

surgeon, and a well-educated physician; and to these let me add, steadiness of purpose, unwearying patience, honesty, and courage. Though I cannot dwell long, yet I cannot dwell too forcibly, upon the necessity of an acquaintance with medicine, in order to treat ophthalmic diseases with effect. Of late years, and in Great Britain in particular, we have acquired a habit of treating the human eye as if it did not form a part of the human body—as if this delicate and beautiful portion of our frame was some bottled preparation to be chemically altered during disease, by the many nostrums poured over it.

In your anatomical and your surgical lectures, you have all heard of the absolute necessity of your being acquainted with anatomy for the successful cultivation of either medicine or surgery. All that could have been offered with effect upon that subject becomes doubly applicable here. How many treat a pneumonia, diagnose an inflammation of the brain, or even remove a limb, without any very accurate knowledge of the anatomy of these parts; but you cannot diagnose or treat the diseases of the eye, or perform any of the operations upon it, without being perfectly well acquainted with the relative anatomy of each individual part; its structure, the peculiarity of its vascularity, the organization of its texture, its nervous endowment, functions, and degree of vitality, and sympathetic or actual connexion with other organs either proximate or remote.

ON THE
RISE, PROGRESS, AND MYSTERIES
OF
MESMERISM

IN ALL AGES AND COUNTRIES.

BY CHARLES RADCLYFFE HALL, M.D.

EXTRA-LICENTIATE OF THE COLLEGE OF PHYSICIANS, LONDON.

No. VIII.

REMARKS ON THE FACTS OF MODERN MESMERISM—*continued*.

§ 512. Any sort of passes will cause muscular rigidity, and the same sort continued will remove this again, (§ 277.)

§ 513. Mesmerism is reflected from mirrors like light, (§ 459;) but, unlike the straight rays of light, it can bend round an intervening body, without losing anything of its force, (§ 343.) It required only a few seconds for this purpose in Dr. Wilson's case, (§ 268.) Any agent which acts in straight lines, like light and heat, has its power diminished with the square of the distance from its source. Some authors seem to imply that the mesmeric agent observes this law, (§ 186.) If it does not, it has no analogy with light and heat, which do; if it does, how can it act just as strongly at a distance of three miles as when its source is nearer to its destined recipient?

§ 514. An interesting and zealous mesmerisé, anxious to ascertain for himself whether he could feel pain, when sleep-waking, bit his own hand until blood came, (§ 289.) As he felt nothing, and of course could gain no assistance from his other senses fast locked in mesmeric sleep, it is difficult to divine how he managed to guide his hand to his mouth.

§ 515. Mesmeric facts have little respect for anatomy. Thus, when half only of the brain is mesmerised, the corresponding, not, as in palsy, the opposite, half of the body is affected, (§ 419.) In depriving parts of their sensibility, the nerves seem to have very little share in the matter. The gums are insensible, whilst the inside of the cheeks and lips are quite sensible, notwithstanding the same nerve of sensation supplies all, (§ 295.) A line of demarcation under the lower jaw cuts through the ramifications of the sensory nerves, without the slightest regard to their function, (§ 295.)

§ 516. The alleged effects of mesmerism on the senses are reducible to heightened sensation, diminished sensation, perverted sensation, transposed sensation, and community of sensation between patient and operator.

§ 517. We have illustrations of each of these, wonderful enough, if we take for granted the assumed unconsciousness and insensibility of the mesmerised patient in every respect, but with regard to the one sense operated on; less marvellous, if we suppose it possible for the mesmerisé to be alive to all that is passing around. What proof of community of feeling is there if the patient can see the injury done to his mesmeriser, or, when blindfolded, if he has consciousness and can hear, or failing to hear, at least can suspect what is going on? Of community of smell, provided the patient himself can smell as well as his mesmeriser? Of community of hearing, if the patient can hear? Of taste, if sight, smell, and hearing, or any of these, are left to give information?

The examples adduced by the mesmerists are valueless, unless it can be proved that in every instance the patient was unconscious, and unable, therefore, to derive knowledge from his senses in the ordinary way. Dr. Fahnestock was perhaps not incorrect when he stated that mesmeric patients could smell or not, just as they pleased; and the remark might be applied to all the other senses.

§ 518. The effects on the senses have usually been deemed the criteria of the existence of real mesmeric somnambulism; but declining a test that would make success the only measure of the influence, it will be preferable to take for granted that every patient was in the state assumed by the mesmeriser. If it be argued that, although truly sleepwaking, a patient might not in a given case be affected to a sufficient degree to manifest all the phenomena of mesmeric somnambulism, then, we ask, until the order in which these phenomena occur has been defined, what proof that he was sufficiently affected to present any—that he was a somnambulist at all?

§ 519. When it is desired to prove that the patient cannot hear, he is usually deaf enough; when it is wished to prove insensibility of the surface, he will bear pain without injury, but he generally forgets that he ought also to be deaf; he hears and answers questions. And notwithstanding the insensibility of feeling, a patient deep enough to be clairvoyant will complain that he finds the effort of seeing through the back of his head very fatiguing, (§ 344.)

§ 520. With respect to transposition of the senses: common sensibility is universal; hearing and smell, from the universality of the medium through which they are affected, are virtually, though not literally so; and taste is so much modified and assisted by smell, that it would be difficult, without intentionally preventing all aid from that sense, to obtain any evidence of transposed sensation. Vision offers us the readiest and least doubtful means for testing the existence of extreme sensibility, transposition, or community of sensation. And it is not more on account of the most marvellous of all the statements of the mesmerists having reference to this sense, than from its being a test of the alleged effects on the other senses, that clairvoyance has justly been considered the touchstone of mesmerism. If all that refers to the eye is false, there is nothing worthy of argument in what has been adduced with respect to the other senses; and if clairvoyance be true, we may admit all the rest. Clairvoyance is so highly improbable, that no reasonable person could admit it to be true on grounds that were in the slightest degree open to suspicion. Is there a single instance of success where to suspect would be impossible, to doubt, unreasonable? Mr. Townshend's case of E. A. is perhaps as strong as any. It is affirmed that he read a letter, previously unseen by him, in a perfectly dark closet, and that, in order to increase his perspicacity, he intentionally muffled his head in a dressing-gown. We cannot deny this, and we are constrained to believe that the narrator thinks it genuine; but it seems strange that the addition of more than a certain number of towels, on another occasion, should quite prevent his seeing, (§ 341;) that the presence of a sceptic should destroy his lucidity, (§ 346;) that to read a book, it must, to a certain extent, be open, (§ 343;) that to see distinctly with his forehead, the object must not be held *too close* to the forehead, (§ 344;) and in cases of difficulty his electric method is very like an ingeniously devised mode of gaining an opportunity for an unobserved peep, (§ 344.) His frontal vision through coloured lenses, however, is an *experimentum crucis*, (§ 339.) He saw things *blue* when he applied a *blue* lens to his forehead. But he saw things *not larger* when he looked with his forehead through a magnifying-glass. Colour being the result of a certain impression made by luminous rays on the retina, if light could be so conveyed as to produce the sensation of colour, it could be so conveyed as to give the notion of size; the magnifying-glass should have *enlarged* the objects. If, as Mr. Townshend contends, the eye had nothing to do with the phenomenon, how can we account for the blue colour? If the eye was the percipient organ, how account for the non-enlargement? The size of bodies, their relative position and distance, are judged by us from the visual angle made by the rays of light in entering the eye, or rather, I believe, from the situation at which the luminous rays impinge on the retina, with reference to the centre of acute vision.* The eye is constructed with express regard, and is essential, to the performance of this function. In clairvoyance, either the patient does use the eye, in which case the rectilinear passage of light—the basis of optics—is a fallacy; or the opacity of bodies no obstacle to the passage of luminous rays, which experience contradicts; or else he sees objects, distinguishes size, and measures distance, without the use of the eye, in which case all that was before established in the physiology of vision must be wrong.

* See essays on Strabismus, in *Medical Gazette*, for 1842, p. 743.

§ 521. The ideal figures and colours of spectral illusions, the distinctness of an imaginary scene, and the vividness of mere mental visions, do not in the least prove that the eye is a useful help, but not an organ in all cases essential to sight; that the optic nerve and brain can of themselves distinguish objects. Without the eye, we see only what we think, not what exists before us. A blind man who thinks intently of an absent friend, pictures him to himself in his mind's eye; but he could not see that his friend had got a new coat on if that friend stood before him.

§ 522. It has been remarked, that we know not how much common sensation through the fifth nerve has to do with vision. Probably not; but we know how little. Magendie's experiments (§ 469) have long been divested of the importance he assigned to them. Besides, during mesmeric somnambulism sufficiently deep to render visual sensibility impossible, common sensibility would surely be abolished.

§ 523. If a slight degree of somnambulism be sufficient for the development of clairvoyance, we ought to be able to see that state at pleasure in any mesmerised sleepwaker. If, on the other hand, a high degree be requisite, then, when clairvoyance is present, the more ordinary effect of mesmerism—insensibility of the various organs of sense—must surely have been produced. What says the evidence? The clairvoyant converses with her operator exclusively, (unless she forgets her part for the moment and errs,) or with any bystander, according, it would seem, to the theory favoured by the individual mesmerising. Hence she gives the ordinary signs of hearing, thinking, and speaking. She feels heat, and, if she fancies it proper to do so, calls it cold, (§ 290;) hence there is common sensibility. When a good opportunity offered, some clairvoyants have been noticed to assist mesmeric by ordinary vision; some at least, therefore, can see in the common way.

§ 524. The facts adduced to prove that the patient smells only what the mesmeriser does, generally prove that the mesmerized patient can smell an odoriferous substance like any one else; hence we have the sense of smell retained. Judging the facts in the ordinary way, nature asserts that the clairvoyant has the perfect use of his five senses. The mesmerists, for the most part, declare that he has not. Yet we occasionally have an admission that the thoughts and acts of the clairvoyant proceeded from inferences obtained through the senses in the ordinary way, (§ 330.) Indeed, somnambulists themselves will sometimes describe the *sensations* experienced by them during their sleepwaking, forgetting that they ought to have been all the time mesmerically insensible. (§ 327.)

§ 525. By one clairvoyant, light is perceived, and is disagreeable; another cannot see unless there is light, (§ 349;) a third, when there is much light, declares she cannot see because it is *too dark*, (§ 355;) and a fourth, who (curious coincidence!) had witnessed the clairvoyance of the third, likewise averred that *a great darkness* had come upon her when light was flashed across her face. (§ 356.)

§ 526. Theodore is clairvoyant, and tells the hour by a watch, yet finds written words "of a tolerable size too small for him to distinguish," (§ 337.) Curious lucidity, that is overpowered by such a shadow of a shade of difference as that of the size of letters, and of the figures on a watch face! Anna M— appeared to subject the object to the scrutiny of a double organ, (§ 338,) and as Mr. T— appears to be rather near-sighted, (§ 339,) perhaps this was not merely appearance. Her two or three preparatory convulsive starts (§ 338) are analogous to "Le moyen électrique," and were probably for the same purpose. Like E. A—, (§ 344,) and like every waking person, she could discern an object better if distant a few inches from the forehead than when close to it—a fact explicable enough in reference to ordinary sight, but mysterious as relating to clairvoyance.

§ 527. A clairvoyant is requested to send her mind to a certain house, not particularized, but thought of by the operator, (§ 357.) She gives a correct description of the one next door—i. e., one not thought of by the mesmeriser. Now as the will of the operator could not originate this mesmeric movement of the patient's mind, and as the patient had not been told by any one the exact house required, what caused the blunder? The patient undoubtedly misunderstood the questions, and thinking a certain place to be the one intended, described that: the mesmeric movement thus originating in the will of the patient, not of the operator, and that will itself arising from ordinary exercise of reason on insufficient grounds.

§ 528. Another clairvoyant describes everything correctly, except that she states the proprietor of the place to be in a certain room, though in reality he is not, (§ 358.) If she saw at all what was in that room, how came she to see what was not there?

§ 529. Mr. Peale's case proves merely that the rustling of a straw bonnet may be heard by a blind mesmeric clairvoyant, (§ 369.)

§ 530. The facts under the heads of intuition and prevision require only to be perused, for their condemnation. To the medical man, their absolute irreconcilableness with anatomy, physiology, and pathology, are additional and convincing proofs of the extent to which a mesmerist must carry his credulity, and keep down his reason. Their being put forth for our belief is a strong argument against allowing any more credit to other facts of mesmerism than their intrinsic merits demand. Because a man is known to be subject to giddiness, intuition discovers fringes of blood at the bottom of his brain! An abscess of the hip-joint, that had existed for four years, is seen by mesmeric intuition, and a cure promised (prevision) and effected in *ten days*, by—a poultice of hemlock and marshmallows!

§ 531. The intellect is wonderfully augmented in power, and the moral man in spirituality, by mesmerism: the patient has a horror of falsehood. The attraction towards the mesmeriser is a refined instinct, not a passion. In a word, the mesmerised patient becomes almost angelic, (§ 384.) Yet, says the same authority, "nothing can be more unsatisfactory than the account which mesmerised persons give of their own mode of sensation." How is this? So intelligent, it cannot be from want of knowledge! So veracious, it cannot be from a wish to deceive! On the other hand, we are warned against the tricks and deceptions of genuine mesmeric somnambulists, and informed that a mesmerised patient, so far from always possessing "a high tone of spirituality and sense of right," (§ 414,) belongs body and soul to the mesmeriser for the time being, and can, at his behest, be rendered as little angelic as possible, (§ 412.) Which statement—not, be it remembered, of opinion, but of observed facts—are we to credit? Both are probably mere specimens of that nonsense of which, as Addison observes, "If it affirms anything, you cannot lay hold of it; or, if it denies, you cannot confute it."

§ 532. Of all the many instances in which mesmerism travesties nature, phreno-magnetism is the most striking. If a patient really was deprived of consciousness and of volition during his mesmeric sleepwaking, as is asserted, and his mental faculties really could be called forth singly or in combination, at pleasure, by any means whatever, would not nature present us with *true* manifestations of each kind; quite unmixed when one faculty only was excited; accurately combined when several were roused? Let any mesmerist say whether, in one instance, the manifestation has accorded with the truth, simplicity, and certainty of nature. Has it not been either decidedly wrong, or an unnatural manifestation under the circumstances, or a jumble together of the action of several faculties where one only was called for? The various examples, discoveries, and theories of phreno-magnetism are worthy of each other and of their subject, but the spirit of Gall would scarcely delight in this new and parasitic ally of phrenology.

§ 533. Examining phreno-magnetism as if it were true, a few questions arise on the moment. As every organ has its negative or opposing organ next to it, what need of any opposing organ in another part of the brain?—e. g., destructiveness, when the negative of benevolence must be very similar. Of what use are *general* organs, as sublimity and beauty, when every single object is said to have a special organ to observe it! As there is an organ of consciousness, how can any of the others be roused by itself; since unless consciousness is excited, the others ought not to be conscious of the application of any stimulus? As the organs are so very numerous and closely packed, how does so large a surface as the point of a finger excite but one organ at once? As the mesmeric influence is so penetrating, and acts at so great a distance, how is it prevented from passing right through the first organ and affecting others? As there is a special organ for attitudinising, why does each organ, when excited, give the appropriate attitude—attitudinising and the organ of muscular motion being unexcited? When hearing alone is awake, how does the patient *understand* any question so as to answer correctly, notwithstanding the organ of the faculty to which the question refers is still in mesmeric unconsciousness? As we appreciate things by the ideas which they excite, and as every different object excites a distinct idea, if there be an organ for every separate object, there must be a special cerebral organ for every idea. Why not assert that there are separate muscular organs for playing on the piano and playing on the fiddle, for singing and speaking, blowing the clarinet, and winding the French horn? Certain of these cerebral organs must become needless as, in the march of improvement, certain objects of attention cease to be. On the other hand, new organs should spring up as new inventions demand them. The organ for stage-coach travelling should be replaced by one for railway transit! If there be an organ for every idea, every one should

possess a complete stock for every possible idea on every possible subject. How useless such a supply to some!—how superfluous some of these organs to all! “Chameleon spirit—imperishable, glorious, and immortal HUMBUG! Hail!”*

§ 534. No assertions of the mesmerists have contributed so much to stagger popular disbelief as the alleged cures of complaints ordinarily difficult of cure. With a medical man, on the contrary, no other evidence in the abstract has less weight. Knowing the many questions involved in reasoning on the real power of any remedial agent, the extensive knowledge, practised and accurate observation, and cautious reasoning required, he has less faith at his disposal than those who see in an effect indubitable evidence of the efficacy of the favourite one—it may be the least, possibly, of many influential causes. Were assertions and vaunting of cures any measure of the truth, there would not be a single incurable, nor a single not easily curable, disease. Frequent bleedings; beef-steaks and porter; tar-vapour; oxygen; iodine; common salt; St. John-Long's frictions; naphtha; and other remedies innumerable, have been stated to have the power of curing consumption; yet the bills of mortality show no corresponding diminution in the average number of deaths from that fell scourge. Is it owing to ignorance, apathy, or petty jealousy, preventing medical men from availing themselves of the means pointed out, or is it due to the futility of the means? Experience so constantly proves the latter, that few are disposed to accept any new remedy on mere assertion, but require that repeated and authentic trials by competent judges shall have proved its efficacy. From the intricacy of the questions preventing exactness and certainty in forming conclusions, many others consider themselves quite as competent as members of the profession to decide upon medical questions,—the very difficulty of the subject thus serving as a cloak for the ignorance of the inquirer. Except in the most plain and unmistakable cases,—and these are but few,—the statements of non-professional persons in support of remedies are of not the slightest value; for where minute observation is required, testimony is important in proportion to the acquaintance of the witness with the subject on which he testifies.

§ 535. Mr. Tubbs, surgeon, cures chlorosis by mesmerism and iron, (§ 444.) Dr. Elliotson states, that over chlorosis mesmerism has no control, (§ 440-45,) whilst Teste places it first in the catalogue of those diseases in which magnetism chiefly succeeds, (§ 437)!

§ 536. Dr. Elliotson's cases, from the minuteness with which they are narrated, and the undoubted professional attainments of their narrator, and, more than all, from the internal evidence of ingenuousness which they bear, furnish us with almost the only facts worthy of notice under this head; and notwithstanding the considerable length of time required in most of them, we must admit that some severe anomalous nervous affections recovered, after mesmeric manipulations, which, in all probability, would have remained unaltered, or possibly might have gone worse, had no means of any kind been employed. Had Dr. Elliotson stated that he himself had cured cataract, or cancer, or bronchocele, or confirmed structural disease of any kind, (ascertained beyond doubt to be such,) his cases could scarcely have ranked higher than those of other mesmeric authorities. But he affirms nothing on the remedial power of mesmerism, so incredible; and although we may (as I myself do) differ with him *à la cælo* in judgment upon observed facts, yet when those facts are such as chiefly require acute medical observation, we must receive and value them as far as they go.

§ 557. Can such a degree of insensibility to pain be produced by mesmeric processes, as shall remove that natural source of dread of surgical operations? Without more than allusion to the question whether the entire absence of pain would be desirable for the ultimate welfare of the patient, in all surgical operations,† since in depression from severe injury the pain of an operation is sometimes the surest mode of exciting the powers of life, or, as Mr. Abernethy said, “sometimes the knife is the best stimulus,” we may admit that, in most cases, it would be highly desirable to obtund the sensibility of the patient, and this has often been tried by giving narcotics, and by bleeding to faintness. We have only two means of ascertaining insensibility to pain: the assertion of the patient, and the absence of the signs by which nature expressively betokens suffering. That these do not always coincide is proved by the following case, for which I am indebted to Mr. Dunn, of Manchester.‡ A girl, who had been

once or twice mesmerised, was affected with whitlow, requiring an incision to be made through the palmar surface of the affected finger. Every surgeon will admit, that no operation, great or small, is attended, for the instant, with more acute pain than lancing this highly-sensitive part when inflamed from sub-theal abscess. The girl was mesmerised, the arm stretched out, and the incision made. Her face had an expression of great pain, large drops of perspiration burst out on her forehead; there was a feeble ejaculation, but the arm stirred not. Mesmeric passes were continued for some minutes more, and then the girl was roused. She assured Mr. Dunn that she was ignorant of what had occurred, and had felt no pain. The girl was previously acquainted with the alleged effects of mesmerism in producing insensibility, but she had no assignable motive for deception. Which of the two are we to believe, nature, or the patient?

§ 558. To those familiar with surgical operations—who know the great difference in the firmness of patients, how some will bear the severest pain with unflinching fortitude, and almost with composure, whilst others exercise no control whatever over their feelings—there has yet been offered no satisfactory proof that mesmerism can effect, in this respect, what its advocates affirm.

§ 559. There is one point which has hardly received the consideration it merits, in reference to this question—viz., the degree in which sensation is modified by the state of mind of the patient. One who determines to behave with great firmness has his mind wrapped up in this determination, and abstracted from the impressions conveyed by the injured nerves; sensation, in consequence, is less. He therefore not merely conceals his suffering better, but he has less suffering to conceal. Conversely, a fearful, timid patient, dreading every touch, concentrates his attention on the suffering part, his brain is sensible to the slightest impression; the really great impressions made are perceived to their utmost; sensation is most acute, and becomes not only what the patient will not, but what he cannot, conceal.

ON THE PROXIMATE CAUSE OF DIABETES MELLITUS.

By WILLIAM WATTS, M.D., Consulting Physician to the Nottingham General Dispensary.

(Read before the Nottingham Medico-Chirurgical Society, Jan. 17, 1845.)

IN opposition to the opinion expressed by Dr. Prout, “that the proximate cause of diabetes mellitus lies partly in the assimilating organs, and partly in the kidneys,” I advanced, in a paper which appeared in *THE LANCET* for April 15th, 1843, the position, that the proximate cause of the disease in question lies in the organs of primary assimilation only, to the entire exclusion of the kidneys.

In attempting to demonstrate this, I had, among other things, to review the changes which our food has to undergo during the process of digestion; I showed, on the authority of Drs. Prout and Liebig, that those articles to which chemists have given the name of the saccharine secondary principles, such as sugars, gums, and starch, undergo the following alterations during their digestion in a healthy stomach:—

They are converted into the oleaginous secondary principles, which, like the saccharine, have a composition destitute of nitrogen. A further change is then effected, by their being animalized, or elevated into the azotized principles, without which their assimilation with the various tissues of the frame cannot be begun.

I showed that if, from any cause, the digestion of the azotized or non-azotized matters be interrupted, the imperfectly assimilated aliment is either retained in the system to be assimilated at some future time, or is excreted in certain forms from the various emunctories; and also that the form in which it is either retained or ejected is determined by the stage in which its digestion has ceased. For instance, if the azotized class of aliment be imperfectly digested, they appear, both in the feces and in the urine, in the shape of nitrogenized salts or acids. If the digestion of the non-azotized matters be incomplete, having ceased with the conversion of the saccharine secondary principles into the oleaginous, these latter are deposited in the cellular tissue in the shape of animal fat; and if the action of the stomach has ceased before their change into the oleaginous principles, they appear in the alvine dejections and urine in the shape of diabetic sugar, or lactic or oxalic acids.

hold of a stethoscope; the thick end, he was informed, was mesmerised, the other not. The boy grasped the thick end. He was requested to put the instrument down again. He said *he could not*—his arm was rigid. Demesmerised, he was desired to take hold of the small end of the stethoscope. This, however, he could loose again at pleasure. The instrument had never been touched that day except by this boy himself!

* The King's Own. (Marryat.)

† “Quoth Hudibras, the thing called pain
Is (as the learned stoics maintain)
Not bad, simplicitér, nor good,
But merely as 'tis understood.”

‡ I am also indebted to the same gentleman, who on many occasions has ably exposed mesmerism, for the following instance of the force of imagination:—An untutored lad, who had, however, learnt that a mesmerised object ought to stiffen his muscles, was told by Mr. Dunn to lay