This, I think, is a question which no reasonable person will ask. On the contrary, it might appear somewhat meritorious to have impartially investigated the limits of our knowledge, to have unmasked false hypotheses, and here, also, to have separated truth from illusion. Moreover, this analysis of the natural somnambulism has no small value in reference to the right appreciation of the artificial, which is often produced by animal magnetism, and which, therefore, belongs to the subject of these lectures. And, after the rejection of previous hypotheses, assuredly nobody will expect that I should now advance a new one, which might easily share the fate of its predecessors, and be overthrown, in a similar manner, by some new fact, or some different view of the subject. I hope, however, to be able to make ample compensation for the chimera of which we have been deprived. It is to be hoped that truth may ultimately spring out of these anomalies. They conduct us to another, perhaps a more enlarged view of nature and of man; many a controverted or already rejected fact may be rescued; and our con-

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templation of the objects of the supersensible world, so far as it extends, may acquire more interest and reality. We shall thereby be drawn back from the external world to a world within ourselves, which is subject to other conditions, which is not bound down by the laws of material nature, which is uninfluenced by the powers of the latter, and whose immortality we may anticipate, although we be daily witnesses of the annihilation of our visible being. This, then, may be the subject of my present lecture, and the conclusion of our whole investigation ;— a conclusion, it is hoped, neither uninteresting in itself, nor unworthy of our attention.

If it be once demonstrated, and proved by the foregoing series of observations, that the human soul, in certain states, manifests itself quite differently from what we experience in the ordinary conditions of life—if, in these circumstances, it does not appear to require the aid of those auxiliaries which are considered necessary to the exercise of certain functions in the normal state of existence—we have good reason to distrust the certainty of our supposed knowledge of its nature. If we have once laid open a gap in this knowledge, especially in that part where it is apparently most secure, the same thing might happen also in other parts, and we should then have no reason to place much confidence in the system we had constructed in regard to man, the nature of his perceptive faculty, and the laws which regulate the exercise of his mental powers. This system, at the utmost, would only apply to that particular state from which we deduce it. If the individual passes into other states, in which his soul does not stand exactly in the same relation towards his body, it would be preposterous to apply the same laws to those states which we have deduced from relations altogether dissimilar. We must then consider that we have to do with a supersensible being, of which our knowledge is acquired only from experience, and that the same state, the same conditions, the same relative circumstances must exist, if we wish to found upon this experience. But when we stumble upon phenomena which ap-

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pear inconsistent with our ordinary knowledge of the actions and manifestations of this supersensible being, the first thing we have to consider is, whether the condition of the individual be not here quite different; and should we find that this is really the case, it would be unjust to impugn or reject these phenomena, upon the sole ground, that they are not reducible to the same laws we have deduced from other states. It is true, that the more they are irreconcileable with these laws, they ought to be the more sharply scrutinized; not, indeed, in regard to their *comprehensibility*, but to their *historical truth*—in respect to the number and competency of the witnesses who observe them, and the exactness and frequent repetition of the experiments and observations. If this method had been adopted in the investigation of those striking phenomena which, during nearly twenty years, have excited the attention of a portion of the public in Germany, France, and Switzerland,*—I allude to the artificial somnambulism,—many severe and unjust judgments would have been spared, innocence would not have been so bespattered with bitter ridicule and calumny, and deception and illusion would not have been alleged in circumstances where truth and reality may ultimately be found; nay, this truth might have been *sooner* brought to light, and the real separated from all exaggeration, the important and useful from the insignificant and hurtful, the certain and incontrovertible from the doubtful and disputed. Had a proper *status causæ* been early framed, instead of being neglected; had the main points been distinguished from their accessories, and the circumstances common to *all* combined into a *whole*; philosophers would have discovered, by an impartial investigation, an unusual condi-

* Since the time when Wienholt wrote, nearly forty years have elapsed, and the phenomena in question have been observed, in a great variety of instances, not in Germany, France, and Switzerland only, but also in Russia, Denmark, Sweden, Holland, and the Netherlands, Italy, and the Italian islands, England, America,—in short, in almost every part of the civilized world. Yet, strange to say, many pretended learned men will not acknowledge the truth—will not even investigate.—(*Transl.*)

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tion of the mental organ, and a state of the body very different from that of the natural, waking man. We should then have had a solid foundation for the future construction of an edifice. This would, at the same time, have led to a more rigorous inquiry into the causes of the phenomena,—many of those alleged might have been excluded, others rendered doubtful; and that which has been established by the laborious experiments of a GALVANI, a HUMBOLDT, &c. as the main-spring of the animal machine—and to a better knowledge of which we are conducted by their investigations—might have been long since acknowledged, although in consequence of a different process, as the only true cause. Had an adequate idea been formed of the actual condition of the individual—a conviction that, in this state, there existed a totally different relation between the soul, the body, and external nature, than that which subsists in the waking state; a different mode of operation would necessarily have been anticipated. If philosophers had given themselves the trouble to compare similar morbid states recorded by physicians, according to the rules of a sound logic, they would have there found the principal phenomena, and probably have ceased, at an earlier period, to reject them as absurd falsehoods, deceit, and illusion. The conduct actually pursued, in regard to this matter, is but too well known, and it were unnecessary for me to dwell upon it. I shall, at present, confine myself to some observations upon the artificial somnambulists; in so far as their case relates to our subject.

All those who have attentively and repeatedly observed these persons, or who have carefully perused the writings of the magnetisers, must have perceived a coincidence between the natural and the artificial somnambulism, so far as the recorded phenomena relate to the condition of the organ of vision and visual perceptions. In both cases, the eyes are firmly closed, and when an attempt is designedly made to open either of them, the muscles oppose resistance—considerable violence must be employed. The muscles of the eye-balls are in a spas-

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modic state: The *cornea* is turned upwards towards one of the angles of the eye, and remains immovable. A lighted candle held before the eye makes no impression upon it. At the same time, all is clear before the eyes of these persons, whether by day or by night. They have visual perceptions only of certain things, and even of these not at all times. Notwithstanding, they securely walk along known or unknown, straight or crooked, smooth or rugged paths, with as much ease and freedom as persons completely awake, avoiding all obstacles. They distinguish colours by means of their fingers, but without touching the objects; they read, write, sew, knit, recognise many things, and perform a variety of operations with their eyes shut, for which the use of this organ is required in the waking man.

All these facts, I trust, will not now be met by the only, or, at least, the principal argument formerly urged against them—the argument of incomprehensibility. Now that I have communicated more than one series of undoubted facts, all converging to one point—all tending to demonstrate the physical possibility, nay, the actual existence of these facts; such an objection must necessarily fall to the ground, and, with it, all the ridicule which abortive wit has so copiously thrown upon the subject of vision without the assistance of the eyes, and which must now be imputed to the utter ignorance of those from whom it proceeded. The historical credibility will then be a matter of little difficulty. At least, the experiments which have been made in Bremen—which, however, must be distinguished from mere popular rumour—are liable, so far as I am aware, to no objection. All the physicians of this place, I believe, who condescended to a serious investigation of the matter, became convinced of the reality and truth of the facts;* and their judgment has been corroborated by the testimony

* Bremen was the town of the author's residence. Among the individuals who assisted WIENHOLT in his magnetic experiments, was Dr OLBERS, the celebrated astronomer, and an intimate friend of the author.—(*Transl.*)

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of many eminent individuals in other parts of Europe. And thus we have again a new series of phenomena of the same import, which coincide with those previously observed; giving and receiving from each other mutual support and confirmation. But if this first and most important circumstance in regard to somnambulists be considered as established—if it can no longer be denied that the natural somnambulist, even without the use of his eyes, can acquire the same perceptions of external objects as are usually obtained through the medium of that organ; the difficulty we meet with in many of the phenomena presented by the artificial somnambulists will be greatly diminished. It will no longer be attempted to be denied, that the powers of the soul, in this state, undergo a very extraordinary exaltation—that the imagination, the wit, and the memory become clearer, more comprehensive, and more acute—that the actions and discourse of these individuals are very different from those we observe in their ordinary state. In respect, also, to the other so much controverted phenomena occurring in the magnetic somnambulists, of which, it would appear, no trace has been found in the natural crisis,* the incomprehensibility might gradually disappear, when the previous equally incomprehensible facts could no longer be disproved, and we had succeeded in reducing the others to their proper form and dimensions, in getting rid of all exaggeration, and, after repeated experiments, acquiring a more just and accurate notion of their nature. There are many other phenomena in human nature, in which the soul plays the principal part, and which have shared the same fate with the phenomena of somnambulism—they have been entirely rejected, or subjected to an unsatisfactory explanation, such as those I have been hitherto elucidating. When regarded from this point of view, these might now reasonably demand revision.† But the

* More extensive and accurate observation has shewn that all of these peculiar phenomena may be found in both states—many of them in other affections.—*(Transl.)*

† This is perfectly true. Animal magnetism has opened up a

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consideration of these subjects would carry me too far out of my way, and prevent me from drawing some not unimportant conclusions from the propositions I have already advanced—conclusions which, it appears to me, flow easily and without constraint, from the premises.

I should think that, after the observations reported from such various quarters, and which I have communicated to you in my previous lectures, I am now entitled to hold it as demonstrated, that our soul, if it has once acquired perceptions through the medium of the eye, may afterwards, in an incomprehensible manner, indeed, and without the use of this organ, receive similar impressions, and continue to remain in the same connection with the external world, in which it had previously stood by means of light and natural vision.

Many cultivated men, to whom an insight into their own internal economy is of some value, and who also occasionally cast a look forward into futurity, believe in the independence of the thinking principle within them upon the grosser body, and in the prolonged existence of the former, after the latter has here found its grave. Many others look upon it as the result of a wonderful combination of physical powers, which ceases as soon as these separate, and that the whole system thence arising again becomes resolved into its component parts. A great proportion of those individuals who think of such subjects, and to whom a higher faith does not impart repose and certainty, waver in their opinions. They know not to which side to lean, or, if they come to a decision, their belief is a merely momentary conviction, which is continually liable to be overthrown by other arguments. And indeed, when we consider the arguments by which both parties, independently of any superior light, suffer themselves to be swayed, our knowledge of nature might pre-

new and a very extensive field of psychological speculation, and afforded us the means of observing and endeavouring to explain many phenomena, which were formerly either considered altogether apocryphal, or attempted to be accounted for in a very unsatisfactory manner.—*(Transl.)*

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vent us from being surprised at this difference of opinion in regard to a matter of the highest importance, and at this hesitation of the more cultivated portion of our species.

According to the most ordinary daily experience, we perceive in ourselves and others the closest connection between the thinking and active principle within us, and the more gross corporeal covering: and the most exact harmony between the energy of the mind and the physical condition of our machine. The spiritual powers seem to depend entirely upon those of the body. With the latter, the former grow and develope themselves; with its maturity, their maturity corresponds; when it withers and dies, they, too, sink and disappear. Our food, mode of living, climate, poisons, medicines, &c. have so much influence upon the increase, animation, and decrease of our mental faculties; corporeal maladies so frequently affect our intellectual powers, as well as our volition—weaken or even deprive us altogether of some spiritual energy; on the other hand, we have also instances where disease has developed mental energy—given understanding to the stupid, and intellectual powers to the idiot. The faculties of the soul, too, appear, in many respects, to be subjected to the same laws which govern the parts of the body. By continued use and practice, both are strengthened and increased; repose and inactivity diminish them; and they are both liable to be exhausted by too violent exertion. But the dependence of the thinking and willing principle within us upon the condition of the brain is particularly remarkable. If the latter is suffering from a mechanical or other physical cause, in consequence of some serious disease in early years, we can form no favourable anticipation of the intellectual developement. If the brain be stimulated by splinters of bone, by inflammation, suppuration, &c.—if it be oppressed by extravasated blood, or any other substance, if violently contused, &c. the activity of the previously healthy intellect is immediately altered—its functions become lawless, disorderly, or are altogether suppressed. If this

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cause be removed, the mind is restored to its former tone. But the memory and the imagination are more especially dependent upon the brain. It frequently happens that the individual is deprived of the former by apoplexy; it very often disappears after violent headach, or an inflammatory fever which principally affected the head. Entire series of ideas are not unfrequently lost after a serious injury of this part. Thus, many have been rendered unable to read, and were obliged to learn their letters anew; others have forgotten certain parts of speech —proper names, verbs, nouns, adjectives, &c.—nay, after a time, the ideas and corresponding expressions have been restored, &c.

But if this, my internal self, is so intimately united to the visible part of my being, how can I be assured of the prolonged existence of that higher element, which I only know from self-consciousness, from its perceptions and operations effectuated through the body—of which, however, I have no sensible, empirical notion, and which, after the death of the body, leaves no trace of itself behind? How can I be assured of its continued activity, when the machine, by means of which it operates, falls to pieces, and the organs, which were indispensable to its thoughts and actions, are annihilated? Let the arguments for its immateriality—for the difference of its nature from that of all other known objects—be ever so stringent; let our consciousness proclaim as loudly as possible: Here is something entirely different from every specific part of the body;—all these arguments merely go to prove the total difference of our soul from that which we call body —its existence and appropriate activity so long as it is clothed with a body; but not to demonstrate what it will be, when the latter is destroyed.

And even if this soul continues to exist after the destruction of the body, without the latter it can acquire no new ideas, and it must lose those which it had previously acquired. But without ideas it is as good as non-existing. For its sensitive organs die along with the body, and through these alone did it acquire notions, and

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stand in connection with nature and with kindred spirits. All this ceases at death. The imagination and the memory of man evidently depend as much upon the brain, as his visual perceptions upon the eye. And this brain is destroyed by death, and falls in pieces, like every other part of the body. But with it all previous ideas and knowledge vanish; and, without these, what is the value of our future existence? It is only by means of the memory that we are conscious of our continued existence—that I am conscious of myself—as a being subsisting in the same manner amidst all changes. With this faculty all connection of the future world with the present ceases, and, also, all responsibility—all morality. I do not see, indeed, how the naturalist can extricate himself from these doubts, if he remains true to his system, and does not call in the assistance of miracles. The fine invisible body, with which some physiologists envelope the soul, and which, according to them, will continue to accompany it after the grosser body is annihilated, cannot remove the difficulty. For, in the first place, this organ of the soul, as it is called, is still a mere hypothesis, of which experience does not afford us the slightest assurance, and which, indeed, does not counterbalance the previous doubts. But, secondly, it is precisely the gross visible body with whose changes the soul, too, is similarly affected, and it is this brain, also, with which the imagination and the memory stand and fall. Experience only shows us the changes of these grosser corporeal parts, and gives us no knowledge of that supposed invisible body, with which the soul is said to be more closely invested. Whatever answer may be made to this reasoning, the objection in question will always remain formidable and important. And even, should we come to be convinced, by the former arguments, of the independence of the soul—if we could believe that we had found in them a proof of its future independent existence, along with all its various powers and endowments—which to me, however, appears to be by no means the case—yet the arguments advanced by the materialist are of such a nature as, if

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optic and auditory nerves convey by means of the *stimuli* of light and air,

From what has been said, I trust you will have already perceived, that the assumption of such a new sense does not advance us a single step towards an explanation of the phenomena in question. *Here* there must exist something quite different from what we are accustomed to denominate sensible impression, an entirely different species of communication between the mind and the external world, from that which occurs in our ordinary perceptions. But to call this a new *sense* is an abuse of the word. In this way, therefore, we have no chance of success. But if we must have an explanation, I can recommend nothing better than a recourse to the high ideas of LEIBNITZ, and to contemplate our mind, and its relation to the external world, from the same or a similar point of view as that from which he regarded it. If we assume, for example, that our perceptions arise in the mind by virtue of their own proper laws, as if in a peculiar world; that these perceptions, conform to the internal principle, arise in the same series, and with the same consecutiveness as the external material objects; that matter does not influence our mind, but is all illusion; that only a continual harmony can subsist between the train of our perceptions and the succession of the objects around us; and, therefore, that all beings of our species represent the phenomena of the universe according to the same necessary sequence, because they all possess the same nature;—if we give in to this hypothesis, I think we may comprehend how the blind and the somnambulists may, without the use of the eyes, perform the same operations as the individuals who are possessed of sight. For in both the one and the other, the motions of their bodies are regulated according to the consecutive ideas of their minds. Now, if these have not their origin in the sensible world of the individual, the one may occur to us independently of the other—the principal organ of sense, which appeared to connect them together, may have been annihilated or become useless—the succession

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of our ideas still continues the same, because this separation is only apparent, and the chasm, which we think we have now observed for the first time, was already in existence. Whether this mode of explanation may be more satisfactory to you than those we previously examined, I know not. With regard to myself, I freely confess my ignorance in this matter, and desire not to comprehend things which belong to another, supersensible world, the nature of which transcends the limits of our present cognitive faculties.

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LECTURE VII.

In my last lecture, I candidly confessed, that the phenomena, of which we have been hitherto investigating the origin, are placed beyond the domain of our present knowledge and comprehension; and that we should find it difficult to arrive at such an explanation as would throw full light upon them, and bring them into harmony with our usual experience.

But to what purpose, then, have we entered into so circumstantial an analysis of these phenomena, if it is to lead us no farther,—if it only takes, and does not give? This, I think, is a question which no reasonable person will ask. On the contrary, it might appear somewhat meritorious to have impartially investigated the limits of our knowledge, to have unmasked false hypotheses, and here, also, to have separated truth from illusion. Moreover, this analysis of the natural somnambulism has no small value in reference to the right appreciation of the artificial, which is often produced by animal magnetism, and which, therefore, belongs to the subject of these lectures. And, after the rejection of previous hypotheses, assuredly nobody will expect that I should now advance a new one, which might easily share the fate of its predecessors, and be overthrown, in a similar manner, by some new fact, or some different view of the subject. I hope, however, to be able to make ample compensation for the chimera of which we have been deprived. It is to be hoped that truth may ultimately spring out of these anomalies. They conduct us to another, perhaps a more enlarged view of nature and of man; many a controverted or already rejected fact may be rescued; and our con-

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templation of the objects of the supersensible world, so far as it extends, may acquire more interest and reality. We shall thereby be drawn back from the external world to a world within ourselves, which is subject to other conditions, which is not bound down by the laws of material nature, which is uninfluenced by the powers of the latter, and whose immortality we may anticipate, although we be daily witnesses of the annihilation of our visible being. This, then, may be the subject of my present lecture, and the conclusion of our whole investigation;—a conclusion, it is hoped, neither uninteresting in itself, nor unworthy of our attention.

If it be once demonstrated, and proved by the foregoing series of observations, that the human soul, in certain states, manifests itself quite differently from what we experience in the ordinary conditions of life—if, in these circumstances, it does not appear to require the aid of those auxiliaries which are considered necessary to the exercise of certain functions in the normal state of existence—we have good reason to distrust the certainty of our supposed knowledge of its nature. If we have once laid open a gap in this knowledge, especially in that part where it is apparently most secure, the same thing might happen also in other parts, and we should then have no reason to place much confidence in the system we had constructed in regard to man, the nature of his perceptive faculty, and the laws which regulate the exercise of his mental powers. This system, at the utmost, would only apply to that particular state from which we deduce it. If the individual passes into other states, in which his soul does not stand exactly in the same relation towards his body, it would be preposterous to apply the same laws to those states which we have deduced from relations altogether dissimilar. We must then consider that we have to do with a supersensible being, of which our knowledge is acquired only from experience, and that the same state, the same conditions, the same relative circumstances must exist, if we wish to found upon this experience. But when we stumble upon phenomena which ap-

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pear inconsistent with our ordinary knowledge of the actions and manifestations of this supersensible being, the first thing we have to consider is, whether the condition of the individual be not here quite different; and should we find that this is really the case, it would be unjust to impugn or reject these phenomena, upon the sole ground, that they are not reducible to the same laws we have deduced from other states. It is true, that the more they are irreconcileable with these laws, they ought to be the more sharply scrutinized; not, indeed, in regard to their *comprehensibility*, but to their *historical truth*—in respect to the number and competency of the witnesses who observe them, and the exactness and frequent repetition of the experiments and observations. If this method had been adopted in the investigation of those striking phenomena which, during nearly twenty years, have excited the attention of a portion of the public in Germany, France, and Switzerland,*—I allude to the artificial somnambulism,—many severe and unjust judgments would have been spared, innocence would not have been so bespattered with bitter ridicule and calumny, and deception and illusion would not have been alleged in circumstances where truth and reality may ultimately be found; nay, this truth might have been *sooner* brought to light, and the real separated from all exaggeration, the important and useful from the insignificant and hurtful, the certain and incontrovertible from the doubtful and disputed. Had a proper *status causæ* been early framed, instead of being neglected; had the main points been distinguished from their accessories, and the circumstances common to *all* combined into a *whole*; philosophers would have discovered, by an impartial investigation, an unusual condi-

* Since the time when Wienholt wrote, nearly forty years have elapsed, and the phenomena in question have been observed, in a great variety of instances, not in Germany, France, and Switzerland only, but also in Russia, Denmark, Sweden, Holland, and the Netherlands, Italy, and the Italian islands, England, America,—in short, in almost every part of the civilized world. Yet, strange to say, many pretended learned men will not acknowledge the truth—will not even investigate.—(*Transl.*)

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tion of the mental organ, and a state of the body very different from that of the natural, waking man. We should then have had a solid foundation for the future construction of an edifice. This would, at the same time, have led to a more rigorous inquiry into the causes of the phenomena,—many of those alleged might have been excluded, others rendered doubtful; and that which has been established by the laborious experiments of a GALVANI, a HUMBOLDT, &c. as the main-spring of the animal machine—and to a better knowledge of which we are conducted by their investigations—might have been long since acknowledged, although in consequence of a different process, as the only true cause. Had an adequate idea been formed of the actual condition of the individual—a conviction that, in this state, there existed a totally different relation between the soul, the body, and external nature, than that which subsists in the waking state; a different mode of operation would necessarily have been anticipated. If philosophers had given themselves the trouble to compare similar morbid states recorded by physicians, according to the rules of a sound logic, they would have there found the principal phenomena, and probably have ceased, at an earlier period, to reject them as absurd falsehoods, deceit, and illusion. The conduct actually pursued, in regard to this matter, is but too well known, and it were unnecessary for me to dwell upon it. I shall, at present, confine myself to some observations upon the artificial somnambulists; in so far as their case relates to our subject.

All those who have attentively and repeatedly observed these persons, or who have carefully perused the writings of the magnetisers, must have perceived a coincidence between the natural and the artificial somnambulism, so far as the recorded phenomena relate to the condition of the organ of vision and visual perceptions. In both cases, the eyes are firmly closed, and when an attempt is designedly made to open either of them, the muscles oppose resistance—considerable violence must be employed. The muscles of the eye-balls are in a spas-

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modic state: The *cornea* is turned upwards towards one of the angles of the eye, and remains immovable. A lighted candle held before the eye makes no impression upon it. At the same time, all is clear before the eyes of these persons, whether by day or by night. They have visual perceptions only of certain things, and even of these not at all times. Notwithstanding, they securely walk along known or unknown, straight or crooked, smooth or rugged paths, with as much ease and freedom as persons completely awake, avoiding all obstacles. They distinguish colours by means of their fingers, but without touching the objects; they read, write, sew, knit, recognise many things, and perform a variety of operations with their eyes shut, for which the use of this organ is required in the waking man.

All these facts, I trust, will not now be met by the only, or, at least, the principal argument formerly urged against them—the argument of incomprehensibility. Now that I have communicated more than one series of undoubted facts, all converging to one point—all tending to demonstrate the physical possibility, nay, the actual existence of these facts; such an objection must necessarily fall to the ground, and, with it, all the ridicule which abortive wit has so copiously thrown upon the subject of vision without the assistance of the eyes, and which must now be imputed to the utter ignorance of those from whom it proceeded. The historical credibility will then be a matter of little difficulty. At least, the experiments which have been made in Bremen—which, however, must be distinguished from mere popular rumour—are liable, so far as I am aware, to no objection. All the physicians of this place, I believe, who condescended to a serious investigation of the matter, became convinced of the reality and truth of the facts;* and their judgment has been corroborated by the testimony

* Bremen was the town of the author's residence. Among the individuals who assisted WIENHOLT in his magnetic experiments, was Dr OLBERS, the celebrated astronomer, and an intimate friend of the author.—(*Transl.*)

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of many eminent individuals in other parts of Europe. And thus we have again a new series of phenomena of the same import, which coincide with those previously observed; giving and receiving from each other mutual support and confirmation. But if this first and most important circumstance in regard to somnambulists be considered as established—if it can no longer be denied that the natural somnambulist, even without the use of his eyes, can acquire the same perceptions of external objects as are usually obtained through the medium of that organ; the difficulty we meet with in many of the phenomena presented by the artificial somnambulists will be greatly diminished. It will no longer be attempted to be denied, that the powers of the soul, in this state, undergo a very extraordinary exaltation—that the imagination, the wit, and the memory become clearer, more comprehensive, and more acute—that the actions and discourse of these individuals are very different from those we observe in their ordinary state. In respect, also, to the other so much controverted phenomena occurring in the magnetic somnambulists, of which, it would appear, no trace has been found in the natural crisis,* the incomprehensibility might gradually disappear, when the previous equally incomprehensible facts could no longer be disproved, and we had succeeded in reducing the others to their proper form and dimensions, in getting rid of all exaggeration, and, after repeated experiments, acquiring a more just and accurate notion of their nature. There are many other phenomena in human nature, in which the soul plays the principal part, and which have shared the same fate with the phenomena of somnambulism—they have been entirely rejected, or subjected to an unsatisfactory explanation, such as those I have been hitherto elucidating. When regarded from this point of view, these might now reasonably demand revision.† But the

* More extensive and accurate observation has shewn that all of these peculiar phenomena may be found in both states—many of them in other affections.—*(Transl.)*

† This is perfectly true. Animal magnetism has opened up a

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consideration of these subjects would carry me too far out of my way, and prevent me from drawing some not unimportant conclusions from the propositions I have already advanced—conclusions which, it appears to me, flow easily and without constraint, from the premises.

I should think that, after the observations reported from such various quarters, and which I have communicated to you in my previous lectures, I am now entitled to hold it as demonstrated, that our soul, if it has once acquired perceptions through the medium of the eye, may afterwards, in an incomprehensible manner, indeed, and without the use of this organ, receive similar impressions, and continue to remain in the same connection with the external world, in which it had previously stood by means of light and natural vision.

Many cultivated men, to whom an insight into their own internal economy is of some value, and who also occasionally cast a look forward into futurity, believe in the independence of the thinking principle within them upon the grosser body, and in the prolonged existence of the former, after the latter has here found its grave. Many others look upon it as the result of a wonderful combination of physical powers, which ceases as soon as these separate, and that the whole system thence arising again becomes resolved into its component parts. A great proportion of those individuals who think of such subjects, and to whom a higher faith does not impart repose and certainty, waver in their opinions. They know not to which side to lean, or, if they come to a decision, their belief is a merely momentary conviction, which is continually liable to be overthrown by other arguments. And indeed, when we consider the arguments by which both parties, independently of any superior light, suffer themselves to be swayed, our knowledge of nature might pre-

new and a very extensive field of psychological speculation, and afforded us the means of observing and endeavouring to explain many phenomena, which were formerly either considered altogether apocryphal, or attempted to be accounted for in a very unsatisfactory manner.—*(Transl.)*

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vent us from being surprised at this difference of opinion in regard to a matter of the highest importance, and at this hesitation of the more cultivated portion of our species.

According to the most ordinary daily experience, we perceive in ourselves and others the closest connection between the thinking and active principle within us, and the more gross corporeal covering: and the most exact harmony between the energy of the mind and the physical condition of our machine. The spiritual powers seem to depend entirely upon those of the body. With the latter, the former grow and develope themselves; with its maturity, their maturity corresponds; when it withers and dies, they, too, sink and disappear. Our food, mode of living, climate, poisons, medicines, &c. have so much influence upon the increase, animation, and decrease of our mental faculties; corporeal maladies so frequently affect our intellectual powers, as well as our volition—weaken or even deprive us altogether of some spiritual energy; on the other hand, we have also instances where disease has developed mental energy—given understanding to the stupid, and intellectual powers to the idiot. The faculties of the soul, too, appear, in many respects, to be subjected to the same laws which govern the parts of the body. By continued use and practice, both are strengthened and increased; repose and inactivity diminish them; and they are both liable to be exhausted by too violent exertion. But the dependence of the thinking and willing principle within us upon the condition of the brain is particularly remarkable. If the latter is suffering from a mechanical or other physical cause, in consequence of some serious disease in early years, we can form no favourable anticipation of the intellectual developement. If the brain be stimulated by splinters of bone, by inflammation, suppuration, &c.—if it be oppressed by extravasated blood, or any other substance, if violently contused, &c. the activity of the previously healthy intellect is immediately altered—its functions become lawless, disorderly, or are altogether suppressed. If this

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cause be removed, the mind is restored to its former tone. But the memory and the imagination are more especially dependent upon the brain. It frequently happens that the individual is deprived of the former by apoplexy; it very often disappears after violent headach, or an inflammatory fever which principally affected the head. Entire series of ideas are not unfrequently lost after a serious injury of this part. Thus, many have been rendered unable to read, and were obliged to learn their letters anew; others have forgotten certain parts of speech —proper names, verbs, nouns, adjectives, &c.—nay, after a time, the ideas and corresponding expressions have been restored, &c.

But if this, my internal self, is so intimately united to the visible part of my being, how can I be assured of the prolonged existence of that higher element, which I only know from self-consciousness, from its perceptions and operations effectuated through the body—of which, however, I have no sensible, empirical notion, and which, after the death of the body, leaves no trace of itself behind? How can I be assured of its continued activity, when the machine, by means of which it operates, falls to pieces, and the organs, which were indispensable to its thoughts and actions, are annihilated? Let the arguments for its immateriality—for the difference of its nature from that of all other known objects—be ever so stringent; let our consciousness proclaim as loudly as possible: Here is something entirely different from every specific part of the body;—all these arguments merely go to prove the total difference of our soul from that which we call body —its existence and appropriate activity so long as it is clothed with a body; but not to demonstrate what it will be, when the latter is destroyed.

And even if this soul continues to exist after the destruction of the body, without the latter it can acquire no new ideas, and it must lose those which it had previously acquired. But without ideas it is as good as non-existing. For its sensitive organs die along with the body, and through these alone did it acquire notions, and

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stand in connection with nature and with kindred spirits. All this ceases at death. The imagination and the memory of man evidently depend as much upon the brain, as his visual perceptions upon the eye. And this brain is destroyed by death, and falls in pieces, like every other part of the body. But with it all previous ideas and knowledge vanish; and, without these, what is the value of our future existence? It is only by means of the memory that we are conscious of our continued existence—that I am conscious of myself—as a being subsisting in the same manner amidst all changes. With this faculty all connection of the future world with the present ceases, and, also, all responsibility—all morality. I do not see, indeed, how the naturalist can extricate himself from these doubts, if he remains true to his system, and does not call in the assistance of miracles. The fine invisible body, with which some physiologists envelope the soul, and which, according to them, will continue to accompany it after the grosser body is annihilated, cannot remove the difficulty. For, in the first place, this organ of the soul, as it is called, is still a mere hypothesis, of which experience does not afford us the slightest assurance, and which, indeed, does not counterbalance the previous doubts. But, secondly, it is precisely the gross visible body with whose changes the soul, too, is similarly affected, and it is this brain, also, with which the imagination and the memory stand and fall. Experience only shows us the changes of these grosser corporeal parts, and gives us no knowledge of that supposed invisible body, with which the soul is said to be more closely invested. Whatever answer may be made to this reasoning, the objection in question will always remain formidable and important. And even, should we come to be convinced, by the former arguments, of the independence of the soul—if we could believe that we had found in them a proof of its future independent existence, along with all its various powers and endowments—which to me, however, appears to be by no means the case—yet the arguments advanced by the materialist are of such a nature as, if

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not always, at least frequently, to counterbalance the others, if not to triumph over them. They are deduced from experimental notions, quite certain, lying close beside us, and daily repeated—notions which every person can comprehend, and which force themselves upon every one as true. The other proofs consist, for the most part, of a tissue of unsupported conclusions, and at last conduct us to a being which has no sensible existence. They cannot be made clear to every person: and only to a few individuals do they carry that distinctness, that life, that cogency of conviction, which the others so readily impart. However unwilling we may be to deny their force, a fearful doubt will occasionally rise up in the bosom: Does my existence then terminate with death?—a doubt which even the loftiest arguments derived from our belief in a Deity, and those advanced by a new school, drawn from the ideas of right and duty implanted in our moral being, and the antagonist fact of the disproportionate destiny of mankind in the present world—are not always sufficient to repress. Hence, probably, the prevalence of materialism among the higher classes, and even among philosophers and physicians; hence, without an absolute denial, yet a considerable degree of wavering; and the overwhelming thought, so frequently found in the breasts of the best of men: Death is the termination of my existence—which can only be overcome by a firm faith in a positive revelation.

But grant, for a moment, what I conceive I have proved: A sensitive organ, such as our eye, which is so exquisitely adapted to that kind of sensations which it communicates to us—no part of which can be dispensed with—none can be otherwise formed than it is—none can occupy a different position, if it is to be capable of producing visual perceptions;—such an organ, as the foregoing observations unquestionably demonstrate, may be wholly incapable of performing its functions, and yet the soul may receive—in a manner, indeed, to us incomprehensible—the same perceptions of the external world, as were previously acquired through the medium of that organ.

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If this be unquestionably true, then I may argue, with perfect consistency, that man may also be deprived of other organs, and yet be capable of performing the same functions as he previously did only through their instrumentality. At least, I may hope, that the soul, which, in these instances, was able to perceive external objects without the assistance of the eyes, may still be capable of doing the same, after it has cast off its "mortal coil." But I argue farther: If an individual can acquire visual perceptions without the assistance of the external organ, it is equally possible that, in another state, he may also be capable of thinking without the assistance of the brain, and that his imagination and his memory may not be indissolubly attached to this soft and so easily destructible mass; that, on the contrary, the soul, in the exercise of its other functions, may as easily dispense with the latter, as vision may be manifested without the eyes. I shall then have decisively proved from experience that the functions of the soul are not entirely dependent upon the gross mass of the body; and thus the phantom conjured up in favour of materialism will have lost the greater part of its imposing but deceptive form. But as, in this way, our future existence unquestionably acquires more light, and, if I may be permitted the expression, more *intuitiveness* from the phenomena presented to us by somnambulists and blind persons, so does this anticipative hope, in regard to the future, again lead us back to the conclusion I formerly deduced from these phenomena. The philosopher, also, who entertains a certain expectation of his continued existence in a future life, even when his present earthly habitation shall have been annihilated, and who holds that memory is indispensable to that continued spiritual existence, cannot possibly treat with ridicule such observations as I have laid before you; he cannot consign them to the rank of improbable or impossible things. All that he could allege, in regard to the improbability or physical impossibility of these facts, would equally militate against his faith, and dash it to the ground.

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But in another, and, in my opinion, a very important point of view, the phenomena of somnambulism assist our argument in favour of the independence of our soul upon the organism of the brain. In general, the somnambulist, upon awaking, knows nothing of what occurred to him in his sleep—nothing of his thoughts and actions. An impenetrable partition is interposed, which completely separates the two states. The memory is, as it were, in abeyance during the transition from sleep to waking. It seems as if there were two different individuals, of whom the one was unknown to the other. Nay, it would appear that, in this sleep, something more is in abeyance—*viz.* the feeling of identity—this feeling so deeply implanted in man, so firmly attached to him, so closely interwoven with all his other ideas. He frequently mistakes other persons as well as himself, and looks upon himself and them as different persons from what they really are. And, on the other hand, as we learn from the cases previously mentioned, new spiritual powers appear to be developed, or, at least, all the others act with increased promptitude, vivacity, and energy. This is abundantly evident from several of the examples I formerly quoted, and still more from those collected and referred to by M. MEINERS—certainly not to the discredit of magnetism, as he intended. Can the being whose powers so easily change—at one time elevated, at another partly suppressed—can such a being be the result of the organization of the brain? The latter suffers no change during sleep; and with one species of sleep we are now occupied. Every thing here remains in the same relative situation, and invisible powers alone are brought into play. It is only a different action of the vital energy—an accumulation of it in some, and a diminution in other parts—while the rest of the machine continues unchanged; it is only this, according to the opinion of the best physiologists, which constitutes the chief difference in sleep and somnambulism; and this opinion is placed beyond all doubt by the easy transition from this to the waking state, by the causes which pro-

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mote and retard sleep, and by several of the phenomena of sleep itself.

And if such a change of a power invisible to us, and independent of the organization of the brain, can suspend one of the most important faculties of the soul, can alter our mode of knowing and perceiving, can elevate, strengthen, animate, in a scarcely credible manner, the whole energies of the mind; does not this manifestly demonstrate the independence of the higher principle upon the visible parts of the brain? Amidst these phenomena, which stand so little in harmony with the known laws of the corporeal world, all those ingenious hypotheses, which have been formed with a view to explain the operations of the perceptive faculty, are shivered to atoms—from the ruder material impressions and motions of some older authors down to the *cephalergis* of later physiologists; and they necessarily conduct us to a quite different essence, distinct from the body, and governed by other laws. But may they not also teach us something more? To me it almost appears that they lead us to the identity of this invisible principle—which gives life and activity to the body, and without which the latter would revert to the condition of an inorganic substance—the *vital power*, as it has been called, with that more attenuated body which more immediately invests the soul, through which it influences the grosser mass, and by means of which it again experiences the changes which occur in the latter. It is only this vital principle which undergoes change in sleep, and in the relative state, and this change exerts so powerful an influence on the mind. In these circumstances, therefore, we should be compelled to assume the existence of another intermediate substance between this vital power and the soul itself, and for this we have not the slightest reason. This, indeed, would only be an unnecessary multiplication of principles. To all appearance, as our feelings inform us, the soul is every where present throughout our whole machine; and this cannot take place otherwise than by means of such an intimate connection with the vital principle.

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From the phenomena presented to us by somnambulists, too, some light falls upon those striking cases which I formerly communicated, and which appeared demonstrative of the independence of the soul upon the grosser parts of the corporeal frame, especially the brain. For if such important changes can take place in the mind, without any influence of the body; if these are produced by a particular power in reality existing, but not immediately affecting the senses—a power, however, which is something different from the soul itself; if this power generally stands, at the same time, in intimate connection with the visible parts of the body and the brain; it then becomes quite comprehensible how, when corporeal injuries and diseases of these last affect that attenuated substance, its alteration here, as in the former case (in somnambulism), may be followed by an alteration in the condition of the thinking faculty. In this way, the corresponding increase and diminution of the brain and the intellectual faculties, and the dependence of the condition of the mind upon the body, might be merely apparent, and only indicate the change which has taken place in the intermediate organs.

But leaving these perhaps too fanciful ideas for more certain conclusions—it appears to me that the high perfectibility of our intellectual faculties flows directly and unconstrained from the investigation in which we have been engaged. You have seen how the mind became elevated in these different classes of individuals, although deprived of the most important means of its cultivation. Almost all of those blind persons, whom I have noticed, were virtuosi in their different departments. And how many such may have existed who are only noticed by tradition; how many may have existed, and still exist, whose minds were equally cultivated, but whose names are unknown to history! To judge from several instances, it almost appears that the blind, if their education were properly attended to, and they were not, as is usually the case, set aside and neglected, could be elevated even to a higher rank, in respect to their intellectual cultiva-

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tion, than they would have attained with the use of their eyes. What an idea does not this give us of the versatility, the independent activity, and sublime nature of our soul! It is deprived of the most important organ of its perfectibility; it can dispense with it, and supply its place; it can change the functions of others—and this is the least that I can suppose in all the examples I have alleged—form them to its service, and accomplish its purposes without the assistance of its usual auxiliaries; nay, the cultivation of all its faculties proceeds with greater rapidity, and attains a higher degree of developement; and new modes of perception become apparent, in which, without those repeated observations, we could scarcely have believed. And if we look to the other class of individuals—the somnambulists—how are their spiritual faculties exalted? How comes it that their imagination is so much more vigorous and comprehensive than usual? How does their memory stretch back, and clearly represent to them periods of time, of which, in their waking state, they possessed only an obscure reminiscence, or which had entirely vanished from their mind? How much deeper are their impressions and feelings! how much sharper and more delicate their wit! how much more appropriate and precise their language! It is no uncommon thing for somnambulists, in their paroxysms, to compose essays superior to what they were capable of producing in their waking state, which they themselves read with astonishment on the following day, and will not acknowledge to be their own work. Finally—and this is the most important circumstance of all—their moral sense—this noblest and most valuable faculty of the human soul—is invariably more acute, more delicate, and more exalted, than in their waking state. And all this while one or more of the windows of the soul are closed up!—Verily! these phenomena cast a new light on our future existence. If the perfection of our soul, and the improvement of its faculties, become more conspicuous on the abolition of our sensitive organs, it is not incredible that, on being disengaged from the whole of its heavy ex-

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ternal mantle—or, to use the expression of JEAN PAUL, on the complete removal of those leaden shoes, which are, indeed, necessary to us in this state of existence—our spiritual I will become more fully developed, will shine forth with a stronger and more brilliant lustre. And if this be true, to what may it not attain, when a new body and new organs shall have been conferred upon it, which oppose no barrier to its progressive developement; deprive it of nothing; hold it not in fetters; but rather tend to lighten all its efforts—to support and assist its progress! Yes, truly! here our prospect is extended—a prospect which is not the mere creation of a wayward fancy, but is founded on experience;—a prospect not new, indeed, to the Christian, to whom his Sacred Scriptures have long unfolded it; and who, even now, beholds his brightest hopes brought into perfect harmony with the phenomena of Nature.

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APPENDIX.

"Strange state of being! (for 'tis still to be)—
Senseless to feel, and with seal'd eyes to see."

BYRON.

THE few cases referred to by WIENHOLT, in the foregoing lectures, as demonstrative of the fact, that the perception of external objects has been known to occur, occasionally, without the exercise of ordinary vision, ought to be sufficient, we should imagine, to produce conviction in the mind of every reasonable and unprejudiced man—of every person who is accessible to the influence of evidence. Nor will it be denied that the establishment of this fact is a matter of great importance to physiological science.

In the Appendix to *Isis Revelata*, No. II., the author of that and of the present publication, in order to remove every possible pretext for scepticism or cavil on the subject, thought proper to adduce a considerable number of instances, in which the phenomenon in question had been distinctly, unambiguously, and most attentively observed. Hereupon, some of the least obstinate of the sceptics appeared to be, somewhat reluctantly, convinced; while others were startled, at least, by the force of the evidence brought forward; and all were evidently staggered by the strangeness and apparently inexplicable nature of the

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fact itself. In reference to this matter, indeed, the judgment of the public has never been free and unbiassed. On the contrary, it has been constantly fettered by the prejudices of habit and association, and by preconceived opinions in regard to the possibility of the alleged fact. Most persons would probably as soon expect to see a man walking on the crown of his head, as to find him exercising the faculty of vision without making use of his eyes. Moreover, it happens, unfortunately for the developement and recognition of the truth, that here, as in other analogous instances, a numerous and influential, although by no means a very liberal incorporation, have been induced to consider the relative investigation of this subject as injurious to their professional interests, and have consequently employed every means in their power to stifle all inquiry, to depreciate the labours of those who are honestly engaged in it, and to represent the results obtained as false, delusive, and inconsistent with philosophy, with physiology, and with common sense. Such discreditable tactics, however, can only have a temporary and a very partial success, besides being injurious, in the end, to the reputation of such as resort to them. Honesty in matters of science, as in the ordinary affairs of life, will, sooner or later, be found to be the best, as well as the most honourable policy; and the prejudiced opponents of real and useful knowledge will, assuredly, meet their final and just reward in the general contempt of all the intelligent and impartial portion of mankind.

In his preface to the present publication, the author has endeavoured to shew, contrary to the vulgar and prejudiced opinion, that there is nothing in the alleged phenomenon of vision without the assistance of the eyes which can be justly considered incompatible with the soundest philosophy. Like the cosmological theory of Copernicus and Galileo, indeed, it may be inconsistent with our *ordinary*, every-day experience—with common sense, in the vulgar acceptation of the word, if you will; but in *extraordinary* circumstances, and under certain conditions, it cannot be shewn to be philosophically im-

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possible; it may be anomalous, but it involves no demonstrable absurdity; like every other natural phenomenon, it is capable of being proved by satisfactory evidence of its reality; and the author is now about to submit to his readers some additional instances of the occurrence of the fact, with which his researches have supplied him, subsequently to the appearance of *Isis Revelata*.

By way of preface to these cases, and to indicate their scope and tendency, we may take the liberty of quoting the following apposite observation made by the celebrated German physician and philosopher, Dr UNZER, many years anterior to Mesmer's discovery. *

"The most extraordinary circumstance in the case of somnambulism is, that the secret power of the soul supplies our perceptive faculties, at a time when the external senses are oppressed by sleep. From the voluntary motions of such sleepers, it is manifest that they see without eyes, hear without ears, and accurately perform all functions, otherwise requiring sensibility, without the assistance of the special organs of sense."

A similar observation, it is believed, was made by HIPPOCRATES some thousand years ago; and the circumstance has been noticed by many other authors since his time. The physician who, in these days, is still unacquainted with this curious and well-authenticated fact, must have egregiously neglected his physiological studies, and exposes his professional ignorance. If he really knows it, and yet, upon any pretence, affects to deny the possi-

* JOHN AUGUSTUS UNZER, a celebrated German physician, and medical writer, was born at Halle in the year 1727, and devoted himself to the practice of his profession at Altona, where he died on the 2d of April 1799. His principal work was a periodical publication, entitled, *Der Arzt*—The Physician—in which the author displayed great learning, philosophy, and wit. This work found much favour with the public, and went through several editions. It constitutes a remarkable compound of instruction and amusement. He is also the author of a *Medical Manual* in three volumes, and of a treatise on the *Physiology of Animal Nature*, which was much esteemed.

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bility of its occurrence, he stands convicted of a gross want of candour. At all events, it is clear that the phenomenon was known from experience long before it became more frequently and more completely developed, and more generally accredited, in the course of the magnetic practice.

One of GASSENDI'S somnambulists used to rise and dress himself in his sleep, go down to the cellar, and draw wine from a cask. *He appeared to see in the dark, as well as in broad day-light.* See MURATORI, *Della forza della Fantasia.*

VIGNEUL DE MARVILLE says of the somnambulist, Signor Augustin Ferari—"*I went up to him, and held a candle under his eyes. He took no notice of it, although his eyes were open and staring.*" Yet this somnambulist performed a variety of operations requiring sight. A watchmaker's apprentice — a somnambulist mentioned by MARTINET, *although insensible to external impressions*, performed his work, in that state, with his usual accuracy. An American farmer, noticed by Professor UPHAM, *rose in his sleep, went to his barn, and threshed out, in the dark, five bushels of rye, separating the grain from the straw with the greatest exactness.*

The case of the young clergyman, reported by the Archbishop of Bourdeaux, and inserted in the eighth volume of the French Encyclopædia, is so well known that it were unnecessary to repeat it here, especially as it has been related, at some length, in *Isis Revelata*, and is also noticed by WIENHOLT in his Lectures. A case very similar, however, occurred subsequently in Switzerland, and was communicated to the Philosophical Society of Lausanne, and carefully investigated by a committee of that learned body, who made an articulate report upon the subject. This somnambulist was a boy of the name of DEVAUD, thirteen years and six months old. The committee testify that this boy "*dressed himself in a room perfectly dark.*" "Having snatched up one of his books, *when his eyes were perfectly shut*, he said, without opening it, 'T'is a sorry dictionary,' as indeed it was."

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"With his eyes fast locked, he touched several objects, and distinguished perfectly well those he had from those he had not seen before." The committee remarked that "he is sometimes apprised of the presence of objects, without being assisted by the sense of touch or of sight." He wrote to the dictation of his master; and although a thick piece of paper was placed before his eyes, he continued to form each character with the same distinctness as before. After writing several lines, he perceived some errors he had committed, and corrected them. "He drew a castle in the corner of the paper, and erased a blot between two letters, without touching either of them." M. LEVADE, one of the committee, saw him "cypher and calculate with great exactness." "*In each of the above operations, the sleep-walker had his eyes almost always shut.*" The committee farther testify that they "frequently heard him come down stairs when it was quite dark. "Being shown a book he had never seen before, he said he would examine it in day-light; and *retiring with this intention into a very dark kitchen*, opened the book," &c.

He took from a press several of his own books, examined them *in total darkness*, and named each correctly, without making a single mistake. "*He has even told the title of a book, when there was a thick plank placed between it and his eyes.*" M. TARDENT, his master, showed a specimen of his writing, which, he assured the committee, the somnambulist had executed *in the completest darkness.*—(See *Isis Revelata*, vol. i. pp. 325, &c.)

The somnambulist of Professor FEDER of Gottingen performed a variety of operations, and perceived even distant objects *with his eyes closed*; and it was quite evident to the scientific gentlemen present that he saw without their assistance.—(*Isis Rev.* vol. i. p. 330.)

The somnambulist recorded in the Transactions of the Medical Society of Breslau performed his usual business, and even made long journeys on horseback, with as great ease, security, and success, as when awake. "*During*

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the continuance of the paroxysm, he was quite insensible; though pricked or struck, he felt nothing. He could not see when his eyes were forced open. He could not smell even the most volatile spirit; nor could he hear the report of a pistol, when fired close beside him." —*Ibid.* p. 333.

Dr KNOLL's somnambulist performed, *in total darkness*, a variety of minute and delicate operations, requiring light and the use of the eyes, with which, it would appear, he was enabled to dispense.—(*Ibid.*)

The case reported by M. SAUVAGES DE LA CROIX is particularly deserving of attention; the state of the patient's sensibility having been tested by the most satisfactory experiments.—(*Ibid.* 336.) The case reported by Lord MONBODDO is also very satisfactory and conclusive, both in regard to the fact now in question, as well as to some of the other phenomena of somnambulism. —(*Ibid.* pp. 338, &c.)

The reader is also referred to the other cases mentioned in *Isis Revelata*, vol. i. from page 342 to the end. The case of Miss Rider, reported by Dr BELDEN, (pp. 366, &c.) is particularly interesting and remarkable.

A case of a very singular nervous affection, supposed to have been occasioned by the bite of a tarantula, is reported in the *London Medical and Physical Journal* for September 1808, by Dr J. COMSTOCK of South Carolina in America. We consider it quite unnecessary to trouble the reader with the merely medical details of this case, and shall confine our attention to the state of the patient's sensibility.

This patient was a girl of fifteen years of age. Her physician (Dr C.) discovered that she distinguished objects by means of the points of her fingers. She listened to music with great apparent pleasure; but her ears were as insensible to all other sounds as an inanimate body. *Her eyes were constantly shut;* but she distinguished all objects and their colours by means of her fingers.

She never opened her eyes during the whole time Dr COMSTOCK was in the room, but kept them constantly

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shut; nevertheless, to his great astonishment, she distinguished exactly, by means of her fingers, the colours of the different articles of clothing he had on, and this perception was so delicate, that she told not only the various colours, but the very materials of which each piece of stuff presented to her was made. Dr COMSTOCK observes that he would not have ventured to relate circumstances so much beyond common belief, had he not obtained the most complete evidence of their truth. All these transactions took place in broad day-light, and in the presence of persons whose testimony is worthy of all credit. When the patient recovered from a fit, this magical perception disappeared, her ordinary sensibility returned, and she remembered nothing of what passed during the paroxysm. Upon one occasion, she opened her eyes, and the doctor could see nothing but the white; the whole of the cornea, or coloured part, was drawn upwards, out of sight, by the convulsive action of the muscles. She danced with great violence during her fits, which the doctor encouraged, as a natural remedy for her complaint. While dancing, her *eyes were constantly shut*. The persons around her remarked that her hearing had become very acute and delicate, and that she could hear the conversation of individuals who whispered to each other in another room.

This is certainly a very curious and instructive case, and, in some of its particulars, bears a considerable resemblance to that of Miss M'Evoy of Liverpool, the observation of which was so much bungled by the medical sceptics. When will these gentlemen learn to look steadily at the phenomena of nature with their open eyes, without continually arming themselves with the distorting spectacles of hypotheses? The foregoing case is also valuable as confirming the view entertained by many authors, that the peculiar states we are now considering may be induced by the absorption of certain poisons into the animal system.

The whole of the interesting experiments conducted by Dr PETETIN of Lyons, noticed in *Isis Revelata*, (vol. ii.

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Append. No. 2,) which threw so much new light on the nature and characteristic phenomena of hysteria, somnambulism, and catalepsy, were subsequently repeated and confirmed by Dr RENARD of Mentz, an eminent German physician; and an account of the results was recorded in a paper inserted in HUFELAND'S *Journal der practischen Heilkunde* for 1815.—(See also the *Zoo-magnetic Journal*, No. 1.)

In all of the three cases reported by Dr RENARD, the ordinary sensibility of the patients was completely abolished, and the senses of seeing, hearing, and smelling, were manifested without the use of the special organs. In the case of the first patient, the Doctor observes, "her eyes were open and fixed;" "all her limbs were flexible; but she was still without consciousness, as previously; during her convulsions. She heard nothing—saw nothing; nay, she did not even manifest any feeling when pricked so as to draw blood. A candle held before her widely-opened eyes occasioned no contraction of the pupils, nor any motion in the eyes themselves. We cried as loudly as possible into her ears; she exhibited no symptoms of consciousness," &c. And these statements are confirmed by another medical gentleman, Dr WESTHOVEN, who was present during the experiments. Dr WESTHOVEN "examined the patient with attention, and observed, at once, that she lay there without consciousness, and that all sensibility was abolished. The widely-opened, fixed, and glazed eyes of the patient remained immovable on the approach, nay, on the actual contact of the finger; the pupil exhibited no change on the approach or removal of the candle. All the other senses were equally incapable of receiving impressions."

In the case of the second patient, it is observed that her eyes were "only so far opened as to admit of our seeing a part of the white. She heard nothing, felt nothing, even when she was roughly handled." And this state of the sensibility was repeatedly tested during the experiments.

In the third case, the Doctor found the patient "im-

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movable, with fixed and wide-open eyes, with a calm pulse and respiration, and her body quite flexible, without sensibility or consciousness, lying upon a couch. All stimulants that were tried with a view to bring the patient to herself, or to affect her senses and excite signs of life, were without effect; there was no vestige of feeling, hearing, seeing, or smelling; and had not her pulse been perceptible, and her respiration visible, there was no appearance of life."

It would occupy too much of our space, were we to enter upon a minute detail of all the experiments made upon these patients, and their curious and interesting results. We must refer our readers, therefore, to the sources of information we have pointed out above; and shall only observe, that, in the states described, all the patients were found to exercise the functions of sensibility in an abnormal manner, and with extraordinary acuteness, without the use of the appropriate organs of sense.

The celebrated German physician, DE HAEN, reports the case of a cataleptic girl of twelve years of age, which he had himself witnessed. This girl, during her paroxysms, performed several feats which astonished the Doctor and the other bystanders. It frequently happened that both the family and the Doctor suspected some fraud in these exhibitions, and tried various means for detecting it, but without success. "Upon one occasion," says DE HAEN, "I pinched her tender skin so severely as to leave a mark for many days; at another time, *I applied a candle almost to the very pupils of her eyes, to see whether they contracted;* I pricked various parts of her body with needles, so as to draw blood,—but all to no purpose. In the meantime, during the whole period of the paroxysm, as often as I changed the position of her arm, her leg, her hand, her fingers, her head, they remained exactly as I had placed them; and that for a longer period of time, than I, in health, could have kept them in the same position."—*Ratio Medendi*, P. 4, c. 5, § 3.

Dr P. F. HOPFENGAERTNER mentions the case of

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one of his patients, a girl of sixteen years of age, who, for several years, had laboured under convulsions, and was afterwards attacked by an affection in which she was deprived of sensibility, and exhibited many of the phenomena of somnambulism. In regard to the state of her eyes, the Doctor remarks, that "the pupil was dilated, but sensible to the irritation of light;" but, at the same time, he observes, that, *with her eyes closed*, she sewed, threaded her needle, &c.—*Einige Bemerkungen ueber die menschlichen Entwickelungen, &c.* Stutg. 1792.

Professor MEINERS of Goettingen, a very learned man, but a sceptic in regard to animal magnetism, in his book upon that subject, (Lemgo, 1788,) relates, amongst a number of curious cases, that of a girl between twelve and thirteen years of age, who was attacked, first, with *tinea capitis*, afterwards with epilepsy and *lypothymia*, and subsequently with successive symptoms of *tetanus*, *emprosthotonos*, *opisthotonos*, and St Vitus's dance. In her paroxysms she displayed a remarkable degree of exalted sensibility. "HER EYES WERE CLOSED. *As it was evident*," says Professor MEINERS, "that she made no use of her eyes, they were bandaged upon the approach of the paroxysm, with the consent, or even at the request of the girl herself. *Nevertheless, she recognised, as previously, the persons present, told what objects certain individuals had last touched, and mentioned to others what money they had counted out*," &c. "*She recognised, with great ease, and named all colours presented to her, as also letters and cyphers. She wrote, and cut cards, in her usual manner.* Leaving her bed, she danced about the room, placed herself in the most extraordinary attitudes, and performed, to admiration, the most difficult motions, without injuring herself, until she became exhausted."

The somnambulist observed by Professor FISCHER—a school-boy—sprang out of his bed at night, ran, with amazing rapidity, through a large apartment, pursued by sixty other boys, "romped, wrestled, boxed, tumbled about, and engaged in all sorts of noisy and boisterous mirth, never running against any thing, never being at

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fault in the most sudden and difficult turnings. I think," observes the professor, " I can perfectly well remember that, when running, he always held his hands before him, with his fingers stretched out. We sometimes drove him into a narrow corner between the beds, thinking to catch him ; but he always escaped from us, either by springing, with astonishing agility, over the beds, or by leaping over several beds at a time. When he escaped through the door, he flew through a long gallery towards his own apartment. There he rested, frequently taking up a book and reading with a low or a loud voice, conducting—if my recollection be correct—his outstretched fingers over the lines. His eyes were alternately open and closed ; but even when open, they were incapable of vision, *being convulsively drawn upwards, showing only the white.*" The professor was informed that, during his nightly wanderings, he had been known to play at skittles, a game he was very fond of when awake ; and that he had always accurately counted the number of pins knocked down, by stretching out his fingers in a direction towards them—so correctly, indeed, that it was impossible to deceive or impose upon him. *Der Somnambulismus ; von* Prof. FISCHER. Basil, 1839.

In MANCHART'S *Repertorium für empirische Psychologie*, V. 75, &c. there is reported the case of a girl of fifteen years of age, who was attacked, first, with a sort of convulsive delirium, which afterwards passed into cataleptic ecstacy, and terminated in somnambulism. Latterly, when the fit came upon her, instead of going to bed, she sat down at a table, and asked for a book to read. In her waking state she was a bad reader, but, in her fits, she read fluently, and with a correct accent. That she read without the assistance of light was proved by removing the candle while she was reading, and placing it under the table, when she continued to read on, without being apparently conscious of any change. Besides, *her eyes, although open, were convulsively drawn upwards, and insensible to the strongest stimulus of light.* She did not perceive when, during her reading, a leaf was

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turned over, but continued to read at the same place of the page presented to her, until she became aware of the defective meaning, when she would stop and exclaim, "Ah! where have I got to?"—and when the proper page was again turned to, she continued to read on from the line at which she had been interrupted. Her *clairvoyance* extended to objects at a considerable distance; and *she recognised the approach of persons whom it was impossible for her to have seen, even had she possessed the use of her eyes.*

In the *Bulletin de la Societé des Sciences Physiques et Medicales d'Orleans*, T. iii. p. 159, ample details are given of the disease and cure of Madame Lefebvre, by M. GUERITAUT. M. LATOUR, the younger, perpetual secretary of this society, read an abstract of the case at a public meeting of that body on the 22d of August 1811, mentioning, at the same time, that the facts he had to relate were known to all the inhabitants of the town of Mer, and that his father had attended the patient from the first symptoms to the ultimate cure.

The case of this lady appears to have been of an hysterical character, accompanied with very violent convulsive attacks. She lost, at once, her voice, *her sight*, and her hearing. Fits of catalepsy and attacks of paralysis succeeded. During her fits, the intellectual faculties of the patient became prodigiously developed. She wrote letters to her friends, which might be regarded as models of style and grammatical correctness. Her manual dexterity was no less surprising. Amongst other things, she executed a piece of work in straw, of which, when awake, she could not comprehend the manufacture. All this she did with the assistance of her hands alone. For several months she possessed the faculty of seeing objects during the night as well as by day. Her own Christian name was Adelaide; but she could never be convinced of the identity of Adelaide and *Petite*—the latter being the name she gave herself in her fits. At a subsequent period, the senses of smelling, feeling, and sight were transferred to the *epigastrium*. When a flower was presented to her,

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she carried it to the region of the stomach, and then noticed its smell, and mentioned its colour. At other times, while her eyes were kept closed, she recognised the persons who placed their hand on the same region. At a still subsequent period she did more. While her eyes were kept closed in the same manner, she named the various persons who surrounded her, and described the places they respectively occupied in the apartment. She herself referred all her visual perceptions to the *epigastrium*.

A narrative of the following case was drawn up by Dr BARRIER for the late Baron CUVIER, for the purpose of being communicated to the National Institute of France.

The patient was EUPHROSYNE BONNEAU, a girl, aged twelve years and nine months. She had been subject to catalepsy for about a year, and her fits generally came on daily, and lasted for several hours. From the period of his first visit, Dr BARRIER recognised in her some very extraordinary faculties, presenting the following remarkable phenomena, which were seen and verified by a multitude of witnesses.

1. Complete insensibility of the whole surface of the body, with the exception of the *epigastrium*, where all vital action appeared to be concentrated.
2. The faculty of discovering the thoughts of persons placed *en rapport* with her.
3. The abolition of taste and smell in the respective organs of these senses, and their transference to the *epigastrium*.
4. Vision transferred to the same region.
5. A prevision or presentiment of future events relating to her own disease.
6. A correct appreciation of the efficacy of the proposed remedies.
7. Sometimes an internal feeling of the sufferings of other persons.
8. A prodigious developement of the memory.
9. A great disposition to manifest the prophetic faculty.

We shall, at present, confine our observations to the

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phenomenon of vision without the use of the eyes. Dr BARRIER observes that this extraordinary faculty was that which was most constantly manifested during the whole course of the treatment. So extraordinary did this faculty appear, that the witnesses said her eyes were organs almost useless. Reading fatigued her much; yet she repeatedly read, at intervals, both by day and by night. Amongst a number of facts relative to this phenomenon, we may mention the following. Dr BARRIER, accompanied by another able physician, Dr VERSAIN, entered the apartment of the patient towards eleven o'clock in the forenoon. She was in bed, apparently in a mixed state between catalepsy and somnambulism. Dr VERSAIN gave her a handful of small comfits of different colours. She took them, carried them to the region of her stomach, then threw them up into the air, one after the other, calling out—"*White, yellow, red, red, white, yellow,*" &c. without ever being mistaken in regard to their particular colour. Dr VERSAIN wished to ascertain the state of her eyes, but it was impossible for him to open the eye-lids in the slightest degree, they were so firmly closed. "I might destroy the eyes," said he, "but could never open them." Upon Madame Versain entering the room, while the patient continued in this state, the latter correctly described that lady's dress, even to the most minute details.

Other instances of the *clairvoyance* of this patient are given by the reporter, which, for the sake of brevity, we shall omit, referring the reader to the source from whence we have taken the foregoing particulars.—(FOISSAC; *Rapports et Discussions de l'Academie Royale de Medecine sur le Magnetisme Animal*, pp. 366, &c.)

In the appendix to *Isis Revelata*, No. 2, the author took the liberty of recommending to the attention of the inquisitive a very singular publication by the Baron VON STROMBECK, President of the Court of Appeal at Celle,* containing the history of the somnambulism of a

* *Geschichte eines allein durch die Natur hervorgebrachten animalischen Magnetismus, &c., von dem* Baron FRIEDRICH KARL *von*

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young lady residing in his own house. The narrative, drawn up by the Baron himself, contains a very curious and most interesting account of the phenomena of *clairvoyance* manifested by this patient—amongst others, that of *vision without the use of the eyes;* and the facts he relates are attested by three eminent physicians, besides several other most respectable witnesses, all of whom, including the Baron himself, were either entirely ignorant of animal magnetism, or sceptical upon that subject. Besides being very interesting to the general reader, we would consider this publication as of no small value to the philosophical and practical physician, who might probably learn from it some things relative to the somnambulistic affections of which he was not previously aware. The book consists entirely of facts, and is divested of all theory. But perhaps our peripatetic doctors might include the honourable and learned Baron, along with his confederate physicians, in their list of foreign quacks, impostors, and liars; and the fiery editor of the LANCET might designate the whole affair, in his classical and courteous phrascology, as a HALLUCINATING HUMBUG.*

Hitherto, the author has confined his demonstration of the reality of the fact in question to its occasional manifestation in the natural or idio-somnambulism, of which many additional instances might be adduced if necessary. Since the curious experiments of Dr PETETIN, however, and, especially, since the more general diffusion of the practice of animal magnetism, the instances of the developement of this extraordinary perceptive faculty, occurring in the artificial somnambulism, have become exceedingly numerous, and the evidence in favour of the fact has thereby acquired an irresistible cogency. To some of these instances we would now direct the attention of our readers.

STROMBECK. The book was long ago translated into French, but the unaccountable indifference of the public, in this country, to the study of this particular subject, has probably prevented any one from undertaking an English version of it.

* See THE LANCET, *passim*.

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Objections, it is true, have been taken to the admissibility of this mass of evidence, upon the ground that those individuals who have been engaged in the investigation of this most interesting subject have permitted themselves to be seduced by their partiality and enthusiasm to misrepresent and distort the phenomena actually elicited, and have proved themselves either incompetent to the task of observing facts, or dishonest in the reports they have made of them. Now, we have no hesitation in asserting that objections of this unfounded and calumnious nature could occur only to individuals themselves grossly ignorant, or thoroughly dishonest. The reporters of the facts in question are, for the most part, men whose intellectual attainments, in general, are known to have been of a superior order, and whose moral character is elevated far above suspicion—men, in short, far more honourable and trustworthy than their wretched, chiefly anonymous, calumniators. They will be found to be, principally, eminent physicians—such as HUFELAND, physician to the King of Prussia; STIEGLITZ, physician to the King of Hanover; BRANDIS, physician to the King of Denmark; KLEIN, physician to the King of Wirtemberg; WIENHOLT; OLBERS, the astronomer; GMELIN; HEINECKEN; BÖCKMANN; BAEHRENS; ENNEMOSER; SPRENGEL, author of an History of Medicine, and other learned works; HAINDORF; NOLTE; SPINDLER; NASSE; NEES VON ESENBECK; PASSAVANT; ZIERMANN; HEINROTH; LEUPOLDT, &c.—Physiologists—such as REIL; TREVIRANUS; AUTENRIETH; HUMBOLDT; BURDACH; ESCHENMAYER; KIESER, &c.—Naturalists—such as LA PLACE, CUVIER, OKEN, &c.—Philosophers—such as FICHTE, SCHELLING, STEFFENS, BAADER, HEGEL, &c.—Theologians—such as SCHLEIERMACHER, MAYER, &c. To these might be added a vast number of men of general science, and celebrated literary characters. The French magnetists—PUYSEGUR, DELEUZE, BERTRAND, GEORGET, CUVIER, DESPINE, ROSTAN, HUSSON, FILASSIER, FOISSAC, GAUTHIER, TESTE, &c.—constitute a perfect

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host. It may be observed, too, that all of the individuals above noticed, so far as we have been able to ascertain, were originally sceptics in regard to animal magnetism; some of them were very violent sceptics, and wrote against the practice; but these last, after mature investigation, were subsequently convinced of their error, and, ultimately, all of them became satisfied of the truth of the science, and the reality of the phenomena; and were not ashamed to publish a retractation of their scepticism. There is probably not a single eminent physician in Europe, who, having thoroughly investigated, will now presume to deny the facts. Ignorance and prejudice, in this matter, are the only obstacles to universal conviction.

But it has been alleged that the evidence of these enlightened individuals is liable to discredit, because, forsooth, they were engaged in investigating the phenomena of animal magnetism. Assuredly, this is a strange, and we must take the liberty of saying, a most preposterous objection. Pray, how are the facts of Nature to be discovered and appreciated, unless by those who take an interest in investigating them? Are the facts of chemistry to be discredited, because they have been discovered by chemists? And is the same *ultra*-sceptical test to be applied to electricity, galvanism, astronomy, and general physics? Are no facts to be relied upon as genuine, but such as may happen to be adduced by ignorant and unskilful persons, who have neither the requisite talent, nor the disposition for investigation, and who are, moreover, careless and indifferent as to the results?

Again: It is said by some of the opponents that the animal magnetists are all credulous men and mystics. For the truth or falsehood of this objection we appeal to the list of names which have been given above. Let our antagonists produce an equivalent list of known, intelligent, and impartial contradictors, if they can. Besides, those who make this assertion appear to us to fall into the extreme of the very error which they seem so desirous to fasten on their neighbours. They bring this accusation against many individuals of whose real cha-

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racter they are entirely ignorant, and whose labours they are utterly incompetent to appreciate. Their credulity, moreover, far supasses that which they impute to the reporters of the magnetic facts; for they actually believe, or, at least, profess to believe, that hundreds of individuals of high scientific attainments and unimpeachable moral character, in an enlightened age, in all parts of the civilized world, had been themselves deceived, or had attempted to deceive others, in regard to phenomena repeatedly falling under their own observation in many hundreds of instances. Such extreme credulity can only co-exist with the most imbecile mind, the most deplorable ignorance, or the most miserable self-conceit. The term *credulity*, we maintain, cannot be reasonably applied to the belief of a fact which has been actually and unambiguously witnessed, and demonstrated by competent evidence; and the imputation of mysticism, in such circumstances, is absolutely ludicrous. These objections, too, are brought forward by persons, chiefly anonymous, who have never proved their own competency, and who have never witnessed, far less investigated the facts upon which they arbitrarily presume to pronounce so decided an opinion. They obstinately shut their own eyes, call upon their neighbours to do the same, and then most magisterially declare that magnetic vision is all *humbug*. We may add, that those who are themselves dishonest are generally the most disposed to suspect dishonesty in others.

The author, then, feels no hesitation in appealing to the experience of the most eminent magnetists, in confirmation of the fact which, as we have seen, has been manifested in many instances of the natural somnambulism. In the Appendix to *Isis Revelata*, No. II., some notice has been taken of the experimental researches of Tardy de Montravel, Gmelin, Professor Kieser, and other early magnetists, and also of the curious facts elicited during the interesting inquiries of the Committee of the French Royal Academy of Medicine in 1831, as detailed in the admirable report of Dr Husson. The

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evidence there adduced was sufficient, it is thought, to satisfy every candid and ingenuous mind; but in order to deprive the most obdurate sceptics of every pretence for denying the reality of the fact in question, we shall proceed to the brief enumeration of other cases, in which the controverted phenomenon was distinctly and unequivocally manifested. We may mention, once for all, that when we speak of somnambulists in the sequel, we mean to designate individuals so affected, that their eyes were completely insensible to the stimulus of light, and who were, consequently, incapable of exercising the faculty of vision in the ordinary manner, as shall be more fully explained hereafter.

Dr TRITSCHLER's somnambulist—a boy of thirteen years of age—saw and recognised the numbers and pictures on cards, when introduced under the bed-cover, and placed upon his stomach, in complete darkness, and covered, moreover, by the hand of the magnetiser. The same recognition took place in the case of written notes. (See *Archiv für den thierischen Magnetismus*; I. B. 3, st. pp. 51, &c.)

Madame Millet, magnetised by VAN GHERT, saw her physician's hand and finger by means of the *epigastrium*. (*Ibid.* III. 3, 14.) At a later period, she recognised, in a similar manner, some portraits. (*Ibid.* p. 18.) At last she became so *clairvoyante* as to be able to read by means of the *epigastrium*, at the distance of a foot and a half.

Miss St., under the care of Dr LEHMANN, accurately distinguished the colours of cards by means of the *epigastrium*. (*Ibid.* V. 3, 14.)—KIESER's epileptic boy read fluently by means of the pit of the stomach. (*Ibid.* III. 2, 131.)—Maria Rübel, in Langenberg, read sealed letters by means of the *epigastrium*; nay, even written characters enveloped in a covering of double linen. (*Ibid.* IV. 3, 82, &c.)—DE VALENTI's patient described the ornamental devices on his watch. (*Ibid.* VI. 2, 103.)—She also recognised the picture of a soldier placed upon her stomach. (P. 124.)

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In many other patients, the functions of other organs were also manifested at the *epigastrium*. Dr JOSEPH FRANK's patient, Louisa Baerkmann, recognised and felt the taste of sugared water at the epigastric region, and *heard* at the same place.—A servant girl, magnetised by DE VALENTI, also heard at the *epigastrium*. (*Archiv*, VII. 1, 112.)—Dr KLEIN's patient said: "This is very comical: I hear by means of my stomach;" and she laughed aloud at the singularity of the phenomenon. Her ears having been stopt, she said: "That is of no use; I hear with this,"—pointing to her stomach. (*Ibid.* v. i. pp. 13, &c.)

In the case of other somnambulists, the common sense seemed to be transferred to the points of the fingers, as in the case of Miss M'Evoy of Liverpool. Professor KIESER's patient, Anthony Arst, read with his forefinger, and distinguished cards in the same manner. Nay, when he held his elbow out at the window, he saw every thing on the street, to the distance of 150 paces. (*Ibid.* III. 2, pp. 90, &c.)—VAN GHERT's somnambulist saw by means of the fingers; (*Ibid.* II. 2, 24;) as also Madame Millet and Maria Rübel formerly noticed, and Dr DURR's patient. (*Ibid.* X. 3, pp. 7, &c.)—An idio-somnambulic boy at Halmstadt in Holland read fluently by means of his breast and his fingers.—Dr MEYER's patient, at Dulken in Rhenish Prussia, heard with the points of his fingers. (*Ibid.* XII. 3, 68.)—One of Dr KERNER's somnambulists heard sometimes with her fingers, sometimes with every part of the body. Articles of food she tasted with her fingers, as with her mouth. (*Geschichte zweiyer Somnambulen.*) The second somnambulist, mentioned in the work referred to, saw only when she placed her finger on the pit of the stomach, or on the crown of the head. She sometimes heard, smelt, and saw with the point of the middle finger.

Other cases are recorded in which the patients saw and heard with the nose, the chin, the elbows, the shoulders, the knees, the toes, and all the prominent parts of the body. Augusta Müller of Carlsruhe saw with her fore-

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head, her eyelids, and her eye-brows. (*Archiv ;* III. 3, 116.) Dr WERNER mentions, as a singular peculiarity, that his somnambulist possessed the power of changing her *focus* of vision at pleasure. (See *Die Schutzgeister*, &c. *von Heinrich Werner*, p. 322.) In some cases, it would appear, the whole body becomes as it were *clairvoyant.* This was the case with Dr HEINECKEN's patient at Bremen, who saw without the assistance of the eyes, or of any other special organ ; and she expressly declared that such somnambulists were much more *clairvoyant* than those whose perceptive faculties were localised. (*Archiv ;* II. 3, 25.) Hence the somnambulists are frequently unable to give any adequate description of these *metastases* of the perceptive faculties, and the species of perception, in these cases, might, perhaps, be more properly denominated feeling, than actual *sight*, *hearing*, &c.* It is worthy of remark, too, that the perceptions

* Sir J. D. BRANDIS, physician to the King of Denmark, declares that he never was a professed magnetiser, but had calmly observed the phenomena, and taken the liberty of doubting whatever appeared to him to be improbable, although he had never attempted to guide the opinion of others. The remarks of such a competent, attentive, and sceptical, yet candid observer, therefore, upon a subject of this nature, cannot fail to be valuable. We subjoin the following extracts from his book—*Ueber psychische Heilmittel und Magnetismus* —published at Copenhagen, in the year 1818.

"The magnetised person declares that he sees the magnetiser. This was the case with all my *clairvoyants.* They assured me that they saw me distinctly and could perceive all my motions. This could not be proper vision, for their eyes were shut. One of them went farther, and assured me that, with considerable exertion, she could read a book which I held in my hand. Having no desire to encourage such miraculous feats, and as sufficient experiments had been already made in relation to this matter, I did not attempt to verify the fact ; but I can assure my readers that, in her ordinary waking state, this patient had no idea that magnetised persons could read in this manner. However we may multiply our experiments in regard to this species of vision, we still appear to stand upon the confines between truth and fable ; and how shall we attempt to separate the one from the other, while we are still incapable of distinctly explaining the phenomena of ordinary vision in the waking state. Two of my patients were persons in whom scepticism itself could suspect no deceit ;—simple girls, who had long been afflicted

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of these somnambulists, in general, are much more vivid, acute, and delicate, than in the waking state.

The foregoing observations, it is presumed, must be sufficient to convince every candid and unprejudiced mind of the existence, in certain states of the organism, of the phenomenon of sensible perception, without the use of the appropriate organs. We may, therefore, venture to omit a great variety of other instances, which might be gathered, with some additional trouble, from the scattered works of the practical magnetisers. We have taken our examples principally from German authorities; but the same fact is confirmed by the recorded experience of a vast number of other magnetists, in France and other countries, which it is thought unnecessary, and might be tedious to exhibit in detail.*

The following comparatively recent case, however, is much too important to be passed over without special notice. It is recorded by Dr TESTE, in his *Manuel Pratique de Magnetisme Animal*, Paris, 1840. The case

with dangerous maladies, and had no other desire but to have their health restored; who, therefore, could not possibly be conceived capable of asserting anything of which they were not conscious. Both of them, also, were utterly unacquainted with the hitherto observed wonders of magnetism."

"The magnetised person maintains that he sees his own brain, his own stomach, his lungs, his liver, &c. It must be understood that the expression of *seeing* is employed by these persons to denote perception in general, because this word comes readiest to them, and perhaps appears the most appropriate to describe the particular impression. Two of my *clairvoyantes* expressly remarked that they did not see with their eyes, but in a manner which they themselves could not comprehend or explain." Similar observations have been recorded by other magnetic writers.

* Instances of the occurrence of some of the foregoing phenomena will be found in the valuable work of our ingenious countryman, the Rev. Mr TOWNSHEND. An orange was placed in the hand of one of his patients. She told what it was, but observed,—"You may think I know this by feeling: It is not so. In the mesmeric state I have only one method of knowing things; and whether I see them, smell them, or feel them, it is all the same." Similar examples—demonstrating the existence of a common sense, in the magnetic sleep—might be multiplied to almost any amount. *See also Isis Revelata*, Vol. i. p. 305, note.

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occurred in the *salon* of M. FRAPART, in presence of a company of sixty individuals, consisting principally of unprofessional persons, and of some well-known but incredulous physicians. The patient, Calliste, was a young man about twenty years of age—the operator was Dr RICARD. When first magnetised, about five years previously, the patient was set asleep and became lucid (*clairvoyant*) from the first sitting; and, according to Dr RICARD, his lucidity has not suffered a single day's interruption since that time. Upon this occasion, he was set asleep by Dr RICARD in a few minutes, and his eyes were covered with a bandage adjusted by Dr TESTE, and one of the sceptics; a bandage, says Dr TESTE, of such a kind as precluded all possibility of deception. The patient commenced playing several games at cards with all those of the company who chose to engage with him. The cards were new, and, for greater security, had been purchased and brought there by some of the company. Notwithstanding all these precautions, Calliste constantly beat his adversary. He played with incredible rapidity, and with uniform success. He appeared to know perfectly well what cards were in his adversary's hand. This case may be compared with that of *M. Petit*, in the Report of the French Academicians, in 1831; and with that of *Miss Rider*, reported by Dr BELDEN, and noticed in *Isis Revelata*.*

* The account given by the sceptical Dr BERTRAND of his conversion to a thorough belief in the reality of the fact of vision without the use of the eyes, is exceedingly interesting and very decisive. A somnambulist, having her eyes manifestly shut, told him, nevertheless, with great precision, where a ring was to be found, which he had taken from her finger, and given to another lady. What made the experiment still more conclusive was that the husband of this lady, who was present, had taken the ring from his wife, and, unperceived by the Doctor, had put it into one of his own pockets. There the somnambulist said she saw it, and persisted in this assertion, notwithstanding the assurance which the Doctor, according to his own conviction, gave her of the contrary. Previously to this experiment, Dr BERTRAND was an utter sceptic in regard to the possibility of the phenomenon in question. But soon afterwards, he fell in with Dr PETETIN'S work, (*Electricité Animale*, Lyons, 1808,)

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A great deal of the scepticism which has been manifested in regard to the reality of this phenomenon of the exercise of sensitive perception without the use of the appropriate organs, appears to have arisen from a want of due attention to the actual state of these organs during the manifestation of this anomalous species of perception; and, in the case of the magnetic vision, a vast deal of unnecessary trouble has been taken, with a view to prevent deception, by bandaging the eyes of the patient previous to commencing the experiments. The magnetists, however, assert—upon unquestionable experience—that, in the states in question, the organs of special sense are totally deprived of their sensibility for the time; and, therefore, the best means of preventing deception would be to commence by endeavouring to ascertain this fact, in each particular case. Now, in regard to the organ of vision, this fact has been ascertained and demonstrated, in consequence of the most careful investigation by eminent physiologists both before and since the discovery of MESMER.

We have already quoted the decided opinion of Dr UNZER upon this point. No less decided is the opinion of the celebrated Baron HALLER. When speaking of the natural somnambulists, he says, that they all rise from their beds with closed eyes, and in a state of profound sleep. "They sleep profoundly," he continues, "*with their eyes either closed, or incapable of vision.*" (*Physiol.* Tom. v. p. 626.) "All the somnambulists whom I have seen," says VAN SWIETEN, (*Comment. in Boerhaav. Aphorism.* III. 1086,) "had their eyes wide open, and a very much enlarged aperture of the pupil, such as

and was greatly astonished at the decisive facts therein related, which, he affirms, can leave no doubt on the mind of any rational being; and, accordingly, he strongly recommends this work to the attention of his readers; and then proceeds to give various other proofs and illustrations of the phenomenon.

We have shown that PETETIN's experiments were successfully repeated by Dr RENARD of Mentz, and the results reported in Dr HUFELAND's Medical Journal, with the entire approbation of the celebrated editor.

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is usually found in persons affected with amaurosis. This aperture did not contract on the approach of light; nor did the eyelids wink, but remained motionless. When the individuals were forcibly awakened, however, the eyes immediately closed, and they felt the inconvenience of the light when brought near them." The same facts are attested by that eminent physician, M. DE HAEN, by M. ELLERT, by SAUVAGES DE LA CROIX, &c. The enlarged experience of the Doctors WIENHOLT, ENNEMOSER, GMELIN, HEINECKEN, KLUGE, ESCHENMAYER, KIESER—and, indeed, of all the modern scientific physiologists and practical magnetists—conducted them to a coincident conclusion. We have frequently had occasion to notice the curious case, completely confirming this fact of the insensible state of the eyes of somnambulists, which was long ago reported to the French and Swedish Academies by M. SAUVAGES DE LA CROIX; and the works of the magnetic authors are full of instances of the same phenomenon, which may be said to be incontrovertibly established by the concurrent testimony of all those eminent men who have investigated the subject.*

Let us now turn our attention to the actual condition of the problem to be solved. Somnambulists either see or they do not see. Upon the latter hypothesis, how can they be conceived capable of performing actions, such as it is proved they do perform, which could not possibly be accomplished without the exercise of visual perception in one way or another? It must necessarily be admitted then, that these somnambulists do see, either with their eyes, or by means of some other mode of acquiring

* If we might be permitted to quote the authority of SHAKSPEARE in matters of physiological fact, we should refer to the commencement of the fifth act of *Macbeth* for a correct picture of a somnambulist.

"I have seen her rise from her bed, throw her night-gown upon her, unlock her closet, take forth paper, fold it, write upon it, read it, afterwards seal it, and again return to bed; yet all this while in a most fast sleep."

"*You see her eyes are open.*
Aye, but their sense is shut."

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visual perceptions; and, in order to get rid of the obnoxious and apparently inexplicable phenomenon, the reality of which we have undertaken to demonstrate, the sceptics allege, and must allege, that they actually see by means of their eyes. But let us examine, by the light of experience, the real state and condition of the usual organs of vision in those individuals who are placed in a state of profound somnambulism, either natural or artificial. The eyes of all such somnambulists are uniformly found to be either completely and spasmodically closed, or open, fixed, and staring. This is the opinion of all those eminent physicians and physiologists who have thoroughly examined the matter. In some few cases, one or other, or both of the eyes have been found partially open; but this is an exception to the general rule; and, even when it does occur, we see nothing but the *white* of the eye; the coloured part, and especially the pupil, is completely concealed under the upper eyelid. When the eyes of the somnambulist are closed, as WIENHOLT remarks in his lectures, if we attempt to draw the eyelids asunder, we meet with considerable resistance. Such an attempt, besides, has been known to produce a violent attack of convulsions. It is a common observation that the eyelids, in somnambulism, appear as if glued together. The antagonist muscles of those which usually keep the eyes open, act strongly in opposition to our efforts, and the latter are at rest. The eye can be opened, with difficulty, only to the extent of one-half, and then the eye-ball is observed to be turned upwards towards the inner angle, and we perceive only the margin of the iris peeping from under the eyelid, and remaining immovable in the same situation. The approach of light to the eye, in either case, does not produce the slightest change;—there is no tremulous motion, no winking of the eyelids—no expression of feeling—when the light is brought near to the open or half-open eye. These facts, as we have seen, have been ascertained by numerous experiments and observations. Indeed, certain medical men, who have enjoyed the best opportunities for obser-

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vation, have remarked that the eyes of such somnambulists as we have described, appear to be much in the same state as those of individuals who are affected with amaurosis, or are under the influence of certain active narcotic poisons.

From the foregoing facts and observations, we humbly conceive it to be now completely demonstrated, 1*st*, That somnambulists do exercise the faculty of vision; and, 2*dly*, That they do not exercise this faculty by means of the apparatus of the usual organ of sight. And, as all the other special organs of the senses can be proved to be in the same state of abeyance, there is no room for the hypothesis that the want of one sense is supplied by the vicarious activity of another. It is quite preposterous to pretend to object that the individuals who report their observation of these facts were credulous, dishonest, or incompetent. Among the observers there will be found a great majority of medical men, some of them of the very highest eminence in their profession, and all of them of competent talents and acquirements, of unimpeachable veracity and honourable character. They are elevated far above the suspicion of wilful falsehood, and their scientific attainments and coincident testimony render it next to impossible that they could have been themselves deceived. And where, it may be asked, is the imaginable motive for falsehood, imposture, or deception, in this instance? There was nothing to gain, and every thing to lose, by such conduct. In short, the witnesses who report the phenomena are both very numerous, fully competent, and perfectly respectable. If falsehood and deception are to be predicated in this instance, we must absolutely cease to place any reliance, not only upon medical evidence, but upon all evidence whatever, however otherwise cogent and irrefragable it may be. Do not let it be imagined that we wish to impose upon the sceptics the task of proving a negative, or that we are disposed to urge upon them a blind belief of these facts. We only call upon them to examine the evidence dispassionately, and, when opportunity occurs, to investigate for themselves.

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An ignorant denial, proceeding from a preconceived notion of impossibility, is irrational and absurd. Nor do we pretend to deny, that, in cases of this description, deception and imposture might be, in certain circumstances, and to a certain extent, possible; but, in the instances we have referred to, deception and imposture cannot reasonably be presumed. In a number of these instances, there is no ground whatever for any such presumption; nay, it is utterly precluded by the known character of the observers, and by the circumstances in which the observations were made.*

* A literary gentleman, Mr CHARLES MACKAY, has lately published a volume on *Popular Delusions*, including in that category the phenomena of animal magnetism. This gentleman appears to entertain rather peculiar notions upon the subjects of *popularity* and *delusion*. We know from experience that animal magnetism never was popular. Let LA PLACE, CUVIER, JUSSIEU, GEORGET, TREVIRANUS, REIL, HUFELAND, HUMBOLDT, HUSSON, ROSTAN, &c. —let these men declare whether it be, in their opinion, a *delusion*. *Ne sutor ultra crepidam.*—But, perhaps, Mr MACKAY conceives the Copernican theory to be a *popular delusion*. We are aware that such an opinion very generally prevails among that class commonly denominated *the vulgar*. How marvellously did that otherwise eminent physician, GEORGET, lie under the *incubus* of *popular delusion*. "During forty years," said he, upwards of twenty years ago—"during forty years, magnetism has been studied, practised, propagated in France, and in a great part of Europe, by a multitude of enlightened and disinterested men, who proclaim its truth in defiance of all the ridicule with which it is vainly attempted to overwhelm them. *It is a very astonishing thing that animal magnetism is not even known by name among the ignorant classes. It is among the enlightened ranks that it finds support.* It is men who have received some education who have taken its cause in hand. It is partly learned men, naturalists, physicians, who have composed the numerous volumes in which the facts are accumulated which may now be adduced in its favour." The same has been pretty much the case since the days of GEORGET; and yet we are called upon to believe that all of these learned and eminent persons have been labouring under a *popular delusion*, from the contagion of which the more intelligent Mr CHARLES MACKAY has fortunately escaped. But we shall leave Mr MACKAY to settle his differences with LA PLACE, CUVIER, GEORGET, &c., and take the liberty of expressing our satisfaction at the altered tone and temper of the popular literature of the day, in regard to the truth and value of the facts of animal magnetism. The disciples of MESMER, in this country, are

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It is a great, although a very common mistake to imagine that the phenomenon we are now investigating is a discovery or invention of the animal magnetists. In reality, it was observed many centuries before animal magnetism was known by name, or cultivated as a science; and numerous instances of its occurrence, as well as allusions to it more or less direct, may be found in the writings of authors of almost every age and country.* Those who regard it as a magnetic marvel only betray their ignorance. It has frequently appeared, as has been already shown, and still occasionally appears, as we ourselves know, in cases of the natural or idiopathic somnambulism; and it was only detected by the magnetists, when, after the discovery of MESMER, they found themselves capable of producing, artificially, the peculiar state of the human organism in which it is occasionally manifested.

But there are even some individuals in this country, we find, who, in the course of their magnetic or analogous practice, have attempted, in vain, to excite the manifestation of this faculty in some of their patients, or have discovered what appeared to be deception in the attempts to realise it by themselves or others; and are thence induced to express their scepticism in regard to its reality in any instance. We are disposed to think, however, that the disappointment of the endeavours of these individuals—however honest and apparently candid,—and their consequent scepticism, are very much the

beginning to reap the reward of their persevering exertions. Even the most respectable periodicals do not now spurn the subject from them as unhallowed humbug. FRASER has smiled upon us; the *Dublin University* encourages us; the *Polytechnic* assists us; the *Medical Times* patronises us; and the vigorous and facetious *Blackwood* may be said to have, at length, *sent in his adhesion.* That *hallucinating humbug*—"*The Lancet*"—still holds out.

* In treating of the subject of somnambulism and its phenomena, Dr BERTRAND speaks of this affection as *un état qui n'a cessé de se reproduire toujours essentiellement le meme, quoique sous des apparences diverses, et qui se trouve consigné pour ainsi dire à toutes les pages de l'histoire.*

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result of their ignorance and impatience: and we have frequently had occasion to regret that many of our British magnetisers are too prone to rush headlong into experiments, without an adequate knowledge of the conditions of successful investigation, without making themselves thoroughly acquainted with the valuable observations of their numerous and enlightened predecessors in the exercise of the magnetic art. We trust, therefore, that they will have the goodness to excuse us, if we take the liberty of submitting to their attentive consideration a few remarks upon these matters, the result of the profound study of this particular subject, by various eminent magnetists and distinguished writers, during the last sixty or seventy years.

1. There are various degrees, or gradations, of the peculiar states produced by the magnetic processes. The first effect of these processes, by which the influence of the active principle becomes apparent to ordinary observers, is a state of somnolency, or actual sleep. The state of somnambulism, or rather of magnetic *sleep-waking*,—(for the term *somnambulism* is not very appropriate,)—is much more rare. The higher states—including the manifestation of the phenomena of *clairvoyance*, or lucid vision—occur in comparatively few cases. It will be observed, however, that the production of any of these states is not absolutely or essentially necessary, in every instance, to the principal object of the magnetic treatment—to the efficacy of animal magnetism as a remedial process. Many cases have been successfully treated without the production of sleep; many more, without the intervention of somnambulism. We have known instances in which severe neuralgic affections have been speedily and effectually relieved without the manifestation of any remarkable phenomena whatever.

2. The power of operating magnetically varies in its intensity in different individuals; and there is also a great difference in the susceptibility of patients for the magnetic influence. These differences probably depend upon certain peculiarities of idiosyncrasy, which have not yet

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been precisely ascertained. The fact has frequently presented a stumbling-block to the young magnetist, as it has also furnished a theme for sceptical argument to the incredulous. It is pretty generally held, however, by the best writers on the subject, that, in the case of the operator, the *moral* is as influential as the *physique*. The will of the magnetiser has been proved to possess a wonderful effect in determining the phenomena. In the case of the patient, the influential principle is more doubtful. Weak and diseased persons have been supposed to be the more easily affected by the treatment; but robust patients have been occasionally as easily and as effectually magnetised as the weakest children, or the most delicate invalids. *

3. It can never be too frequently or too earnestly repeated, that the principal, nay, the sole object of the magnetic treatment is to cure the sick. To attempt to magnetise healthy persons is a gross abuse, which may be attended with the most dangerous consequences. To operate solely with the view of producing the higher phenomena of somnambulism, or the *sleep-waking* state, is a monstrous abuse, and will most frequently prove abortive —exhibiting only folly and delusion. It is probably cases

* Ever since the discovery of MESMER a variety of opinions have been held in regard to the operative principle in the zoo-magnetic processes, or, as Mr TOWNSHEND calls it, the *mesmeric medium*. At one time, the *imagination* of the patient was declared by the sceptics to be the principally operative cause of the phenomena; but this theory has been, long since, exploded, as irreconcileable with the facts. MESMER himself, and his immediate disciples, adopted the hypothesis of an universal fluid, pervading all nature, capable, in certain circumstances, of producing the particular phenomena. PUYSEGUR, BARBARIN, and many subsequent magnetists, on the other hand, attributed these phenomena almost entirely to psychical or spiritual influences. The *mesmerists* of this country seem disposed to explain the facts upon an entirely materialistic principle. These opposite hypotheses have hitherto divided the opinions of the greater number of magnetists; and, in consequence of the mysterious and inexplicable action and reaction of the material and the spiritual elements in the living organism upon each other, it is scarcely to be expected that the efficient causes of the phenomena in question will soon receive a satisfactory explanation.

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of this description which have engendered so much scepticism and disgust in the minds of many, who have not sufficient knowledge and experience to enable them to distinguish imposture from reality in the instances exhibited to them.

In the earlier stages of somnambulism, patients are very apt to be misled by the eager and incautious zeal and importunity of their magnetisers; and the whole treatment then becomes utterly worthless in a scientific point of view, as well as extremely injurious to the patients themselves. In order to be of any value, the higher magnetic phenomena ought to proceed from the voluntary and unsolicited manifestation of the patient, instead of being forced upon him by the operator. When purely and spontaneously manifested, they may be enlisted, as genuine facts, into the service of science; or, as in the case of the awakened *instinct of remedies*, they may be employed for the benefit of the patient himself, or of those who are placed *en rapport* with him.

4. The higher magnetic states do not constitute a fit or proper subject for public exhibition; and much injury has been done to the cause of magnetism by the attempts of empirics to make a theatrical display of the phenomena. Laying aside the chances of imposition or deception, it is certain that, even with the purest motives, we cannot operate, at all times, upon the nervous system of living human beings with the same certainty of success, as in performing experiments upon inorganic matter. Artificial somnambulism, in its purer forms, cannot be produced at pleasure, like mushrooms on a dung-heap. The higher phenomena of the sleep-waking state are of comparatively rare occurrence; and their manifestation, even in the case of any particular individual, is, in many cases, exceedingly variable, and, most frequently, of a very evanescent and transient nature. Some of these phenomena are occasionally manifested unexpectedly; while, at other times, they cannot be produced by any intentional effort on the part of the operator, even in the case of the same patient. It ought to be sufficient, however, for the requisites of

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science, as well as for the conviction of every candid and unprejudiced mind, that the manifestation of these phenomena has been witnessed and attested by the most competent and credible observers. Every individual can scarcely hope to become acquainted with all the phenomena of nature, especially in her less obvious and familiar manifestations, from actual personal observation. Many things must necessarily be believed upon the evidence of satisfactory testimony, otherwise our knowledge would have a very limited extent. *Ars longa; Vita brevis.* Indeed, it appears to be wisely ordered by Providence, that all truths are not made the immediate property of any one individual, or even of any one age; but that, for the gratification of the inquisitive nature of man, and the constant exercise of his intellectual faculties, many things are left for the gradual discovery of the successive generations of the species.

5. It cannot be too frequently repeated and enforced —for a want of attention to the circumstance has been the cause of much abuse and animadversion—that, in order to the pure and perfect developement of the artificial somnambulism, the patient ought to be kept as quiet and secluded as possible, and carefully protected against all risk of external disturbance. This precaution is essential, not only to the perfect developement of the phenomena, but also to the comfort and well-being of the patient himself. In somnambulism, it must be remembered, the usual organs of sensation are dormant, and, consequently, the relations of the individual with the external world undergo a complete change. The outward inlets to perception, apprehension and intelligence, are closed up; the manifestations of the internal instinctive life gradually become more and more perfectly developed; the internal feelings acquire a wonderful increase of acuteness and delicacy; until, at length, those most extraordinary phenomena are occasionally exhibited, which have astonished the sober philosopher, and called forth the contempt and ridicule of the coarse, and narrow-minded, and incorrigible sceptic and scoffer. A forcible attempt

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to open the eyes of a somnambulist, or any other violent interference with his manifestations, disturbs the calm and quiet current of this species of internal life—perhaps may occasion dangerous, or, at all events, unpleasant reactions —by dragging him again, suddenly, back into his ordinary relations with the world around him ; and every antagonist influence—whether physical, psychical, or moral—operating within the limits of the magnetic circle, has a similar tendency to interrupt the even tenor of this peculiar state of existence. The coarse and brutal conduct occasionally exhibited towards patients in this state, by some of our British sceptics, deserves the severest reprobation—it is a reproach to the scientific character of our country —and constitutes another decided objection to all public exhibitions of the phenomena.*

6. Individuals, when in a state of somnambulism, are found to be exceedingly sensitive, and frequently manifest extraordinary and unaccountable sympathies and antipathies. This circumstance, alone, affords a weighty objection to all public exhibitions of the magnetic phenomena, as well as to all public and promiscuous administration of this particular remedy. It is well known to every practical and experienced magnetiser how much, in the case of somnambulists, the progress and the efficacy of the magnetic treatment, as well as the manifestation of the particular phenomena, may be influenced and counteracted by the presence, and, especially, by the sudden intrusion, or interference, of strangers, more particularly of sceptical persons. The most violent convulsions not unfrequently occur, when individuals approach somnambulists to whom the latter feel an antipathy, although we may be quite unable to discover any reason why such

* What man of common sense and ordinary feeling would think of tearing a piece of flesh from a patient's body, or of giving him a severe blow with a cudgel, in order to test his sensibility in the magnetic somnambulism ? Yet such things, we understand, have been actually done, even by professional men, in this country.—*Prob Pudor!*

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an antipathy should exist.* The nervous system of somnambulists, in general, exhibits a peculiar species, at least a degree of sensitiveness or irritability, which is almost entirely unknown in the ordinary state, although phenomena somewhat analogous have been occasionally witnessed in certain of the more common instances of diseased action. Many prudent and cautious magnetisers, therefore, lay it down, as a general rule, never to admit strangers as idle or merely inquisitive spectators of the magnetic treatment; and in this determination, it is thought, they act wisely.

There must always, therefore, be something mysterious in the whole essence, and in the practice of animal magnetism; and every attempt to make a public exhibition of the phenomena, at least in the present state of our knowledge, may not only be attended with dangerous consequences, but must prove, in many respects, abortive. These phenomena, indeed, will not always appear at the importunate summons of royal societies, of theatrical managers, or of itinerant lecturers. By far the most interesting cases have occurred in private practice, where the witnesses, few, but intelligent and cautious, were *en rapport* with the patient, and all adverse external influences were carefully excluded from the magnetic circle. We cannot conduct experiments of this delicate nature, and, above all, upon the human subject in an abnormal state of the sensibility, in the same manner, and with the same confidence of success, as we should proceed in the case of a piece of senseless, unintelligent, artificial mechanism. This appearance of seclusion and mystery, it is true, may injure the magnetisers, for a time, in the eyes of vulgar observers, and may give occasion to the silly sneers and coarse ridicule of the scep-

* This is probably a consequence of the exalted sensibility of the ganglionic portion of the nervous system.

Among various other instances of this apparently irrational antipathy, the author may refer to some very remarkable phenomena observed in one of his patients by Sir J. D. Brandis, and mentioned in his book: *Ueber Psychische Heilmittel und Magnetismus*, p. 120.

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tic and the scoffer; but it will constitute no valid objection to their proceedings in the judgment of the rational physician and philosopher, who can appreciate the purity of their motives, the delicacy of their feelings, the probity of their character, and the importance of their humane and disinterested labours. If we neglect the essential precautions to which we have just adverted, we can never hope to witness any of the higher and more interesting phenomena of somnambulism, or to render the magnetic treatment conducive to the best interests of science, or to the welfare of society.

7. The erroneous view which appears to be taken, especially in this country, in regard to the true objects of zoo-magnetic science, tends to a very mischievous misapplication of its processes. The great utility of animal magnetism—as we have again and again observed—consists in its demonstrated efficacy as a remedy in diseases. This, indeed, is the only legitimate object to which it may be applied. But, with us, the value of the art appears to be considered by many as consisting solely in the power of producing the extraordinary phenomena of somnambulism, which, however, are merely the accessory effects of the treatment, although erroneously viewed as the principal aim and end of the magnetiser. In this great manufacturing and mercantile country, our magnetic artisans appear to look upon the living human organism as merely the apparatus of a machine, like a spinning or weaving mill for the manufacture of all sorts of fashionable phenomena, which may turn out a profitable speculation, by bringing a remunerating price in the goods-market. Itinerant lecturers and exhibitors may be considered as the commercial travellers for the great concern. We should not be much surprised to hear of a proposal for the application of steam-power to the production of somnambulism, with its various concomitant phenomena. The manifestations of phreno-magnetic science, as it is called, might then be exhibited in the human mechanism, with all the regularity and precision of horological machinery. Now that *mind* has been

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completely *exterminated* by the bold *brain-work* of the famous philosophers of the *cerebration-school*, these splendid anticipations may be converted from mere *pia desideria* into actual realities.

But to be serious—the higher phenomena of the *sleep-waking* state never ought to be made the principal object of the magnetic treatment; otherwise, instead of leading to a restoration of health, by converting morbid into normal action, it may become the cause of an entire and, perhaps, irremediable disorganization of the nervous system of the patient. In the legitimate exercise of the magnetic art, as well as in the idiopathic somnambulism, abundant instances of these higher phenomena will naturally present themselves, without any violent efforts on the part of the magnetiser; and these phenomena may then become fit subjects for philosophical speculation. One remark, however, must be added. The mere physical magnetist, who entirely excludes the co-operation of the mind and the will, may be compared to the mill-owner, who attempts to set his machinery in motion, without the assistance of his steam, or other moving power. A self-acting machine, or *perpetuum mobile*, we believe, is a thing still unknown in mechanical philosophy, although sometimes hypothetically, but vainly, assumed in certain material theories of mind. Even the ordinary physician cannot safely overlook the moral affections and impulses implanted in the human constitution; and, with all the most enlightened magnetists, we are decidedly of opinion that the magnetic phenomena never can be satisfactorily explained upon merely physical and mechanical principles.

In order to the farther elucidation of the various degrees and varieties of the somnambulistic affection, and, at the same time, to prevent young and inexperienced inquirers from expecting to find in *one* state, the manifestations which are peculiar to *another*, and being thus led to deny—as some have been induced to do—the reality of phenomena which have been fully demonstrated to have

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occurred *in certain* states, we shall now solicit the reader's attention to the following observations :—

It has been sometimes objected to animal magnetism, as detracting from the merit of the discovery, that the somnambulism occasionally produced by the processes of MESMER, may be induced by other means, or arise—as in many cases of the idiopathic somnambulism—from causes which we do not know and cannot explain.

Now, we admit the difference in degree, if not in kind, between the various species of somnambulism, viewed as a generic designation, and their very various inducing causes, and should be most happy did we find ourselves enabled to explain them physiologically, in order that we might have it in our power to assign to the magnetic somnambulism its proper rank in the philosophical classification. But matters are not yet quite ripe for such a procedure. In the meantime, however, we may observe, in regard to this point, that all the various forms of this state appear to differ only in degree, *i. e.* in the intensity of the affection ; and that it might not be so difficult, if the ordinary sleep and dreaming were once satisfactorily explained, to proceed from thence to the middle stages, and thence again to the higher forms of the lucid somnambulism (*clairvoyance*), and, at length, to discover a physiological explanation which might be found applicable to the whole. KLUGE and others, indeed, have attempted to give a classification of the various degrees of the magnetic somnambulism, and of their relative phenomena ; but all of these attempts have been admitted to be imperfect. The labour of classification, indeed, is rendered the more difficult that the symptoms do not always appear in regular gradation ; a great deal, apparently, depending upon the constitutional idiosyncrasy of the operator, and the peculiar sensibility of the patient. WIENHOLT mentions in his work, that a very small number of his patients became somnambulists ; whereas, in the practice of others, the affection is very frequently produced. Some patients, also, are much more liable to fall into somnambulism than others, &c. We shall subjoin the arrange-

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ment proposed by Professor KIESER of Jena, an eminent physician and physiologist, who has bestowed great attention upon this subject; but we must premise that his, as well as almost all other classifications of these states, is founded upon a theory of the peculiar and antagonist functions of the cerebral and ganglionic portions of the nervous system, which, however ingenious and probable, has not, so far as we are aware, been hitherto sanctioned by the physiologists of this country. In this theory it is assumed that the cerebral influence predominates during the waking state of the individual, the ganglionic during sleep and its analogous affections. The following is KIESER's arrangement.*

1. *Sleep and Dreaming.*—Ganglionic life in its lowest stage.—The activity of the brain is not yet entirely suppressed; therefore some recollection remains in the waking state. Profound dreams, the higher state, accordingly, leave no recollection behind, unless in a new dream. Parallel states are: many kinds of catalepsy, fainting, *tetanus*, epilepsy.

2. *Sleep and Speaking*—SOMNILOQUISM.—The dreams are more perfectly formed. The ideas produced by the activity of the ganglions affect the organs of speech, while the organs of motion are entirely quiescent. The activity of the brain is more and more suppressed, while that of the ganglions is increased. Hence, recollection in the waking state is less frequent than in the previous degree.—Parallel states: the delirium of fevers, *delirium mite*, and the more developed forms of catalepsy, epilepsy, &c.

3. *Sleep and Motion*—SOMNAMBULISM.—Still more

* When the author, several years ago, called the public attention, in this country, to the importance of the ganglionic portion of the nervous system, in enabling us to explain the *rationale* of sleep and dreams, and the phenomena of animal magnetism, his notions were received with much suspicion and scepticism by our British physiologists. Of late, however, it would appear that more attention has been paid to this subject; and we trust that the great importance of the ganglionic functions in the nervous economy will soon come to be more generally recognised and appreciated.

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perfect developement of the dreaming state; the whole body being now subjected to the activity of the ganglions. Recollection now becomes still less frequent, because the activity of the brain continues to decrease.—Parallel states: *chorea Sti Viti; epilepsia percursoria; mania furibunda; melancholia sylvestris, &c.*

4. *Sleep and Thinking*—CLAIRVOYANCE.—The ganglionic life, which, in the previous stages had not yet awakened into consciousness, but dreamt, spoke, and acted instinctively, now awakes, in a higher degree of developement, to a relative consciousness, and to internal intuition. Recollection is entirely obliterated, because the cerebral life must sink with the increasing developement of the ganglionic. But the ganglionic life is, in consequence of its nature, less individual, more general; therefore, space and time, as the forms by which the cerebral life is limited, disappear, and the soul sees forward and backward into unmeasured time, and through unmeasured space. Transposition of the sensitive functions, prosopopeia and anthropomorphism, seeing at a distance, &c. may then be easily explained from the physiology of the ganglionic life. But our present physiology and psychology are limited entirely to the phenomena of the cerebral life; and we must abstract our attention from the latter, in order to comprehend the former; just as the somnambulist must wholly abandon the ordinary waking life, in order to become *clairvoyant.*

So much for the physiology of the matter. The etiology of somnambulism points out the various influences, which, affecting the ganglionic life—according as they operate more or less powerfully, or meet with greater or less susceptibility—produce the higher or lower forms of somnambulism. (See *Archiv für den thierischen Magnetismus;* III. 1. pp. 129, &c. *Note.*)

Having now, as we conceive, completely demonstrated the reality of the fact—occasionally manifested, although so obstinately controverted—of the exercise of vision, or, at least, of the acquisition of visual perceptions, without

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the assistance of the eyes,* we shall now proceed to exhibit a statement of those hypothetical principles, upon which some of the most eminent physiological magnetists upon the continent have endeavoured to account for this curious and much contested phenomenon. We request it may be observed, however, that whatever may be thought of the sufficiency of these theories, the fact itself has now been established beyond all controversy. This observation we consider the more necessary, because in all the pretended refutations of animal magnetism, it seems to have been hitherto conceived that to invalidate a theory was to annihilate a fact.

A great deal of the scepticism exhibited in regard to the manifestation of sensitive perception, without the assistance of the special organs, has probably arisen from the imperfect notions generally entertained with respect to the perceptive process itself. The objections proceeding from this source of fallacy we have endeavoured to obviate in the introduction to this volume. "Let us consider," says Dr Bährens, an early and intelligent advocate of animal magnetism, "let us consider that it is only the mind of man which gives reality to all things; and that, otherwise, there is for us no foundation for substantial being, beyond the feeling of personal identity. Extension, to which we give the name of body, is nothing else than a relation to our sensitive faculties. The material organs of sense have reference only to the principle which operates upon them. The sensations excited in our mind by light and sound have nothing in common with the conditions under which light and sound are produced; the soul hears and sees by means of ears and eyes, because these organs are themselves material. The essential properties we ascribe to matter—extension and impenetrability—are, perhaps, not *essentially* existing; and

* In the state of which we have been speaking, the whole external sensibility is abolished; and the fact of the absence of the ordinary functions of hearing, smelling, tasting, &c. might be equally well demonstrated as that of the insensibility of the special organ of sight, although the patient still enjoys the faculties of hearing, smell, and taste, as that of sight, by other means.

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matter itself may, perhaps, be something quite different from what we conceive it to be, because our notions of extension and impenetrability are neither extended nor impenetrable, but merely relative ideas of the mind."—J. C. BAHRENS; *Der animalische Magnetismus*, &c. 1816.

Again: "The vehicle by means of which the mind receives sensible perceptions is, properly speaking, not the nerves themselves, but the *aura nervea*, or vital spirit which surrounds them. As there exists throughout nature an *aura electrica*, *magnetica*, &c. all of which are subsumed in the *aura vitalis*, there is also an *aura nervea*, which is only a higher and more purified *aura vitalis*. The nerves are the bearers or conductors of this *aura* of the general vital spirit. In the brain—the seat of the higher portion of nervosity—this *aura* becomes exalted to a higher degree of spirituality, in order to enable it to act as the conductor of the sensible impressions to the great *sensorium*. The soul, therefore, presides over the brain, but without being itself subject to the ordinary conditions of space and time. There is no determinate seat of the soul."—"To excite the vital spirit is to magnetise or mesmerise. By means of mesmerism, the vital or nervous sphere is developed, expanded, conducted, and thus a healthy state of action produced, by placing the whole system in a state of equilibrium. The vital spirit is peculiar to the animal organism, and, therefore, all animal matter must be susceptible of animal magnetism. This is confirmed by experience. We can magnetise fowls, rabbits, dogs, cats, &c., * and in doing so, we may witness the most extraordinary phenomena."

* Magnetic experiments upon animals have been made at different times, and in different countries. The first with which we are acquainted were those instituted by the Doctors BAKKER, HENDRIKZ, and WOLTHERS in Holland, and will be found reported in a work published by these gentlemen, at Groningen, in the year 1814 and 1818. Similar experiments have been made in France and Germany, and they have been alluded to by CUVIER and others, as invalidating the imagination-theory, once so popular among the oppo-

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"Mesmerism operates upon the whole peripheric mass of the nerves, by which means the whole body may become a sense of feeling; and, in particular, it affects the organ of that sense which comprehends sight, hearing, smell, taste, and touch, but which, in reality, is neither the one nor the other.

"Physiologists may endeavour to explain how these *disjecta membra sensorii* become combined into a general central *sensorium*, while their special organs continue separate, as in the normal state."—BAEHRENS, *ut supra*. This fact of the union of all the special senses, in the magnetic state, into one common sense, is confirmed by the declarations of a number of somnambulists, in regard to the source of their sensitive perceptions.—(See, in particular, the case mentioned by Mr TOWNSHEND, and formerly noticed, page 168.)

According to the hypothesis of REIL, which, under different modifications, has been generally adopted by almost all the German, and by some of the French magnetists, the ganglionic portion of the nervous system, in general, is considered as the seat of this common sensory, or combined sensibility; and this theory is supported by some well-known facts connected with animal organization, into which our limits will not permit us to enter at present. According to this theory, therefore, if the night-walkers and somnambulists can see and hear with closed eyes and ears, it is because, in them, during the abeyance of the ordinary sensitive organs, the original sense in the ganglionic portion of the nervous system has been developed, or emancipated from the control of cerebral action;—just as, in the case of some of the lowest order of animals, in the absence of any special sensitive organs, we sometimes find an acute external sensitiveness, with great developement of instinct, constructiveness, and apperception.*

nents of animal magnetism; and in our own country, additional experiments of this kind have been more recently made by Dr WILSON of the Middlesex Hospital.

* The old notion, that all the nerves have their origin in the brain,

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Although the extraordinary phenomenon of which, we trust, we shall be found to have established the

is manifestly erroneous. On the contrary, the brain is the very last nervous formation—the climax of nature in the structure of the animal frame. In the very lowest class of animal existence, we find only the faintest traces of an incipient nervous system—ganglionic or abdominal nerves—without a brain or spinal chord. These animals appear to be all stomach. With regard to the little hydra or fresh-water polype, Dr CARPENTER, in his Physiology, observes that "this interesting little being may be regarded as essentially a *stomach;* that, in the molluscous classes, although the organs which minister to their vegetative functions attain a very high degree of developement, the animal powers of sensation and locomotion are, in general, so feebly manifested, as to show that they are entirely subservient to the exercise of the former;" and that, in the lower classes of *invertebrated* animals, even the *visceral* system does not exist in a distinct form, while, although some appearance of a sympathetic system may present itself, this is never so distinct as in the *vertebrata*.

In proportion as we rise in the scale of animated being, this abdominal nervous system becomes more and more distinctly developed —ganglions are formed—certain central points of reunion are discovered;—and, at length, we recognise the first rude vestiges of a spinal elongation, and, ultimately of a brain, or cerebral system. In those animals which manifest merely a more or less perfect developement of the abdominal or ganglionic system of nerves, we find only, in a corresponding degree, motion—at first, perhaps, nearly automatic—feeling, and instinct, in an inferior or superior degree. As soon as something approaching to a brain is discovered, a certain degree of intelligence begins to appear, design seems to be gradually superadded to blind instinct; and this manifestation of intelligence increases in the several orders of animal life, in proportion as the cerebral system becomes more perfectly developed in the organization,—from infusorial and molluscous animals up to man.

In the infusory *animalculæ*, and in some species of the *polypi*, the sense of feeling, as well as the sensibility to the impression of light—which afterwards becomes developed into a sense of sight, by the formation of a peculiar and appropriate organ of vision—would appear to be dispersed, diffused, and amalgamated with every molecule of the body; observation, at least, conducts us to no other conclusion, although this point, we believe, has been controverted upon speculative grounds. Here, then, we have a phenomenon which is constantly found in the infusory *animalculæ*, and the radiated *polypi*, in consequence of the peculiarity of their organization, and the circumstance, therefore, does not appear to us to be in any way extraordinary. It must be understood, however, that, in these

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reality—the acquisition of sensitive perceptions by other means than through the instrumentality of the ordinary apparatus of the special senses—although this phenomenon has occasioned so much surprise and scepticism, and even ridicule—and that, too, amongst individuals of considerable repute as physiologists:—Professor ESCHENMAYER, one of the most philosophical magnetists, considers it as not only one of the most incontrovertibly proved, but, also, as one of the least difficult to explain upon theoretical principles. He very justly observes—and it seems extraordinary that this fact should not have been subjected to a philosophical investigation previous to the time of WIENHOLT—that, even in the case of ordinary somnambulists, some similar transference of the perceptive powers must be admitted to take place. The ease and security with which they traverse the most dangerous places with their eyes closed or visionless, and their dexterous evasion of all obstacles that may lie in their way, seem to warrant the conclusion that, in them, the normal sense of sight is supplied by some other medium of communication with the external world. ESCHENMAYER, and many other scientific magnetists, endeavour to explain this phenomenon upon the principle—to which we have already alluded—of an inversion of the poles of the nervous system—the activity of the cerebral being

animals, the sensation produced by the *stimulus* of light cannot yet have the same peculiarities, as in those organs of sight called eyes, which are gradually developed in the more perfect animals. The acuteness and delicacy of the sight itself is different in different animals, and even in different men. But the sense of light, indisputably, has its primary root in the sensibility to the *stimulus* of light, which is manifested by these *infusoria* and *polypi*, and which, in an inferior degree, and approaching more to the character of mechanical irritation, is to be discovered even in the vegetable kingdom.

The same observations apply to the *mollusca*, which possess no cerebral system of nerves, but exist only by means of the ganglions. These animals, being acephalous, are destitute of all peculiar organs of special sense; yet they appear to recognise everything that relates to their physical wants. They even manifest some vestiges of instinct and artifice—just as the night-walkers and magnetic somnambulists can see and hear with closed eyes and ears—because, in them, the primary sense has been developed in the ganglions.

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superseded by that of the ganglionic nerves. They farther assume, with REIL and his followers, the existence of a nervous atmosphere, or organic ether—the source of all perception—which set free from the brain by the same causes which produce the somnambulistic affections, constructs for itself a *focus*, or centre of energy, in the *epigastrium*, or in the peripheric terminations of the nerves; and as all organic substances are permeable by this ether, it must be presumed to be capable of extending its sphere of activity beyond the body, as the eye and the ear in the normal state, and, thus, of receiving similar impressions, although in an apparently different manner. The attribute of a *common sense* may be ascribed to this organic ether. As the differently refracted and coloured rays of light stand in relation to the white light, which represents their combination, so do the different special senses, such as the eye, the ear, &c., to the common sense. Every peculiar apparatus of the senses presents a different refraction of the organic ether, which, in the common sense, exists in unity. Whenever, therefore, the organic ether becomes disengaged, and forms a *focus* for itself, there ensues a transposition, not of the special organs, but of the common sense itself, which becomes sensible of all modifications, in the same manner as in the brain, its original seat. Herein consists the whole apparent magic of the phenomenon.

In the ordinary state, we see only by means of the refracting apparatus of the eye, which comprehends only the surfaces, the colours, and the outlines of objects, and conveys this combined impression to the common sense (*sensorium commune*) attached to the brain; where the organic ether, thus affected by it, experiences a peculiar modification, which, when apprehended by the soul, generates a determinate perception of sight. In the magnetic state, on the other hand, the soul, by means of the organic ether, transposes, as has been said, not the organ of the eye, of the ear, &c.; but the common sense itself, which passes, without any obstacle, into the objects, so far as its sphere of operation extends, and sees

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through every thing to which the attention of the mind is called by questioning. (See ESCHENMAYER; *Versuch die scheinbare Magie des thierischen Magnetismus*, &c. *zu erklären*. 1816.)

The same ingenious philosopher farther observes, elsewhere, that we may contrast the *sensorium commune*, where all the perceptive impressions unite, with the specific differences of the special sensitive organs, as unity with plurality. In the common sensory, the organic ether acts unconstrained and free; in the different apparatus of the senses, it is fettered, or rather obscured. In its free state, it will combine properties which elevate it far above all physical powers. The density of matter will oppose no obstacle to its action. It will unite in itself the power of penetrating and illuminating all things.

Indeed, as DIDEROT and others have already remarked, we cannot say, with strict propriety, *the eye sees, the ear hears, the nose smells, &c.* It is always the *common sense* which sees, hears, and smells. Let us only consider the difference between *sensation* — the impression made upon the special organ; and *perception*—the consequent mental affection. The perception is in the common sense, and is consequent upon the modifications of the organic ether, which stand in mere relations of intensity to each other. The sensation, on the other hand, depends upon a certain form impressed upon the peripheric organ, whether as an image, a vibration, or an undulation. But it is not the image, the vibration, or the undulation, as such, which make their way to the common sensory, but only the energetic intensity with which it acts upon the organic ether. These intensities stand under certain exponents, whose co-efficients may vary *ad infinitum*; and in these exponents lies the difference in the perceptions of sight, sound, &c. If we, therefore, admit the possibility of a state, in which these intensities might be excited in any other than the usual manner, then this seeing, hearing, smelling, &c. would also be possible without the interventive agency of the special sensitive appa-

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ratus ; and the power of producing such a state we might recognise in animal magnetism.

The whole peripheric apparatus of our senses, indeed, seems much better adapted for storing up in the brain the innumerable sensations impressed upon it, in their most minute features and outlines, in order that they may be always ready to afford materials for the mind, than to represent the only possible means for the formation of perceptions. It is, no doubt, true, that, in the normal state of the organism, the sensations in the sensitive apparatus are followed by perceptions ; but from this it does by no means follow, that, in an extraordinary and abnormal condition of the system, our perceptions must necessarily have a similar cause. In night-walkers, we see various other nerves perform the office of the senses ; and the same phenomenon occurs in the case of somnambulists whether natural or artificial. But there is this distinction in the latter case, that, as these extraordinary perceptions are not combined with any formal sensation, there can be no subsequent recollection of them in the ordinary waking state. The common sense, indeed, perceives under similar relations of intensity, as through the cerebral apparatus of the senses ; but as the sensations do not take place by means of representative formations, they leave no traces in the memory, no impressions or outlines ; and, therefore, upon awakening into the ordinary state, the somnambulists know nothing of the part they have played during the magnetic sleep. If we admit this peculiar functional property of the common sense, and, at the same time assume that the organic ether, unobscured and unfettered by the apparatus of the senses, can establish polar relations throughout the whole of the nervous system, we can have no great difficulty in accounting for the transference of sensation to the pit of the stomach, the points of the fingers, &c. As the organic ether, wherever it acts freely, penetrates and illuminates all objects, the mind no longer requires the special apparatus, in order to acquire similar perceptions. It is a free intuition of the soul, obstructed by no intervening

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medium.—Professor ESCHENMAYER. (See *Archiv für den thierisch. Magnetismus;* I. 1. pp. 27, &c.)

Now, let us see what actually takes place in the affections of which we have been treating. In somnambulism, or the ecstatic crisis, the material organs, by means of which the mind communicates with the external world, are temporarily deprived of their sensibility;—the mind, consequently, is placed in an unusual, an abnormal relation towards the external world. In this situation, the perceptive manifestations of the individual are of an entirely different character from those of ordinary life; and to them, therefore, the same principles of explanation cannot be rendered applicable. For this reason, the phenomena of these states must be subjected to a quite different philosophical and physiological criterion from that which we employ in our speculations relative to the normal state of existence—to the ordinary waking life; otherwise our judgments will infallibly be incorrect and incongruous, and inconsistent with the facts presented to our notice. The phenomena of animal magnetism, we apprehend, will for ever prove a stumbling-block to the stubborn partizans of the physiological materialism, who endeavour to explain all animal manifestations upon the principle of an inflexible organology, and to whom nothing is real but what they can see, hear, touch, taste, or smell with their usual bodily organs.

Professor KIESER of Jena, a well-known physician and physiologist, whose learned labours have contributed so much to the elucidation of the principles and phenomena of animal magnetism, seems disposed to reject the hypothesis of a nervous fluid and its sensible atmosphere; and, in accordance with his own system of *Siderism* and *Tellurism*,* he endeavours to explain the more remarkable phenomena of animal magnetism—amongst others,

* *System des Tellurismus, oder thierischen Magnetismus, &c.* Von Dr D. G. KIESER, *Hofrath und Professor zu Jena.* 2 B. Leipzig, 1826.—Dr KIESER was also the principal editor of the *Archiv für den thierischen Magnetismus*, to which he contributed many valuable papers.

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those of *far-seeing* and *far-feeling*—upon the hypothesis of a peculiar *telluric* power, or principle, which, under any form in which it may be manifested, he presumes to be capable of acting *in distans*, and whose action, like that of light, heat, &c. is supposed to increase in a *ratio* corresponding with the proximity of the active body. He assumes a higher and lower degree of intensity in this power; and, in its highest intensity—the *psychico-magnetic*—it becomes emancipated from the conditions of space and time; and he conceives that, in this state, its action, in the short period of a second of time, may reach from the remotest parts of the earth to the antipodes.

Now, that this most extraordinary *psychico-magnetic* power—under whatever name or character we may designate it—does really exist, as exhibited in its action upon objects remote from the ordinary organic influence, no man acquainted with the phenomena can rationally doubt; for we have many well authenticated instances of its occurrence. The great difficulty lies in discovering the nature of this extraordinary power, its peculiar source, the principle upon which it acts, and the means by which it communicates in its external operations. All that is new, however, in the theory of KIESER, it will be observed, rests entirely upon an hypothesis; that of REIL, ESCHENMAYER, &c.—although in many respects, also hypothetical—might be more easily brought into consistency with the ordinary principles of physiology, which are not impugned by the animal magnetists, when applied within their proper sphere. All that is required is that we should concede the distinction between the appropriate functions of the cerebral and ganglionic portions of the nervous system, which alternately exert a preponderating influence during the respective states of wakefulness and sleep; and that we should recognise the phenomena as resulting from the different species of manifestation.

The theories, however, by means of which REIL, ESCHENMAYER, KIESER, and other philosophical mag-

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netists have attempted to explain the phenomena, may possibly be quite unintelligible to those who are unacquainted with the facts;—to those who altogether deny the reality, or even the possibility of these facts, they may, no doubt, appear absurd and preposterous; nay, they may, perhaps, be denounced as visionary emanations, or hallucinations, of German mysticism. But if the facts are generally admitted—and, ultimately, as we conceive, they must be universally admitted,—these theoretical explanations may be considered as ingenious, at least, if not probable. The animal magnetists, in general, conceive themselves well entitled to hold the facts to be true—to be legitimate deductions from experience and observation—to be as real as the physical phenomena of the mineral magnetism, or of electricity; but, at the same time, they do not bind themselves down to any particular theory, however plausible, provided that a better, and more simple and satisfactory explanation can be afforded.

Si quid novisti rectius istis
Candidus imperti.

They maintain, however, with perfect confidence, that every phenomenon must have an adequate cause in nature, whether we are able to discover it or not; they acknowledge no peculiar miracles in magnetism; and, moreover, they consider it to be in the highest degree unphilosophical and foolish to hold up to ridicule any honest attempt to elucidate the more obscure and hitherto unexplained phenomena of nature. And no real philosopher—no genuine disciple of the illustrious BACON—will presume to deny the reality of ascertained facts of an interesting character, merely because attempts may have been, perhaps prematurely, made to account for them upon erroneous, uncertain, or unsatisfactory principles. We must just take the facts as they are presented to us by nature; and unless we are willing to adopt one or other of those hypotheses which men of learning and philosophical acuteness, possessing an intimate knowledge of the particular subject, have been induced to propound,

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as affording a solution of the problem, or are prepared to bring forward some more satisfactory theory of our own; it is feared that we shall never become capable of attaining to an adequate explanation of the phenomena. In this instance, as in the case of many of the other mysteries of nature, it may then be said that we know only the facts, and are not likely to know any thing more.

One point, however, is perfectly clear. Our ordinary systems of physiology present no clew to guide us through this labyrinth of extraordinary facts. "The magnetic power," says Professor KIESER, "may be recognised not only in the nervous system and in its polarity in the cerebral and ganglionic portions of it; but in the whole life of man, as in the whole of the organism, and in every individual organ—nay, even in the whole life of a people; and whenever a vital process appears, it appropriates to itself the one-half, which we have denominated the *night-side* of life. Herein, then, is shewn the value of the hitherto one-sided and partial character of the doctrine of animal magnetism, as well in regard to the efficient power, as also in respect to the physiological phenomena; —and its universal character is thus brought to light; which is founded in nothing else than in the *night-side* or the *telluric life*, of all and every earthly existence. That which our physiology has hitherto sought to explain, and upon which all the powers of the understanding have been expended, is merely the *day-side* of life, *day-life;* the converse of this—the explanation of which is of equal value—was only known in its lowest degree —the state of simple sleep; while the higher degrees, as well as the entire subject, found no place in our physiological treatises. The phenomena of animal magnetism, however, have now conducted us to a more intimate knowledge of the characteristic distinction in question, and to a more extensive investigation of the whole subject. Henceforth, physiology must embrace not merely the activity of the *cerebral*, but also that of the *ganglionic* portion of the nervous system;—not only the phenomena of the *day-life*, but also those of the *telluric*

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or *night-life.*—(See *Archiv für den thierischen Magnetismus;* VI. iii. p. 186.)

Before we terminate our discussion of this curious and important subject, there are still some extraordinary phenomena which deserve our attention. From the cases formerly adduced, it must have been observed, that the manifestation of sensitive perception has been found to be transferred, not merely to the *epigastrium*—although this is the most common—but also, occasionally, to different other parts of the body. This circumstance has led to some interesting speculations in regard to the central point of vital energy in somnambulism. As we may assume that, in the waking state, all the special energies of the individual organs of the vegetative, animal and sensitive life, according to REIL, converge towards an ideal point in the brain, called the seat of the soul; in the same manner we must assume, that, in the somnambulist, as soon as he awakes to self-consciousness, a similar central relation, a similar concentration of the corporeal and spiritual faculties takes place, only towards a totally different centre from that of ordinary life, and which bears the same relation to the seat of the soul as sleep to waking. Notwithstanding the similarity of the spiritual functions, every one who has observed a lucid somnambulist, must admit that they are of a totally different character from those manifested in the waking state. It is equally clear—and not only decidedly expressed by somnambulists themselves, but to be deduced, also, from a multitude of phenomena—that, in somnambulism, the brain loses its appropriate functions, and, from a superior, sinks into a comparatively subordinate relation. From this, then, it appears to follow, that there can be only *one* central point of vital energy, and that another portion of the nervous system, previously subordinate, assumes this character. This point, then, becomes the temporary centre—the seat of the soul; and all the other parts of the system—even the brain itself—converge towards it, and are governed by it.

But here arises the important question: What part of the nervous system, in these circumstances, becomes the

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central point? Is it always one and the same; or is it different at different times, and in different somnambulists?

The general opinion—supported by REIL's ingenious inquiries into the relations subsisting between the ganglionic system and the brain—is that, in the magnetic sleep, the great ganglionic *plexus* in the abdomen—the *plexus solaris*—assumes the functions of the brain. This opinion is rendered more probable by many of the phenomena of somnambulism; and it has been fully illustrated by Professor KIESER, and by a number of other learned physiologists. According to the opinion of others, it is either the brain itself, or the sympathetic system, which is the central organ in somnambulism. But here, it may be asked, may not, in different cases of somnambulism, a different part of the nervous system become the central organ, as the sense of sight, as we have seen, is sometimes transferred to the points of the fingers, sometimes to the region of the stomach, and sometimes, as has been remarked, during *clairvoyance*, remains in the eye itself; so that, perhaps, in the greatest number of cases, the *plexus solaris*, while, in others, —determined by the form of the affection—another nervous centre becomes elevated into the seat of the soul?

If we admit the transposition of the poles of sensibility in somnambulism, by which the central point of the sensitive life is transferred from the brain to some other organ, it is not clear why, as in metastatic affections, sometimes one, sometimes another organ, but always that most susceptible of disease is attacked—so, in the case of somnambulism, a different organ of the nervous system—especially that most susceptible of zoo-magnetic action—may not be elevated to the dignity of an organ of the soul. If we once assume, so to speak, a *metempsychosis* in the sphere of our own body, (without which, do as we will, we cannot attain to any physiological principle in this matter,) then, under certain conditions, any part of the nervous system may became an organ of the soul, *viz.* always that part which is most excitable; and the organ of the soul can thus be transferred out of

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the central part of the brain into a peripheric part of it, as into the great ganglionic *plexus* of the abdomen, or into any other ganglion, provided this part of the nervous system stands in the relation of a centre, although in a lower sphere, in subordination to the brain—that is, provided it be really a ganglion in the physiological sense.* Hence, perhaps, a difference might take place between male and female somnambulists; seeing that, in the latter, in consequence of the greater activity of the abdominal ganglions, even in the normal state, most nervous diseases are reflected, and somnambulism, also, most frequently developed in that sex.—(See KIESER, *Archiv für den thierischen Magnetismus*, II. ii. pp. 109, &c.)

The author has now laid before his readers a summary of the evidence in favour of the fact of vision without the assistance of the eyes, along with an account of that theory upon which those eminent men, who have most minutely investigated the phenomenon, have endeavoured to account for it. The fact itself is of no small importance to the sciences of physiology and psychology; and the theory it is thought, deserves the attention of every inquiring mind. The latter—the theory—if admitted, may be found capable of elucidating many other curious and interesting phenomena, besides that which has been the subject of our present investigation.

* The following passage from Mr Swan's treatise on *The principal offices of the Brain and other Nervous Centres*, is to us rather obscure, but if we have rightly apprehended its meaning, it seems to lend some countenance to the views developed in our text.

"The uses of *ganglia* are twofold; first, as they relate to the brain and spinal marrow; secondly, as they relate to the organs of the body. For the first, they are so constructed that no impulses shall be carried through them which do not accord with, or would disturb any of the faculties of the brain and spinal marrow; for the second, that they may, at the same time, agree with the structure and required functions of the organs of the body to be supplied by their means. *Therefore, when the motive and sensitive parts and the viscera are equally and sufficiently related to them, they are capable of performing the functions of the whole nervous system.*

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POSTSCRIPT.

"The systematic disingenuousness of some Medical Journals on this subject, and the far-fetched calumnies and offensive assumptions with which it is the regular practice of a large number of the faculty to assail every case of cure or relief by Mesmerism, looks very much as if they were in conflict with powerful truth, and as if they knew it."

Miss MARTINEAU.

SINCE this little publication went to press, I have seen a pamphlet published by Dr FORBES of London—one of the editors, it is believed, of the *British and Foreign Medical Review*—entitled, MESMERISM TRUE—MESMERISM FALSE; upon which I must take the liberty of making a few hurried observations. It would certainly become the members of the medical faculty to devote some serious attention to a subject which, for a considerable period, has excited no little sensation throughout the country; but although this production of Dr FORBES exhibits, in certain respects, a somewhat altered tone of sentiment in regard to the merits of Mesmerism; it still contains, in my humble opinion, a little too much of the old leaven of supercilious scepticism and professional jealousy.

The title of the pamphlet appears to me to be rather a strange one. MESMERISM—so far as the asserted

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operative principle or agent is involved—cannot be both true and false; the author, doubtless, means that some of the alleged phenomena are true, and some of them are false. But even this interpretation does not appear to express the intended meaning: For, so far as I have been able to perceive, Dr Forbes does not expressly say that any of the facts in question are actually false; but only that, in his opinion, sufficient evidence of their reality has not yet been adduced. Even had he ventured to affirm that *he* considered certain alleged facts to be absolutely false, he might have been gently reminded that his judgment is not altogether infallible, and that these facts were still open to experimental demonstration before another and less partial tribunal.

The learned Doctor, indeed, appears anxious to effect a compromise between plenary belief and absolute scepticism in this matter; and, accordingly, while he accuses the medical sceptics of "uninquiring, unreasoning, dogmatic unbelief," he, at the same time, charges the "abettors of the new doctrines" with "blind faith and headlong enthusiasm." The former accusation we readily admit—the latter charge we must take the liberty of denying. The magnetists feel that they must just take the facts of their science as they find them evolved by experience. They do not pretend to be able to control the operations of nature, nor do they venture to say to her, with Dr Forbes and the sceptics: *Hitherto shalt thou go, and no farther.* There is not one, even of what are called the extraordinary phenomena—the marvels—of animal magnetism, which does not rest upon the most ample evidence, and which the supporters of that doctrine are not, at all times, ready to demonstrate; evidence, too, which has satisfied many men of the highest eminence in medicine and in science. The inveterate sceptics alone will not look fairly at these facts—will not even listen with patience to the evidence adduced in support of them. This last surely is prejudice. Were the mind a *tabula rasa*, did no previous notions exist in regard to the possibilities or impossibilities of nature's ope-

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rations, these facts, indeed, would just take their place among the other sensible phenomena which are more familiar to observation. But the prejudices of foreclosed science are exceedingly hostile to the admission of new and more enlarged views; nay, some men appear to be naturally so inimical to progressive truth, that they cannot, or will not see the sun at bright noon-day; and, moreover, their powers of observation are so perverted, that they never can bring themselves to look a new and obnoxious object fairly in the face, but will always endeavour to discover some point, from which they may view it in the most oblique and distorted manner possible.

Dr FORBES is disposed to admit some of the phenomena of animal magnetism, when pared down, pruned, and adjusted, so as to square with his own notions; but farther than this he declines to go. He will follow nature, so long as she will consent to walk within the arbitrary boundaries he is pleased to assign for her legitimate perambulations; but the moment she rebels, and attempts to exceed these limits, he gives her the slip, bids her adieu—or, perhaps, endeavours to whip her in. The learned Doctor, indeed, is exceedingly profuse of his professions of liberality, impartiality, &c. But, somehow or other, he always allows himself to be drawn over—forcibly, and against his will, no doubt—to the sceptical side of things, and appears to revel in the most partial representation of the facts—always to the discredit of Mesmerism.

It may appear very presumptuous in an unprofessional person to call in question any of the medical opinions of an eminent physician; yet I very humbly beg leave to suggest that Dr FORBES may be wrong in confounding *hysteria*, *catalepsy*, and *somnambulism*, which would appear to constitute three distinct states, or forms of abnormal nervous action. In some cases, indeed, they may be complicated; but they may also exist separately; and, by means of certain artificial processes, they may be made to alternate. In confirmation of this opinion, I would refer to

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the experiments and observations of the Doctors PÉTETIN and RENARD, and to the works of many eminent medical magnetists. But the term *hysteria* appears to be used in a rather vague and indefinite sense by our English physicians, instead of being limited to those symptoms to which its derivation would seem to restrict it. Dr FORBES, indeed, speaks rather contemptuously of Dr PETETIN, whom he designates as a *confrere* of the magnetists. But the reputation of Dr PETETIN is very differently estimated upon the continent; and he *was not a magnetist* at the time he instituted his experiments and made his discoveries. This unfavourable opinion of Dr FORBES, too, must be held to implicate all the eminent physicians and learned men of that day in Lyons and the neighbourhood—MM. COLADON, GINET, DOMINJON, DOLOMIEU, BALLANCHES, JACQUIER, MARTIN DE SAINT-GENIS, EYNARD, &c. who repeated PETETIN's experiments, and obtained complete conviction of the reality of the phenomena. Now, however high the character and pretensions of Dr FORBES, we must be permitted to doubt whether he is entitled to speak with disparagement of such men as I have named. The learned Doctor, it may be observed, does not appear to be acquainted with the experiments of RENARD.

Dr FORBES considers it "most remarkable, and *damaging in the extreme to mesmeric testimony*," that some attribute influence to the "will," while others ascribe everything to "material gesture." For an *impartial* inquirer, indeed, Dr FORBES appears to us to be a great deal too fond of making discoveries "*damaging in the extreme* to mesmeric testimony;" but it is rather astonishing that, in the present instance, a gentleman of his sagacity should not have had penetration enough to perceive that it is much easier to reconcile these two apparently discrepant opinions, than to accomplish his favourite project of a compromise between the magnetists and the sceptics. In magnetising, it may be observed, some operators do make use of gestures or manipulations; others do not. A certain school of magnetists employed

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no gestures whatever, and yet succeeded. The latter method appears to *demonstrate* the influence of the will —the former does not *disprove* it; and this is the only legitimate inference which can be logically deduced from the facts. There is here, therefore, no such "*damaging*" inconsistency as the learned Doctor seems to suppose. The opinion of almost all of the most eminent magnetists is that the will of the operator has a most decided influence in the determination of the phenomena—in which opinion I entirely concur; and this influence is not excluded, but rather re-inforced, by the employment of "material gestures" or manipulations. Dr FORBES, indeed, says that professed magnetisers impute the differences of manifestation to "different magnetisers being *on the look out for*"—as he calls it—or, as we should say—*willing* "different phenomena." The mode of expression does not essentially alter the meaning: The opinion, in either case, equally implies an exercise of the will.

Dr FORBES—who boasts so much of his *impartiality*—does not hesitate to give a completely one-sided account of the *Burdin* affair, considering it, no doubt, as "*damaging in the extreme*" to the pretensions of mesmerism. He speaks of the judges in this matter having been *impartially* chosen; yet the very first person he names—M. DUBOIS—had previously been most conspicuously distinguished for his outrageous scepticism, and has been, moreover, publicly accused, upon good grounds, of the most disingenuous practices. (See *Isis Revelata*, 3d Edition, Preface.) And the learned Doctor quotes his "illustrative cases" from the work of the sceptics—MM. BURDIN and DUBOIS—the one being unwilling to part with his money, the other to abandon his scepticism; without taking the slightest notice of the published statements of parties on the other side. This, again, in our opinion, *is not impartiality*. Dr FORBES, indeed, seems to have rather queer notions of *impartiality*, as the Irish are said to have of justice.

In the case of M. PIGEAIRE, counter-statements were published by that physician himself, by Dr FRAPART,

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and by M. AUBIN GAUTHIER in his learned work—*Histoire du Somnambulisme*—which are "*damaging in the extreme*" to the report of the committee, upon which Dr FORBES so much relies. Is Dr FORBES aware that, in this particular case, the academical committee *never attended a single experimental* seance—*never made any investigation at all—never witnessed any experiment, either as members of the committee, as physicians, or as mere individuals—never even saw the child who was to be the subject of experiment, either in somnambulism, or in her ordinary state;* and, moreover, that this committee has been publicly accused by M. GAUTHIER of having made a false report *(rapport mensonger)* to their constituents? (See *Isis Revelata*, 3d Edition, as above.)

Now, Dr FORBES either knew these facts, or he did not. If he knew them, he has not thought proper to make any allusion to them; and this, once more, in our opinion, *is not impartiality*. If he did not know them, we would very humbly advise the learned doctor to be a little more minute in his researches before he ventures to bring forward matters "*damaging in the extreme to mesmeric testimony.*"

But, farther,—and this should have been known to Dr FORBES, provided he took the trouble to read the report of the committee in the *Pigeaire* case, as he ought to have done—the committee admit that in reality "the *somnambulist did read with her eyes bandaged*"—how they came to know this is a different thing; but, as is usual with the sceptics as to mesmerism, they attempt to get rid of the fact by a theory or presumption of their own, which is by far the most easy way of getting over all difficulties.

Farther still, a prize of *fifty thousand francs* was offered to any member of this committee who should be able to see through the mask of Mademoiselle PIGEAIRE; and this prize was to be augmented to the sum of *seventy thousand francs* if the experiment should be successfully performed by either of the Doctors DUBOIS or BOUILLAUD. It is almost needless to say that this challenge was not accepted.

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Of all these facts Dr FORBES takes no notice; and this omission, in our opinion, affords no proof of *impartiality*. *Audi alteram partem* is a privilege which the learned Doctor does not seem very willing to concede to the magnetists.

Dr FORBES appears to hold in sovereign contempt the testimony of unprofessional persons—"peers, deputies, and GEORGE SAND." We, on the contrary, hold that such persons—contemptible as they would seem to be in the opinion of the learned Doctor—are equally, if not more competent to observe facts, and more likely to be *impartial* witnesses, than sceptical and prejudiced medical men. At all events, the Doctors must not be permitted to deprive all other persons of their senses and their judgment, and to take credit for a monopoly of the whole of these faculties, along with *impartiality*, to themselves.

By the bye, Dr FORBES takes no notice of the following individuals, members of the Academies of Science or of Medicine, who condescended to witness the PIGEAIRE experiments—MM. ARAGO, ORFILA, BOUSQUET, GUENEAU DE MUSSY, ADELON, RIBES, REVEILLE-PARISE, &c. Now, we do not by any means assert that any of these individuals are comparable to our learned Doctor in point of scientific or medical attainments; still they are all men of some little note; their countenance would certainly give eclât to the proceedings, and their opinions, upon the subject of these experiments, would be valuable.

In the preface to the third edition of *Isis Revelata*, I have given my reasons for believing that the BURDIN prize never will, never could have been obtained, even had the fact been made as clear as day-light. Indeed, it appears to have been a complete humbug from the beginning.

I have never been in the habit of attending *public* exhibitions of mesmerism in this country; nor have I given them any encouragement. The advantages attending them have always appeared to me exceedingly problematical, and many of the most intelligent magnetists are of

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opinion that they are calculated to do more harm than good. I do not join, however, in the vulgar outcry against all the individuals who get up these exhibitions, nor venture to stigmatize them as rogues and vagabonds. Many of them, I have no doubt, are perfectly honest men, and are actuated by no illaudable motives. I know nothing of ALEXIS except from public report, and from some private communications addressed to me about the time he exhibited in London. These last, however, proceeding from intelligent and perfectly competent individuals, better enabled to appreciate the matter, in consequence of their intimate knowledge of the subject, were very different from the narrative given by Dr FORBES in his pamphlet; and I could easily account for the learned Doctor's alleged failures. Of Mr HEWES I know absolutely nothing; but, of Dr OWEN'S performances, a more favourable account, if my memory serves me, was given some short time ago, in the *Medical Times*—a publication, by the bye, which has always honourably maintained its impartiality, appears to be exceedingly well conducted, and, therefore, deserves general patronage.

For an *impartial* man, it appears to me that Dr FORBES talks a great deal too much about "folly and roguery" (p. 41), and "roguery and deceit" (p. 61), which he affirms to be "so prevalent in mesmeric proceedings." Great as may be the authority of the learned Doctor among his own professional *confreres*, I cannot consent to take this upon his bare assertion. Such "*damaging*" assertions ought to be not only made, but fully proved, and substantiated by competent evidence; and we find no such proof in Dr FORBES'S statements. Vague accusations of this nature, indeed, are easily made, and as easily retorted; but, in most instances, they betray an egregious want of liberality—they cannot advance an argument in the mind of any truly intelligent person—and, in our opinion, they have a tendency to weaken the cause of the party who resorts to them. For our own part, we see much more "folly, roguery, and deceit"—to say nothing of continual wanton misrepresentation—in the

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statements and conduct of the opponents, than in those of the supporters of animal magnetism.

Dr FORBES, indeed, gives a rather curious reason why "persons of undoubted ability and scientific attainments should continue to attest the reality of *lucid somnambulism*" (p. 46). The cause of this, according to our author, "may probably be found in the *ardour of imagination*—(what! imagination again!—why resuscitate the dead?)—*enthusiasm*," &c. Thus we are required to believe that hundreds of sober, sensible, and, for the most part, sceptical physicians, and men of scientific attainments—such as LA PLACE, CUVIER, HUFELAND, TREVIRANUS, &c. had allowed themselves to be carried away, in this particular instance, by their "imagination" and "enthusiasm," to attest absolute old "follies without number"—follies which, it seems, "are the peculiarity of no one class;" and the detection of all this marvellous credulity—more marvellous, indeed, than any of the marvels of animal magnetism—has been reserved for the superior discrimination of the far more intelligent, and sagacious, and scientific, and unprejudiced Dr FORBES—who is vastly too shrewd to be imposed upon by such follies—in the year of our Lord 1845! If LA PLACE, CUVIER, JUSSIEU, GEORGET, TREVIRANUS, HUFELAND, WIENHOLT, SPRENGEL, &c. were now alive how submissively would they kiss the rod—make their obeisance to their master, and blush for their folly! But did it never occur to Dr FORBES that inveterate scepticism, even in the case of otherwise intelligent and sensible but uninquiring and prejudiced men, may occasionally, and upon certain points, carry some persons as far astray on one side, as imagination and enthusiasm may prove seductive on the other.

Dr FORBES talks a great deal about deceit; but is it not just possible that, in many instances, there may be as much ignorance on the part of physicians, as of deceit on the part of patients; and are not the former a little too apt to attribute to deceit some things which they cannot clearly comprehend? We admit, however, the *pos-*

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sibility of deception to a certain extent, in some of the phenomena of animal magnetism, as in other things. But there is truth as well as deception; and these may be distinguished from each other, provided the intelligent and practised observer exerts all his attention, and employs every possible precaution against mistake. But we know that, in many cases, all this attention was exerted, and all these precautions taken, so that all concert between individuals, accidental deception, and feigning were completely precluded. An *asphyxia*, accompanied with all the signs of apparent death known to the physician—an *opisthotonos* and *emprosthotonos*, such as described by Dr KLEIN—a most competent witness—by Dr ARNDT, and others, cannot be foretold and afterwards feigned. As little can this be conceived to occur in the case of the circular motion of the eyeball, and the enlarged pupil, incapable of being affected by the stimulus of light—the striking alteration of the whole features—the wax-like pliability of the limbs, as in catalepsy. All the experiments conducted by PETETIN, RENARD, ARNDT, &c. on the metastasis of the senses to the epigastrium, the points of the fingers, &c. in a variety of ways, before different witnesses, on the incidental idea of the moment, precluding all suspicion of previous knowledge or concert, leave not the slightest trace of fraud or deception. When RENARD applied his watch, concealed in his hand, to the epigastrium of his somnambulist, who named the time indicated upon it to the very minute, there could not possibly be any deception. When the same physician suddenly conceived the idea of asking his patient how much money he himself, another person in the room, and others who had just entered it, had in their pockets, and the latter named not only the precise sums, but even the different kinds of coin, we can presume neither accident nor concert. When HUFELAND accidentally touched several parts of his somnambulist's body with the points of his fingers, and she maintained that she saw the interior of these parts illuminated, and, at the same time, gave the anatomical description of them in her own way, can

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we believe that she had previously studied anatomy for this very occasion? When ARNDT's somnambulist asked for paper, and, with her eyes not only firmly closed, but actually kept closed by the magnetiser, wrote down an air with the greatest readiness, and without a single line encroaching upon another, must we not be convinced that vision was exercised, upon this occasion, in an unusual manner? Similar instances have been recorded, by competent observers, in such abundance, that the scepticism which would deny the reality of such facts must proceed from the grossest ignorance and incapacity, or from the most wilful spirit of obstinate perversion.

We are aware that the mere practical physician, especially when by disposition and habits he has become averse from philosophical speculation, is peculiarly liable to misapprehend the phenomena of animal magnetism. When in the course of a long empirical practice, he has once become habituated to a certain routine of appearances and symptoms, he grows more and more indisposed to admit the reality of any fact which transcends the bounds of this limited sphere. For this reason, when he happens to meet with any such phenomenon, and cannot altogether deny or account for it, he immediately proceeds to stretch it out on the procrustean bed of his own partial theory, lops off what he conceives to be the excrescences, and retains only as much as he imagines can be explained upon his own contracted physiological views. Fraud and deception are favourite modes of explaining all difficulties; but if such explanations are to be admitted in the case of the most upright and competent observers, and the most unambiguous facts, what becomes of all medical evidence? and how can one physician lay claim to superior credibility at the expense of the most honest and intelligent of his professional brethren?

Of Miss MARTINEAU's case I entertain a very different opinion from that of Dr FORBES. My reasons are partly such as very naturally arise in the mind of a lawyer, when he comes to weigh evidence. The case as stated by Miss MARTINEAU is, *prima facie*, a good one,

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The medical gentlemen were evidently prejudiced, and they appear to have conceived that their professional reputation was compromised by the proceeding in question. Moreover, a pretty distinct charge has been brought against them of tampering with, and concussing some of the witnesses; and, so far as I have seen, this charge has not been effectually rebutted. These circumstances, therefore, tend to invalidate the testimony of the principal witnesses for the contradictors; the objectors are thrown out of court; and the case stands upon its original foundation. Besides, there is a vast deal too much of eager, busy-meddling, and sophistry in the conduct and statements of these objectors.

In regard to the case of Miss MARTINEAU herself, we are told (p. 60) that Mr GREENHOW "regards the amelioration as begun two months before the employment of Mesmerism; the latter, however,"—and this is rather an important statement—"he considers to have been *conducive, in some degree, towards relieving the concomitant symptoms of nervous distress*; as by a *happy coincidence*, it was employed just as the time had arrived when *a new and powerful stimulus* only was required to enable the enthusiastic mind of the patient to shake them off," &c.* The successful application of Mesme-

* Dr FORBES himself seems to go a good way in support of the pretensions of Mesmerism as a curative process. He states it as his opinion, that "some sorts of epilepsy, hysteria, neuralgia, anomalous spasm, chronic dyspepsia, and the like diseases, seem to yield most readily under its use. Sometimes, it may possibly influence certain forms of nervous disease by counter-stimulus, inducing a new and less hurtful condition," &c. This demonstrates considerable progress towards a recognition of the therapeutic efficacy of Mesmerism. But the learned Doctor may yet see cause to extend his views of this remedy. The very cautious and sceptical Sir J. D. BRANDIS admits that magnetism may be found efficacious in cases of defective sight and hearing, as also in *cachexias* of the vegetative organism—such as *scrofula, rachitis*, &c. and, more especially, in those of the sensorial and intellectual systems. This eminent physician mentions the case of an elderly man who suffered from obstinate gout, with stiffness and calculous concretions in the joints, who was cured by the application of magnetism alone; and also that of a young man affected with a severe paralysis of the leg and foot,

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rism in this case, therefore, was, it would appear, "*a happy coincidence*"—(we can assure Dr FORBES that there have been a very great number of such "*happy coincidences*,")—favoured, no doubt, by the *enthusiasm* of the patient. Now, I have not the pleasure of being acquainted with Miss MARTINEAU—I have never had the good fortune to see or converse with that celebrated lady; but I have never heard till now that she was of a peculiarly *imaginative* or *enthusiastic* temperament. Judging from the character of her writings, I should rather have supposed the reverse. But I may be mistaken upon this point, and must speak with diffidence on the subject. But Mr GREENHOW speaks of Mesmerism as "*a new and powerful stimulus;*" and having thus a new and powerful stimulus to account for the change, what occasion is there to resort to the ambiguous influence of *imagination* and *enthusiasm?* According to the approved maxim, *Principia præter necessitatem, non sunt multiplicanda:* —We ought to assign no more causes than are necessary to explain effects. The influence of imagination and enthusiasm may as well be combined with doctors' drugs as with Mesmerism. According to the lady's own statement, the whole case, as it appears to us, may be compressed into a nut-shell. Miss MARTINEAU was very ill—had been in the same state for years—obtained no effectual relief from medical treatment—suffered much—called in the Mesmerist, and was speedily and completely cured both of her disease and of the Doctor. We might write volumes upon this contentious subject, and

with loss of flesh and cold in the diseased limb, who was completely cured in the same way, and in a short time.—See BRANDIS; *Ueber psychische Heilmittel und Magnetismus.*

A great variety of other instances of the successful application of the same remedy in different morbid affections will be found in the works of the medical magnetists. The precise limits of the operation of this remedy cannot be said to have been yet ascertained. Some continental physicians consider it applicable to all diseases which are in themselves curable. At all events, it possesses this decided advantage over almost all other remedies: It is attended with no danger, and is followed by no unfavourable reaction.

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display a vast amount of medical erudition and ingenious reasonings on all sides of the question; but such appears to us to be, in reality, the short and the long of this particular case. We do not mean to cast the slightest stigma upon the medical attendants on the lady. We have no doubt that they treated her skilfully, and quite *secundum artem*. Neither are we prepared to assert that, from anything we know to the contrary, there may not have been a great deal of "folly," and "roguery," and "deceit," in all this; but, if so, we own we are unable to detect them, and, at all events, assuredly they are not imputable to Mesmerism.

Dr FORBES considers Mesmerism as merely "a new *art*," but he thinks that evidence is wanting to show that it is a new *science*. Will Dr Forbes be good enough to inform us whether he considers medicine itself as any thing more than an *art*? We know that he occasionally speaks of it as a *science*—indeed, he has been known to designate it as an *Empire*. But upon what grounds has he formed this opinion? And what stronger pretensions has medicine than mesmerism to be elevated to the rank of a science? The former is a method of curing diseases in one way: The latter is a method of curing diseases in another way. How should the one be more of a science than the other? Some of the greatest masters of medicine have not entertained such very exalted ideas of their pursuit, as Dr FORBES appears to do. HIPPOCRATES, we believe, looked upon medicine merely as an art. Lord BACON would not admit it into the ranks of science. HOFFMANN laughed at its pretensions. SYDENHAM spoke of it as "the art of prating and telling stories." Dr HEBERDEN considered the improvement of the practice of physic as chiefly the work of vagabond quacks and empirics. Dr BUCHAN gave little credit to physicians for the improvement of their art. Dr BAILLIE, after he retired from business, declared that he had no faith whatever in medicine as a science. Dr HUFELAND looked upon all medicine as a mere matter of experiment. Dr ABERCROMBIE frankly admits the great

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uncertainty of medicine. Sir GILBERT BLANE speaks out still more openly and honestly. He observes that, "in many cases, patients get well in spite of the means employed: and sometimes, when the practitioner fancies he has made a great cure, we may fairly assume the patient to have had a happy escape."—Such is the *science* of medicine in the opinion of many of the most competent judges! And yet Dr FORBES refuses the appellation of science to animal magnetism, which is built upon an immense mass of observations gathered from the coincident observations of mankind during thousands of years. We would gently remind the learned Doctor that those who dwell in houses of glass should not be the first to commence throwing stones. For our own part, we have always thought that medicine might derive great advantage from an association with magnetism; and that the two arts or sciences (call them which you please) ought to be conjoined in friendly union, instead of continuing to stand in an attitude of determined hostility towards each other.

Dr FORBES alludes to an article written by him, some years ago, in the *British and Foreign Medical Review*. To speak candidly, we do not think that the article in question, whether we regard its matter or its style, did much credit to the author. The few redeeming sentences in that paper are referred to in the pamphlet now before us, as affording evidence of the author's impartiality. With this exception, the article exhibited no traces of that quality. At the period when it was written, indeed, medical men, in this country, were exceedingly sore upon the subject of animal magnetism; and having as yet too little knowledge of the matter to enable them to handle it reasonably, they betook themselves to hard words and the most outrageous abuse, in order, if possible by such means, to exterminate the hideous and hated monster

> "Hew of his honde, his legge, his theye, his armijs:
> *It is the Turk!* though he be sleyne, none harm is."

The tone and temper, however, of our leaders of pub-

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lic opinion have now become a good deal more moderate; successful experiments have already diffused conviction amongst a numerous circle, and, as we formerly expressed ourselves elsewhere, we may now reasonably hope that time, which tries all things, will, at length, present, in their true and untarnished light,

> "Whatever truths have been, by art or chance,
> Redeemed from error or from ignorance."

We have written the foregoing observations very hastily, and in drawing them to a conclusion, we shall only add that we do not think the pamphlet of Dr FORBES is much calculated either to advance or retard the progress of animal magnetism. In our opinion, the learned Doctor starts with an erroneous, or, at least, a very imperfect view of the subject:—he appears to have no conception of what may be called its philosophy:—he appears to be totally ignorant of the high antiquity and universal observation of the essential facts; as well as of the causes which occasioned their subsequent misapprehension and consequent neglect. He is evidently still prejudiced in regard to the practice and phenomena of mesmerism, and disposed to look upon its progress with jealousy. His scepticism, indeed, is transparent throughout; and the *knowing* reader will probably be on his guard against it, and, perhaps, occasionally smile at it. His admissions, however, so far as they go, are valuable. They have manifestly been forced from him; or may have been made, perhaps, with the view of demonstrating his *impartiality*.

We should regret, however, that any of our observations gave offence to the learned Doctor; for they have been made without any such intention. Indeed, we would rather prefer having Dr FORBES for our friend than our enemy. But we have written now, as heretofore, with a thorough conviction of the truth and importance of our opinions, proceeding upon an investigation which has been carried on during more than a quarter of a century—a conviction which has gained additional strength at every

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successive step of our progress. We continue to advocate the cause of animal magnetism as a valuable auxiliary to the medical art, and as a means of promoting the interests of physiology, psychology, and general philosophy.

We had a good deal more to add; but our little volume is at a still-stand—the Printer's Devil is importunate—and our attention is called off to other matters. We must, therefore, take leave of the subject for the present, with the expression of our hearty good wishes that Dr FORBES will soon make still more important advances in magnetic science; and that, ere long, we may meet and shake hands with him on the common territory of animal magnetism.

THE END.

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