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PSYCHOLOGY.

For the Magnet.

MAGNETIC PHENOMENA.

The greatest difficulty that a new discovery like human magnetism, has to encounter, is an obstinate incredulity, which wilfully shuts the eyes to the best established facts. Could the mass of intelligent persons be induced to observe with a cautious love of truth, instead of a dogged prejudice against any thing contrary to their own experience, the speed of new truth would be more creditable to the human mind.

That this incredulity is so unreasonable as to deserve the ridicule of fair minds, cannot be better shown than in the case of somnambulism. The facts of somnambulism are familiar to the medical profession; and, indeed, to most persons; they are as well established by proof as any facts in natural history. No one doubts them; all ages have known them. Now, the phenomena of what is called human magnetism, are precisely of the same class and character, and not a whit more extraordinary. Natural somnambulism shows, past all doubt, that man may be in a sort of living death—his outward senses dead, while his internal senses are more keenly awake than ever. He may be profoundly asleep, yet perform the deeds of wakefulness, with intelligence, method, correctness, and activity. He may see with his eyes closed—see in darkness—see with an opaque body between his eyes and the object—he is clairvoyant. Your incredulous man will easily believe this, but tell him that you put the man to sleep by a certain process called *magnetising*, and he instantly disbelieves precisely the same phenomena. Now clearly, there is nothing unphilosophical in believing that an actual state of the human mind or body may be produced by artificial means. Nothing would be more wonderful than the state of sleep and dreaming, if we were not familiar with it. So of syncope—epilepsy—apoplexy—delirium. But if these states of body and mind, are admitted to be possible, then there is nothing incredible in the operation, that they may be produced by drugs, by art, or by accident.

I was forcibly struck with the unreasonableness of this incredulity in a conversation with my very learned and sensible friend, the Hon. Judge——. I was relating to him some experiments in human magnetism which I had seen, and others of which I had heard. When I came to drawing teeth in the magnetic sleep, without waking the patient, he laughed at my credulity. The subject was partially changed, and we talked of somnambulism, when he had his own stories to tell. He stated a case of a man who was in the habit of sleepwalking, and be-

ing in a strange house, got out of the 2nd story window, fell to the pavement, broke one of his legs, and was otherwise injured. He did not awake till he had crawled across the street, and was supporting himself by some object there, when he was found, ignorant of all that had happened to him. “You don’t believe that, Judge,” said I—“Indeed, I do,” said he, “I know it to be true!—I was there.”—Surely, said I, tooth drawing, pinching, sticking pins, strange noises, and pungent smells are nothing to this. He perceived my advantage, but it was plain that so long as I called it “animal magnetism,” he had made up his mind to disbelieve it.

One of my own sisters, many years since, would often, in the night time, in sound sleep, spring up in bed, in a state of dreadful alarm. Her screams would arouse the family—lights brought into her chamber, showed her with eyes wide open, glaring on vacancy, tears streaming from her eyes, and every thing showing the fright of her spirit. The light produced no effect—the tones of soothing assurance, the words of solace, the loud call of her name, the severe shakes, were alike ineffectual to break the spell which bound her outward senses and put a lying spirit into her intellectual perceptions. She finally became calm, lay down—slept on till morning, when she awakened, as usual, unconscious of the scenes of the night.

My friend, counsellor B., related to me a fact in his observation. His younger brother and himself slept together. The brother waked him, said he had a dreadful tooth-ache—rose, wrapped one of the blankets about him, instead of dressing himself—went and called his mother, who rose also, and they went down stairs. She made some appliances to ease the pain—put some lint into the tooth, &c., and he went up stairs to go to bed again. When about half way up stairs, he awoke; he was surprised to find himself in such a situation—had no tooth-ache—was unconscious of what had passed—spit out the lint, and went to bed again and slept quietly.

Another fact of the same class is related by the Archbishop of Bordeaux, about 100 years ago, of a young ecclesiastic, whom he had known at the seminaries—[I translate it.] He imagined himself, one night, in the midst of winter, walking on the bank of a river, and seeing a child fall in, who was drowning. He instantly threw himself on his bed in the posture of swimming—performed the motions of swimming, till he seemed to have fatigued himself, when he felt on the corner of the bed a bunch of the covering, which he took for the child. He seized it with one hand, and continued to swim with the other, returning, as it were, to the bank of the river. He then laid down his burden, and came out of the water shivering, and his teeth chattering as if he had

really been in a frozen river. He said to those about him, that he was freezing—that he should die with cold—that his blood was frozen. He asked for a glass of brandy to warm him, but there being none at hand, they gave him water. He tasted it, perceived the cheat, and demanded brandy more sharply, telling them the danger he was exposed to. They gave him some cordial, which he drank with much satisfaction, and said it gave him great comfort. He did not, however, awake, but went to bed again and slept more tranquilly.

These three cases were of a class somewhat peculiar and extraordinary. They seem to unite the phenomena of dreaming, common sleep-walking, and nightmare. The scenes, the pains, the fright, the sensations, were imaginary. The motions, actions, and wants, were, however, natural, and consistent with these unreal sensations. They are, however, cases, clearly within the proper disposition of somnambulism, viz.:—a state of mind and body in which the patient, in a profound sleep, performs different voluntary actions as though he were awake.

But the more perfect somnambulism is more interesting, and more like the magnetic state. It is characterized by the absence of dreams, imaginary pains, and fancied scenes. Every thing is real. With all his senses locked up in sleep, the somnambulist sees things as they are—he speaks and hears correctly. His mind and body are subject to his rational control. If he should awake and be conscious of what had passed, he would find all things truly as he had perceived them while in the profound sleep in which they had been so mysteriously manifested to his inward sense. Of this, one of the most remarkable instances was also the young ecclesiastic, whose case is related by the distinguished prelate above mentioned,—who would arise from his sleep, go to his room, take pen, ink and paper, and compose good sermons. When he had finished a page, he would read it aloud, and correct it. Once, he had written *ce devin enfant*; in reading over the passage, he substituted *adorable* for *devin*; but observing that *ce* could not stand before *adorable*, he added *t*. *The archbishop held a piece of pasteboard under his chin, to prevent him from seeing the paper on which he was writing, but he wrote on, not at all incommode.*—The paper on which he was writing was then removed, and another piece substituted; but he instantly perceived the change. He wrote pieces of music in this state, with his eyes closed. The words were under the music, and once, were too large, and not placed exactly under the corresponding notes. He soon perceived the error, blotted out the part, and wrote it over again with great exactness.

B.

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THE HUMAN SOUL.

We have long been of the opinion, that a distinction should be made between what is called the “spirit,” or the *thinking, self-determining principle*, and the soul, or animal life. Nor can there be any reasonable doubt, but that the Christian Scriptures support this view of the soul.

It does not come within the perview of our work to enter upon the investigation of purely theological questions, nor shall we go beyond our limits in admitting the following article. It must be seen at once, that we could not very well, do ample justice to the subjects, which we have undertaken to examine, without giving our attention to the scripture account of *man*. For, though we do not

suppose the Bible to have been designed for the illustration of mental science, yet we may avail ourselves of any light which its sacred pages seem to shed upon this interesting subject.

We have supposed the soul to be nothing more nor less than *animal life*, and this animal life is what we denominate, “man’s magnetic nature.” This nature is controlled by the *spirit*, the *WILL*, or that unchanging, self-determining principle, which constitutes man a moral, responsible being.

The following article is from “Graham’s Philosophy of Sacred History,”—No. 1, pp. 94-110:

So exceedingly concise and summary is the Mosaic history of the primitive period of the world, and so abundantly have traditionary interpretations and poetical fictions enlarged upon, and embellished that history, that it is hardly possible for us to divest ourselves wholly of the misguiding influence of erroneous education and fanciful associations, in relation to the original family of man.

The notion seems to be generally entertained, that the great progenitor of our race, before his first transgression, was not only in a sinless and holy state, but that he also possessed a largely developed and most extensively informed mind, and an extraordinarily rich and highly exalted moral character:—that a very polished and perfect language was Divinely communicated to him, adapted to an unlimited range and scientific accuracy of discourse:—that he was endowed with something like an intuitive knowledge of all things, and an angelic wisdom of understanding:—in short, that as he daily held converse with angels and with God, so he was elevated in intellectual and moral condition, near to the state of angels. But this view of the subject, however pleasing and poetical it may be, is very far from being warranted by the nature of things, or by any authentic record of the case. The sacred scriptures, though somewhat indefinite concerning these particular points, are nevertheless sufficiently explicit and definite in regard to the general character, condition, and circumstances of Adam, to show that the Mosaic Record harmonized perfectly with scientific demonstration:—and the confirmation which these reciprocally afford each other, is so complete as to remove every ground of reasonable doubt.

They who read only our English version of the sacred Scriptures, however, and who understand its language according to present usage, can hardly derive from it, the full force of the evidence in relation to the primitive state of man which the original Hebrew and Greek afford. The English word “*soul*” is now used to signify “the spiritual, rational and immortal substance in man, which distinguishes him from brutes;” and, in our translation of the history of the creation, man is distinguished from all the other creatures which God made, by the endowment of “*a living soul*.” But this distinction is not found in the original text. The same words which are rendered “*living soul*,” in our version, in relation to man, Gen. 2: 7, are in the original, used in precisely the same sense, in relation to all the other animals, and most evidently, if “*nephesh*” is rendered *soul* in one case, it ought to be in every case where it is used with the same original meaning; and then the description of the creation, of the animal kingdom, would read thus: And God said, let the waters bring forth abundantly the moving creature that hath [*nephesh hayya*] *a living soul*, and fowl that may fly above the earth, in the open firmament of heaven. And God created great whales and every [*nephesh ha hayya*] *living soul* that moveth, which the waters brought

forth abundantly after their kind, &c. And God said, Let the earth bring forth the [*nephesh 'hayya*] *living soul* of his kind, cattle, and creeping thing, and beast of the earth after his kind. And God said, To every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is [*nephesh 'hayya*] a *living soul*, I have given every green herb for meat. Gen. 1: 20, 21, 24, 30. And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life, and man became [*le nephesh 'hayya*] a *living soul*.—And the Lord God brought unto Adam every beast of the field, and every fowl of the air, which he had formed out of the ground, to see what Adam would call them; and whatsoever Adam called every [*nephesh 'hayya*] *living soul*, that was the name thereof, Gen. 2: 7, 19. And proceeding still farther into the Mosaic history, we read as follows:—And God spake unto Noah and to his sons with him, saying, Behold, I establish my covenant with you, and with your seed, after you, and with every [*nephesh ha' hayya*] *living soul*, that is of the fowl, of the cattle, and of every beast of the earth with you. And God said, This is the token of the covenant which I make between me and you, and every [*nephesh 'hayya*] *living soul* that is with you, for perpetual generations. And I will remember my covenant which is between me and you, and every [*nephesh 'hayya*] *living soul* of all flesh. And the bow shall be in the cloud, and I will look upon it that I may remember the everlasting covenant between God and every [*nephesh 'hayya*] *living soul* of all flesh that is upon the earth. Gen. 9: 8, 9, 10, 12, 15, 16.—And if we continue to translate the Hebrew word *nephesh* by the English word *soul*, in other instances in which it is used in the same primary sense, we shall read as follows:—But the flesh with the *soul* thereof, which is the blood thereof, shall ye not eat. Gen. 9: 4. For the *soul* of the flesh is in the blood, and I have given it to you upon the altar, to make an atonement for your *souls*; for it is the blood that maketh an atonement for the *soul*. For it is the *soul* of all flesh; the blood of it is for the *soul* thereof; therefore, I said unto the children of Israel, Ye shall eat the blood of no manner of flesh; for the *soul* of all flesh is the blood thereof. Lev. 17: 11, 14.—Be sure that thou eat not the blood, for the blood is the *soul*; and thou mayest not eat the *soul* with the flesh. Deut. 12: 23.—And surely, your blood of your *souls* will I require; at the hand of every beast will I require it, and at the hand of man; at the hand of every man's brother will I require the *soul* of man. Gen. 9: 5.—If men strive, &c. and if mischief follow, thou shalt give [*nephesh ta-hath nephesh*] *soul for soul*. Exod. 21: 23.—And the Lord said unto Moses in Midian, Go, return into Egypt, for all the men are dead which sought thy *soul*. Exod. 4: 19.—And Reuben delivered Joseph out of the hands of his brethren, and said, Let us not kill his *soul*. Gen. 37: 21.—And the Lord said unto Satan [concerning Job] behold, he is in thy hand, but save his *soul*. Job 2: 6.—Job said, What is mine end that I should prolong my *soul*. Job 6: 11.—A righteous man regardeth the *soul* of his beast. Prov. 12: 10.

The Hebrew word *nephesh*, in its radical, substantive and derivative forms, is used about seven hundred times in the Old Testament. It is most generally rendered either *soul* or *life*, in our English version, at the discretion of the translators. In some instances, in the same connection, and with precisely the same original meaning, it is rendered both *soul* and *life*. Thus, in Gen. 19: 19, 20, Lot says to the angel, Behold now thy servant hath found grace in thy sight, and thou hast magnified thy mercy which thou hast showed unto me, in saving my [*napshi*]

life; and I cannot escape to the mountain lest some evil take me and I die. Behold now, this city is near to flee unto; let me escape thither and my [*napshi*] *soul* shall live. See also Lev. 17: 11. (§ 96.)—In its primitive radical sense, it means to *breathe—to take breath*; and in its substantive form, *breath*—the vivifying or animating breath.—In its most comprehensive, primitive sense, it means, not what is peculiar to man, but what is peculiar to the animal kingdom—to “*all flesh*;” (Lev. 17: 14.) namely, *animal life* as the basis of animal consciousness, sensibility, perception, feeling, instinct, appetite and voluntary power. And hence, it is often used in a *secondary* and figurative sense, to signify the animal soul, not only as comprehending the animal feelings, emotions, appetites, &c.; but also, as incorporated, and including the body with all its animal, intellectual and moral attributes and powers; and accordingly, all the properties and powers of the animal, intellectual and moral nature of man, are, in the Hebrew Scriptures, *figuratively* attributed to *nephesh*. Thus: *nephesh* is said to live; to have appetite; to desire food; to be hungry, and thirsty; to long to eat, and to lust for certain kinds of food; to be polluted with unclean food; to be full to loathing; to be empty; to famish; to be dried away from want of food, &c. And again, *nephesh* is said to be in jeopardy; to be feared for, trembled for, fled for; to be devoured; to be slain, to be put to death; to die; to be dead. Thus; whosoever hath slain any *soul*, &c., Num. 31: 19.—Will ye pollute me among my people, &c. to slay the *souls* that should not die, and to save the *souls* alive that should not live?—Ezek. 13: 19. And Joshua took Makkedah and smote it with the edge of the sword, and the king thereof he utterly destroyed, them, and all the *souls* that were therein;—he smote it with the edge of the sword and all the *souls* that were therein. Josh. 10: 28, 30.—And Samson said, Let my *soul* die with the Philistines. Jud. 16: 30.—All the days that a Nazarite separateth himself unto the Lord, he shall come at no *dead soul*. Num. 6: 6. Neither shall the high priest go into any *dead soul*, nor defile himself for his father or for his mother.—Lev. 21: 11. See also, Num. 9: 6, 7, 10, and 19: 11, 13, where *nephesh* is used in the same sense, and rendered *body*, by our translators: and Lev. 22: 4, and Num. 5: 2, where it is rendered *the dead*.—And again: *nephesh* is said to think; to know, to have knowledge; to remember; to love; to hate; to rejoice; to grieve; to melt for heaviness; to be lifted up; to be cast down; to be proud; to be humble; to thirst after God; to pant after the Lord; to be poured out before the Lord; to desire evil; to take vengeance; to touch an unclean thing; to sin; to swear; to commit trespass, &c.—*Nephesh* was also used by the Hebrews, as *soul* is by us, to signify the individual human being or person: as—all the *souls* that came out of the loins of Jacob were seventy *souls*, Exod. 1: 5,—according to the number of your *souls*, Exod. 16: 16,—all the *souls* of the house of Jacob which came into Egypt were three score and ten.—Gen. 46: 27.—If a man be found stealing a *soul* of his brethren of the children of Israel, and maketh merchandize of him, or selleth him, then that thief shall die. Deut. 24: 7.—if a priest buy a *soul* with his money, &c. Lev. 22: 11.—and the *souls* that they had gotten in Haran, &c. Gen. 12: 5.

It is important here to remark, that the book of Genesis was probably written some thirty or forty years earlier than any other part of the Hebrew Scriptures; and that the time during which the Old Testament, as a whole was being written, was not less than a thousand years. And, during this time, the Jews were, as a general fact, gradually developing the intellectual and moral man; and as a natural

and necessary consequence, their language was, almost continually undergoing changes, as to the constituent elements in the complex ideas signified by their words, and becoming more and more metaphysical and rich in meaning. Hence, *nephesh*, and many other Hebrew words which were, originally, of a purely animal import, gradually took on a metaphysical meaning, and came more and more to be used to signify mental and moral qualities. And hence, also, it is obviously not a correct method of Biblical interpretation, to determine the meaning of words in the book of Genesis, by the use of language in the later Hebrew Scriptures.

The Greek word *psuche*, in its radical substantive and derivative forms, exactly corresponds in signification, both primary and secondary, literal and figurative with the Hebrew word *nephesh*; and accordingly *nephesh* is always rendered *psuche* in the Septuagint. Thus; *nephesh hayya*, in the Hebrew, [*living creature and living soul* in our English version] Gen. 1: 20, 21, 24, 30. 2: 7, 19, 9: 10, 12, 15 and 16. Lev. 11: 10, &c., is *psuche zosa* [*living psuche*] in the Septuagint: and *nephesh meth*, or *dead nephesh*—meaning in a figurative sense of the word, "*nephesh*," *dead body*, Lev. 21: 11. Num. 6: 6, &c., is rendered *psuche teteleutekuia*, or *dead psuche*, in the Septuagint: and *nephesh ta' hath naphesh*, [*life for life*] Exodus 21: 23, is *psuchen anti psuches*:—and so in nearly every instance throughout the Old Testament, the Hebrew word *nephesh*, whether used in its primitive or secondary, literal or figurative sense, is represented by *psuche*, with a corresponding meaning in the Septuagint. And it is an interesting consideration in regard to this Greek version of the Old Testament, that we have little reason to doubt that, at least, so much of it as the five books of Moses, was made nearly three thousand years before Christ, by learned Jews, with whom both the Hebrew and the Greek had all the freshness of living languages.

Psuche in its various forms, occurs more than a hundred times in the original text of the New Testament; and like *nephesh* in the Old Testament is generally rendered either *soul* or *life* in our English version at the discretion of the translators; and like *nephesh*, also, it is predicated both of man and the lower animals. Thus, in Rev. 8: 9, 16: 3. And the second angel sounded, &c., and the third part of the creatures which were in the sea and had *psuchas* [*life*] died. And the second angel poured out his vial upon the sea; and it became as the blood of a dead man; and every *psuche zosa* [*living soul*] died in the sea. So in Lev. 11: 10,—every *nephesh ha' hayya* [*living soul*] or soul which lives in the waters, and hath not fins and scales, shall be an abomination unto you.—While Paul was preaching at Troas, in the night a young man who was sleeping in a window, fell down from the third loft, and was taken up dead.—And Paul went down and fell on him, and embracing him, said, Trouble not yourselves, for his *psuche* [*life*] is in him. Acts. 20: 9, 10. So in 1 Kings 17: 21, 22. And Elijah stretched himself upon the [dead] child three times, and cried unto the Lord and said, O Lord, my God! I pray thee, let this child's *nephesh* [*soul*,] come into him again. And the Lord heard the voice of Elijah; and the *nephesh* [*soul*] of the child came into him again and he revived. And the angel of the Lord appeared, in a dream, to Joseph, in Egypt, saying, Arise, and take the young child and his mother, and go into the land of Israel; for they are dead which sought the young child's *psuchen* [*life*] Matt. 2: 20.—Take no thought for your *psuche* [*life*] what ye shall eat or what ye shall drink. Is not the *psuche* [*life*] more than the food, &c.? Matt. 6: 25.—For whosoever will save his *psuchen* [*life*] shall lose it; and whosoever will lose

his *psuchen* [*life*] for my sake, shall find it. For what is a man profited if he shall gain the whole world and lose his own *psuchen*, [*soul or life*?] or what shall a man give in exchange for his *psuches* [*soul or life*?] Matt. 16: 25, 26. So in Job, 2: 4—all that a man hath will he give for his *naphsho* [*life*.] For the Son of man is not come to destroy men's *psuchas* [*lives*] but to save them. Luke, 9: 56.—The son of man came not to be ministered unto, but to minister; and to give his *psuchen* [*life*] a ransom for many. Matt. 20: 28. So in Isa. 53: 10, 12. When thou shalt make his *naphsho* [*soul i. e. life*] an offering for sin, &c.:—because he hath poured out his *naphsho* [*soul i. e. life*] unto death, &c. And John 10: 11, 17. The good shepherd giveth his *psuchen* [*life*] for the sheep. I am the good shepherd, and I lay down my *psuchen* [*life*] for the sheep. Also, 1 John 3: 16, because he laid down his *psuchen* [*life*] for us; and we ought to lay down our *psuchas* [*lives*] for the brethren.—Peter said, Lord, I will lay down my *psuchen* [*life*] for thy sake, John 13: 37. Men that have hazarded their *psuchas* [*lives*] for the name of our Lord Jesus Christ. Acts 15: 26—Neither count I my *psuchen* [*life*] dear unto myself, so that I might finish my course with joy, &c., Acts 20: 24.—I perceive that this voyage will be with hurt and much damage, not only of the lading and ship, but also of your *psuchon* [*lives*] Acts 27: 10,—and in verse 22. Now, I exhort you to be of good cheer; for there shall be no loss of *pesuches* [*life*] among you, but of the ship.—And the merchants of the earth shall weep and mourn over Babylon; for no man buyeth their merchandise any more—their merchandise of gold, and silver, and precious stones, &c. &c. and bodies and *psuchas anthropon* [*souls of men*] Rev. 18: 13. So in Ezek. 27: 13. They traded *be nephesh adam* [*in the souls of men*.]

The primary sense of the verb *psucho* is to *breathe*; and the most simple, primary sense of the substantive *psuche*, is *breath*—the vivifying or animating breath of all animals; and in its most comprehensive primary sense, like *nephesh* in the Hebrew, it means *animal life* as the basis of animal consciousness, sensibility, perception, feeling, instinct, appetite and voluntary power. And hence, by a figure of speech in which a part is put for the whole, it is sometimes used to include all these, together with the intellectual and moral powers, in the complex idea of *man*; as in Luke 12: 19. I will say to my *psuche* [*soul*] *psuche*, thou hast much goods laid up for many years; *take thine ease, eat, drink, and be merry*.—Immediately following, however, it occurs in its more simple and primitive sense.—But God said unto him,—Thou fool! this night do they require thy *psuchen* [*life*] of thee; then whose shall those things be, which thou hast provided?—In Heb. 4: 12, it is used to distinguish animal life with its attributes, common to all animals, from the more purely metaphysical or spiritual nature of man. The word of God is quick and powerful, and sharper than any two-edged sword, piercing, even to the dividing asunder of *psuches* [*soul*] and *pneumatos* [*spirit*] i. e. discriminating between the animal sensibilities, affections, &c. and the purely spiritual exercises; and, with this discriminating power, accurately discerning the moral quality of the thoughts and intents of the heart.—And again: in 1 Thess. 5: 23, it is used to distinguish animal life with its peculiar attributes, both from the spirit and from the body. I pray God your whole *pneuma* [*spirit*] and *psuche* [*soul*] and *soma* [*body*] be preserved blameless, unto the coming of our Lord Jesus Christ.—In other instances it is used to signify the depraved animal sensibilities, appetites, and passions, as affecting or influencing the intellectual and moral character and conduct of man. Thus in James, 3:

14, 15. If ye have bitter envying and strife in your hearts, glory not; and lie not against the truth. This wisdom descendeth not from above, but is earthly, *psuchike*, [sensual] devilish. And in Jude, 18, 19.—Remember how that they told you there should be mockers in the last time, who should walk after their own ungodly lusts. These be they who separate themselves, *psuchikoi* [sensual] having not the spirit. So in Prov. 23: 2—Put a knife to thy throat if thou be *ba'al nephesh* [a greedy man, a sensualist, given to appetite.]—Also in Hab. 2: 5. Yea, also, because he transgresseth by wine, he is a proud man, neither keepeth at home, who enlargeth his *napsho*. [desire of lust] as hell, [she'ol] and as death, and cannot be satisfied.—In three instances *psuche* is rendered *mind*: thus, Acts 14: 2. But the unbelieving Jews stirred up the Gentiles, and made their *psuchas* [minds] evil-affected against the brethren. And Phil. 1: 27,—stand fast with one spirit and with one *psuche* [mind.] And Heb. 12: 3,—lest ye be wearied and faint in your *psuchais* [minds.] In John 10: 24. How long wilt thou make us to doubt; (*psuchen* 'em-on aireis) hold our mind in suspense, perplex our soul.—In Eph. 6: 6 doing the will of God *ek psuches* [from the heart.] And Col. 3: 23. Whatsoever ye do, do it *ek psuches* [heartily] as to the Lord.

In a very few instances in the Gospels, and somewhat more frequently in the Epistles, *psuche* is used in a more purely metaphysical sense to signify the immortal soul of man. Thus, Matt. 10: 28. Fear not them which kill the body, but are not able to kill the *psuchen* [soul] but rather fear him who is able to destroy both *psuchen* [soul] and body in hell [gehenna.] And James 1: 21,—receive with meekness the engrafted word, which is able to save your *psuchas* [souls.] And 1 Pet. 1: 9. Receiving the end of your faith, even the salvation of your *psuchon* [souls.] But this signification evidently came into use among the Jews, with the more clearly defined ideas of man's immortality 'brought to light by Jesus Christ,' and which, at most, are but dimly and indistinctly shadowed forth in the Old Testament; and it is, nevertheless, fully manifest, even from the New Testament use of the word, that its primitive signification concerning human beings, relates exclusively to the animal nature of man. And the Apostle Paul, who was a more thorough Greek scholar, and who, from education, had a more accurate knowledge of the primitive and radical meaning and force of the word than any other New Testament writer, though he sometimes employs it in a secondary sense which relates to the immortal nature of man, generally uses it with a strict regard to its primitive meaning, to signify, simply, animal life, or, more comprehensively, the animal nature of man; and it is in this sense that he uses it in his first Epistle to the Corinthians, not only in contrasting the animal with the spiritual nature of man, but also in contrasting the first with the last Adam; or Adam with Christ; and in so doing solves the very question under consideration.

"Now, we have received," says Paul, "not the spirit of the world, but the Spirit which is of God; that we might know the things that are freely given to us of God. Which things also, we speak, not in the words which man's wisdom teacheth; but which the holy Spirit teacheth, comparing spiritual things with spiritual. But the *psuchikos anthropos* [animal man] receiveth not the things of the Spirit of God; for they are foolishness unto him; neither can he know them, because they are spiritually discerned." 1 Cor. 2: 12, 14.—In our English version of the New Testament *psuchikos*, in this, and subsequent passages of the same Epistle, which I shall examine, is, without any propriety or definiteness of meaning, rendered "*natural*." For the word *natural*, in

its true sense, is as strictly applicable to the spirit as to the body. All that God made of man, whether corporeal or spiritual,—whether pertaining to his bodily or intellectual or moral nature—is equally *natural*; and therefore to speak of the natural man, or *natural* body, in contradistinction to a *spiritual* man or *spiritual* body, is absurd. It is true that we speak of the *moral* man in distinction from the *natural*; and with propriety; because we still include in the meaning of the word *natural*, all the constitutional faculties and powers of man's whole complex nature—as well his intellectual and moral, as his prehensive and locomotive, or upper and lower limbs; and by the word *moral* we mean only his own voluntary exercise of his natural faculties and powers, and the inherent results of that exercise.—The moral sense, or any intellectual faculty in the human constitution, therefore, is as truly a natural faculty, as any bodily power with which man is constitutionally endowed. It is the *animal* man that receiveth not the things of the Spirit of God, as the context clearly shows; for the Apostle having asserted this of the *psuchikos anthropos*, immediately applies the doctrine to the Corinthian proselytes, and affirms of them,—And I brethren could not speak unto you as unto *spiritual*, but as unto *sarkikois*—even as unto babes in Christ. Here, it is manifest that *psuchikos* and *sarkikos* are used as convertible terms, to signify the same thing. And, indeed, both of these terms are always used in the New Testament, to distinguish the *animal* man from the *spiritual*; and also, *sarx* [flesh] from which the adjective *sarkikos* [carnal*] is derived, has, in general, the same signification. Critically speaking, however, there is a nice difference between the New Testament meaning of *psuchikos* and that of *sarkikos*. The former signifies the animal man in distinction from the spiritual, without necessarily including the idea of *depravity*; the latter signifies the animal man with all his depraved instincts, appetites, propensities, lusts, &c. Thus in the passage under consideration, the Apostle says to the Corinthians, For where as there is among you envying and strife, and divisions, are ye not *sarkikoi* (carnal?)—And again, Rom. 7: 14—24. We know that the law is *spiritual* but I am *sarkikos* (carnal,) have a depraved animal nature—a body of death! so that I do not so perfectly and invariably obey the Spirit, as I would; or, as in the spirit of my mind I desire and determine to. And also, 1 Pet. 2: 11. Dearly beloved, I beseech you, as strangers and pilgrims, abstain from *sarkikon* 'epithymion (fleshly lusts) which war against the soul.—This I say then, Gal. 5: 16, 17. Walk in the Spirit, and ye shall not fulfil the lusts of the flesh. For the flesh lusteth against the spirit, and the spirit against the flesh; and these are contrary the one to the other; so that ye cannot do the things that ye would.—For, (Rom. 8: 5, 6, and 7,) they that are after the flesh do mind the things of the flesh; but they that are after the Spirit, the things of the spirit. For the minding of the flesh is death; but the minding of the Spirit is life and peace; because the minding of the flesh is enmity against God; for it is not subject to the law of God:—i. e. the minding of the flesh is contrary to the minding of the law of God.—And (Gal. 5: 24) they that are Christ's have crucified the flesh with the affections and lusts. I beseech you therefore, brethren, by the mercies of God, (Rom. 12: 1) that ye present your bodies a living sacrifice, holy, acceptable unto God, in spiritual service. But this nice difference is not always observed, and *psuchikos*, as we have seen, is sometimes used to signify the depraved animal sensibilities, appetites, and pas-

* Our English word *carnal*, is from the Latin adjective *car-nalis*, derived from *carno*, *carnis*, which means flesh.

sions, as affecting, or influencing the intellectual and moral character and conduct of man; and *sarkikos*, in some instances, signifies simply the animal nature of man, without necessarily including the idea of depravity. Thus, 1 Cor. 9: 11. If we have sown unto you spiritual things, is it a great thing if we shall reap your carnal things? i. e. If ye have received from us those things which minister to your *spiritual* wants, is it not just that we should receive from you, those things which minister to our *animal* wants.—See also, Rom. 15: 27. Nevertheless, whether this difference is observed or not, yet in all cases, *psuchikos* and *sarkikos* are used to distinguish the *animal* man from the *spiritual*; and the true rendering of *psuchikos*, is *animal*. And therefore, in 1 Cor. 15: 42, 47, the *soma psuchikon* is the *animal body* which is sown in *corruption* and dishonor, and weakness, and raised in power and glory, an incorruptible *soma pneumatikon* (*spiritual body*). There is a *soma psuchikon* (*animal body*) and there is a *soma pneumatikon* (*spiritual body*).—And so it is written, The first man Adam was *eis psuchen zosan* (*a living animal*;) the last Adam, *eis pneuma zoopoion* (*a quickening or vivifying Spirit*.) Howbeit, that was not first which is *pneumatikon* (*spiritual*;) but that which is *psuchikon* (*animal*;) and afterward that which is *pneumatikon* (*spiritual*.) The first man is of the earth, earthly; the second man is the Lord from heaven.

The Apostle here quotes the very language of the Septuagint in relation to Adam, Gen. 2: 7. "*eis psuchen zosan*,"—*a living animal*; this, beyond all question, is the true rendering of the Hebrew *le nephesh 'hayya* in Gen. 2: 7, as well as in Gen. 1: 20, 21, 24, 30, &c., where it relates to the lower animals; and the true translation of the passage into English, is manifestly as follows:—And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life, and man became a *living animal*.

Let it not be supposed, however, that it is, in anywise my object to establish this rendering of the passage in question, in order to prove that man has no *soul*, in our modern sense of the word.—I wish to show, what every scholar knows, or may know to be true, that the *nephesh 'hayya* of the Hebrew text, or *psuche zosa* of the Greek, does not distinguish man from other animals.—In my Lectures on the Science of Human Life, (§ 522. *et seq.*) I believe I have gone as far as any one can go in human science, to prove that man has an immaterial, and immortal soul; and I have already shown in this work (§ 72 74,) that man was distinguished by his Creator, from all other animals, in being made in the image and after the likeness of his Maker,—in being constituted, organized, and capacitated to receive the mental and moral impress of the Godhead—to be the mental and moral representative of God on earth.

THE MORAL FACULTY.

We have before referred to an Essay, written by the celebrated Benjamin Rush, in 1786, in which he approached very near to the discovery of Phrenology; and also, to the fact, that the portions of his brain where phrenologists have located the organs of *causality*, (and where we have supposed two of the large consecutive poles of the brain to be located,) were very large. These same organs were large in Franklin's head, and also in Herschel's and Sir Isaac Newton's. Indeed, it is believed that an instance is not known, where any person has ever made any discoveries of note, in whom these portions of the brain were small. This Essay was repub-

lished, in 1839, by Mr. George Combe, of Edinburgh, with the following preface:

"In the numerous discussions which have arisen out of Dr. Gall's discovery of the functions of the brain, many attempts have been made to show that his views were not original. The divisions of that organ into different compartments, and the location into those of different mental faculties, exhibited by various authors, from Aristotle down to John Baptista Porta who published in the seventeenth century, have been confidently referred to, as evidences that Dr. Gall's doctrines are the mere revival of exploded theories. Dr. Gall himself has recorded the opinions and speculations of these authors, and pointed out that while they located the faculties in different parts of the brain from fancy, he did so from observation. But the nearest approach to Dr. Gall's discovery, which has come under my notice, is one that the opponents of Phrenology have not referred to. It is contained in "An Inquiry into the influence of Physical Causes upon the Moral Faculty," delivered by Dr. Benjamin Rush before a meeting of the American Philosophical Society, held at Philadelphia, on the 27th of February, 1786, published by their request, and dedicated to Dr. Benjamin Franklin. In this Inquiry "coming discoveries" may be said to have cast their shadows before; and Dr. Rush, by observing and faithfully recording the phenomena of nature, has brought to light several important truths which have since been confirmed and elucidated by Phrenology, in a manner that evinces, on his part, extraordinary depth and perspicuity of intellect, combined with the highest moral qualities. The "Moral Faculties," mentioned in his "Inquiry," appears to me to comprehend nearly the three moral sentiments of Benevolence, Veneration, and Conscientiousness, treated of by Phrenologists, each of which is manifested by means of a particular organ, and is influenced by its condition of health or disease; and if the following pages be perused with this explanation in view, the close approximation of Dr. Rush's remarks to the doctrine of Phrenology, will be easily recognised. In many details he differs from, and falls short of views of Phrenologists, but in the general conclusion maintained by him, that physical causes influence the moral faculty, the coincidence is complete. I have not been able to find this "Inquiry" printed separately from Dr. Rush's general works; and as it will probably prove interesting to many persons who are not in possession of these volumes, I have been induced to present it in this form to the citizens of the United States. Although all the views contained in it may not have been supported by subsequent investigations, there is so much of sagacity in the author, and of truth in his conclusions, that America may be justly proud of the genius of her son."

We have not the necessary space for the whole of this interesting production in our present number. The remainder shall appear in our next:

By the moral faculty I mean a capacity in the human mind of distinguishing and choosing good and evil, or, in other words, virtue and vice. It is a native principle, and though it be capable of improvement by experience and reflection, it is not derived from either of them. St. Paul and Cicero give us the most perfect account of it that is to be found in modern or ancient authors. "For when the Gentiles (says St. Paul,) which have not the law, do by nature the things contained in the law, *these*, having not the law, are a *law* unto themselves, which show the works of the law written in their hearts, their consciences also, bearing witness, and their thoughts

the meanwhile accusing, or else excusing, another.*

The words of Cicero are as follow: "Est igitur hæc, judices, non scripta, sed nata lex, quam non didicimus, accepimus, legimus, verum ex natura ipsa arripuimus, hausimus, expressimus, ad quam non docti, sed facti, non instituti, sed imbuti sumus.†" This faculty is often confounded with conscience, which is a distinct and independent capacity of mind. This is evident from the passage quoted from the writings of St. Paul, in which conscience is said to be the witness that accuses and excuses us of a breach of the law written in our hearts. The moral faculty is what the schoolmen call the "regula regulans;" the conscience is their "regula regulata;" or, to speak in more modern terms, the moral faculty performs the duty of a judge. The moral faculty is to the conscience, what taste is to the judgment, and sensation to perception. It is quick in its operations, and like the sensitive plant, acts without reflection, while conscience follows with deliberate steps, and measures all her actions by the unerring square of right and wrong. The moral faculty exercises itself upon the actions of others. It approves, even in books, of the virtues of a Trajan, and disapproves of the vices of a Marius, while conscience confines its operation only to its own actions.—These two capacities of the mind are generally in an exact ratio to each other, but they sometimes exist in different degrees in the same person. Hence we often find conscience in its full vigour, with a diminished tone, or total absence of the moral faculty.

It has long been a question among metaphysicians, whether the conscience be seated in the will or in the understanding. The controversy can only be settled by admitting the will to be the seat of the moral faculty, and the understanding to be the seat of the conscience. The mysterious nature of the union of two moral principles with the will and understanding is a subject foreign to the business of the present inquiry.

As I consider virtue and vice to consist in *action*, and not in opinion, and as this action has its seat in the *will*, and not in the conscience, I shall confine my inquiries chiefly to the influence of physical causes upon that moral power of the mind, which is connected with volition, although many of these causes act likewise upon the conscience, as I shall show hereafter. The state of the moral faculty is visible in actions, which affect the well-being of society. The state of the conscience is invisible, and therefore removed beyond our investigation.

The moral faculty has received different names from different authors. It is the "moral sense" of Dr. Hutchison; "the sympathy" of Dr. Adam Smith; the "moral instinct" of Rousseau; and "the light that lighteth every man that cometh into the world" of St. John. I have adopted the term of moral faculty from Dr. Beattie, because I conceive it conveys, with most perspicuity, the idea of a capacity in the mind of choosing good and evil.

Our books of medicine contain many records of the effects of physical causes upon the memory, the imagination, and the judgment. In some instances we behold their operation only on one, in others on two, and in many cases upon the whole of these faculties. Their derangement has received different names, according to the number or nature of the faculties that are affected. The loss of memory has been called "amnesia;" false judgment upon one subject has been called "melancholia;" false judgment upon all subjects has been called "mania;" a defect of all the three intellectual faculties that

have been mentioned has received the name of "amentia." Persons who labour under the derangement, or want, of these faculties of the mind, are considered, very properly, as subjects of medicine; and there are many cases upon record, that prove that their diseases have yielded to the healing art.

In order to illustrate the effects of physical causes upon the moral faculty, it will be necessary *first* to show their effects upon the memory, the imagination, and the judgment; and at the same time to point out the analogy between their operation upon the intellectual faculties of the mind and the moral faculty.

1. Do we observe a connection between the intellectual faculty, and the degrees of consistency and firmness of the brain in infancy and childhood? The same connection has been observed between the strength, as well as the progress, of the moral faculty in children.

2. Do we observe a certain size of the brain and a peculiar cast of features, such as the prominent eye, and the aquiline nose, to be connected with extraordinary portions of genius? We observe a similar connection between the figure and temperament of a body and certain moral qualities. Hence we often ascribe good temper and benevolence to corpulency, and irascibility to sanguineous habits. Cæsar thought himself safe in the friendship of the "sleek-headed" Antony and Dolabella, but was afraid to trust to the professions of the slender Cassius.

3. Do we observe certain degrees of the intellectual faculties to be hereditary in certain families? The same observation has been frequently extended to moral qualities. Hence we often find certain virtues and vices as peculiar to families, through all their degrees of consanguinity and duration, as peculiarity of voice, complexion, or shape.

4. Do we observe instances of a total want of memory, imagination, and judgment, either from an original defect in the stamina of the brain, or from the influence of physical causes? The same unnatural defect is sometimes observed, and probably from the same causes, of a moral faculty. The celebrated Servin, whose character is drawn by the Duke of Sully, in his Memoirs, appears to be an instance of the total absence of the moral faculty, while the chasm produced by this defect, seems to have been filled up by more than common extension of every other power of his mind. I beg leave to repeat the history of this prodigy of vice and knowledge. "Let the reader represent to himself a man of a genius so lively, and of an understanding so extensive, as to render him scarce ignorant of any thing that could be known; of so ready comprehension, that he immediately made himself master of whatever he attempted; and of so prodigious a memory, that he never forgot what he once learned. He possessed all parts of philosophy, and mathematics, particularly fortification and drawing. Even in theology he was so well skilled, that he was an excellent preacher whenever he had a mind to exert that talent, and an able disputant for and against reformed religion, indifferently. He not only understood Greek, Hebrew, and all the languages which we call learned, but also the different jargons, or modern dialects. He accented and pronounced them so naturally, and so perfectly imitated the gestures and manners both of the several nations of Europe, and the particular provinces of France, that he might have been taken for a native of all, or any, of these countries: and this quality he applied to counterfeit all sorts of persons, wherein he succeeded wonderfully. He was, moreover, the best comedian and the greatest droll, that perhaps ever appeared. He had a genius for poe-

* Romans, i. 14, 15.

† Oratio pro Milone.

try, and had wrote many verses. He played upon almost all instruments, was a perfect master of music, and sang most agreeably and justly. He likewise could say mass, for he was of a disposition to do as well as to know, all things. His body was perfectly well suited to his mind. He was light, nimble, and dexterous, and fit for all exercises. He could ride well, and in dancing, wrestling, and leaping, he was admired. There are not any recreative games that he did not know, and he was skilled in almost all mechanic arts. But now for the reverse of the medal. Here it appeared, that he was treacherous, cruel, cowardly, deceitful, a liar, and cheat, a drunkard and a glutton, a sharper in play, immersed in every species of vice, a blasphemer, an atheist. In a word, in him might be found all the vices that are contrary to nature, honour, religion, and society, the truth of which he himself evinced with his latest breath; for he died in the flower of his age, in a common brothel, perfectly corrupted by his debaucheries, and expired with the glass in his hand, cursing and denying God.”*

It was probably a state of the human mind such as has been described, that our Saviour alluded to in the disciple who was about to betray him, when he called him “a devil.” Perhaps the essence of depravity, in infernal spirits, consists in their being wholly devoid of a moral faculty. In them the will has probably lost the power of choosing,† as well as the capacity of enjoying moral good. It is true, we read of their trembling in a belief of the existence of a God, and of their anticipating future punishment, by asking whether they were to be tormented before their time: but this is the effect of conscience, and hence arises another argument in favor of this judicial power of the mind being distinct from the moral faculty. It would seem as if the Supreme Being had preserved the moral faculty in man from the ruins of his fall, on purpose to guide him back again to Paradise, and at the same time had constituted the conscience, both in men and fallen spirits, a kind of royalty in his moral empire, on purpose to show his property in all intelligent creatures, and their original resemblance to himself. Perhaps the essence of moral depravity in man consists in a total, but temporary, suspension of the power of conscience. Persons in this situation are emphatically said in the Scriptures to “be past feeling,” and to have their consciences seared with a “hot iron;” they are likewise said to be “twice dead,” that is, the same torpor, or moral insensibility, has seized both the moral faculty and the conscience.

5. Do we ever observe instances of the existence of only *one* of the three intellectual powers of the mind that have been named, in the absence of the other two? We observe something of the same kind with respect to the moral faculty. I once knew a man, who discovered no one mark of reason, who possessed the moral sense or faculty in so high a degree, that he spent his whole life in acts of benevolence. He was not only inoffensive (which is not always the case with idiots), but he was kind and affectionate to every body. He had no ideas of time, but what were suggested to him by the returns of the stated periods for public worship, in which he appeared to take great delight. He spent several hours of every day in devotion, in which he was so careful to be private, that he was once found

in the most improbable places in the world for that purpose, viz. in an oven.

6. Do we observe the memory, the imagination, and the judgment to be affected by diseases, particularly by madness? Where is the physician, who has not seen the moral faculty affected from the same causes! How often do we hear persons of the most delicate virtue utter speeches, in the delirium of a fever, that are offensive to decency or good manners! I have heard a well-attested history of a clergyman of the most exemplary moral character, who spent the last moments of a fever, which deprived him both of his reason and his life, in profane cursing and swearing. I once attended a young woman in a nervous fever, who discovered, after her recovery, a loss of her former habit of veracity. Her memory (a defect of which might be suspected of being the cause of this vice), was in every respect as perfect as it was before the attack of the fever.* The instances of immorality in maniacs, who were distinguished for the opposite character, are so numerous, and well known, that it will not be necessary to select any cases, to establish the truth of the proposition contained under this head.

7. Do we observe any of the three intellectual faculties that have been named enlarged by diseases? Patients in the delirium of a fever, often discover extraordinary flights of imagination, and madmen often astonish us with their wonderful acts of memory. The same enlargement, sometimes, appears in the operations of the moral faculty. I have more than once heard the most sublime discourses of morality in the cell of a hospital, and who has not seen instances of patients in acute diseases discovering degrees of benevolence and integrity, that were not natural to them in the ordinary course of their lives?†

8. Do we ever observe a partial insanity, or false perception on one subject, while the judgment is sound and correct, upon all others? We perceive, in some instances, a similar defect in the moral faculty. There are persons who are moral in the highest degree as to certain duties, who nevertheless live under the influence of some one vice. I knew an instance of a woman, who was exemplary in her obedience to every command of the moral law, except one. She could not refrain from stealing. What made this vice the more remarkable was, that she was in easy circumstances, and not addicted to extravagance in any thing. Such was her propensity to this vice, that when she could lay her hands upon nothing more valuable, she would often, at the table of a friend, fill her pockets secretly with bread. As a proof that that her judgment was not affected by this defect in the moral faculty, she would both confess and lament her crime, when detected in it.

9. Do we observe the imagination in many instances to be affected with apprehensions of dangers that have no existence? In like manner we observe the moral faculty to discover a sensibility to vice, that is by no means proportioned to its degrees of depravity. How often do we see persons laboring under this morbid sensibility of the moral faculty refuse to give a direct answer to a plain question, that related perhaps only to the weather, or to the hour of the day, lest they should wound the peace of their minds by telling a falsehood!

* Vol. iii. p. 216, 217.

† Milton seems to have been of this opinion. Hence, after ascribing repentance to Satan, he makes him declare—

“Farewell, remorse; all good to me is lost!
Evil, be thou my good.”

* I have selected this case from many others which have come under my notice, in which the moral faculty appeared to be impaired by diseases, particularly by the typhus of Dr. Cullen, and by those species of palsy which affect the brain.

† Xenophon makes Cyrus declare, in his last moments, “that the soul of man, at the hour of death, appears *most divine*, and then foresees something of future events.”

10. Do dreams affect the memory, the imagination, and the judgment? Dreams are nothing but incoherent ideas, occasioned by partial or imperfect sleep. There is variety in the suspension of the faculties and operations of the mind in this state of the system. In some cases the imagination only is deranged in dreams, in others the memory is affected, and in others the judgment. But there are cases in which the change that is produced in the state of the brain, by means of sleep, affects the moral faculty likewise; hence we sometimes dream of doing and saying things, when asleep, which we shudder at, as soon as we awake. This supposed defection from virtue exists frequently in dreams, where the memory and judgment are scarcely impaired. It cannot therefore be ascribed to an absence of the exercises of those two powers of the mind.

11. Do we read, in the accounts of travellers, of men, who, in respect of intellectual capacity and enjoyments, are but a few degrees above brutes? We read likewise of a similar degradation of our species, in respect to moral capacity and feeling. Here it will be necessary to remark, that the low degrees of moral perception, that have been discovered in certain African and Russian tribes of men, no more invalidate our proposition of the universal and essential existence of a moral faculty in the human mind, than the low state of their intellects prove, that reason is not natural to man. Their perceptions of good and evil are in exact proportion to their intellectual faculties. But I will go further, and admit, with Mr. Locke,* that some savage nations are totally devoid of the moral faculty, yet it will by no means follow, that this was the original constitution of their minds. The appetite for certain aliments is uniform among all mankind. Where is the nation and the individual, in their primitive state of health, to whom bread is not agreeable? But if we should find savages, or individuals, whose stomachs have been so disordered by intemperance as to refuse this simple and wholesome article of diet, shall we assert that this was the original constitution of their appetites? By no means. As well might we assert, because savages destroy their beauty by painting and cutting their faces, that the principles of taste do not exist naturally in the human mind. It is with virtue as with fire. It exists in the mind, as fire does in certain bodies, in a latent or quiescent state. As collision renders the one sensible, so education renders the other visible. It would be as absurd to maintain, because olives become agreeable to many people from habit, that we have no natural appetites for any other kind of food, as to assert that any part of the human species exist without a moral principle, because in some of them it has wanted causes to excite it into action, or has been perverted by example. There are appetites that are wholly artificial. There are tastes so entirely vitiated, as to perceive beauty in deformity. There are torpid and unnatural passions. Why, under certain unfavourable circumstances, may there not exist also a moral faculty, in a state of sleep, or subject to mistakes?

The only apology I shall make, for presuming to differ from that justly celebrated oracle,† who first unfolded to us a map of the intellectual world, shall be, that the eagle eye of genius often darts its views beyond the notice of facts, which are accommodated to the slender organs of perception of men, who possess no other talent than that of observation.

It is not surprising, that Mr. Locke has confounded this moral principle with *reason*, or that Lord

Shaftesbury has confounded it with *taste*, since all three of these faculties agree in the objects of their approbation, notwithstanding they exist in the mind independently of each other. The favorable influence, which the progress of science and taste has had upon the morals, can be ascribed to nothing else, but to the perfect union that subsists in nature between the dictates of reason, of taste, and of the moral faculty. Why has the spirit of humanity made such rapid progress for some years past in the courts of Europe? It is because kings and their ministers have been taught to *reason* upon philosophical subjects. Why have indecency and profanity been banished from the stage in London and in Paris? It is because immorality is an offence against the highly cultivated *taste* of the French and English nations.

It must afford great pleasure to the lovers of virtue, to behold the depth and extent of this moral principle in the human mind. Happily for the human race, the intimations of duty and the road to happiness are not left to the slow operations of doubtful inductions of reason, nor to the precarious decisions of taste. Hence we often find the moral faculty in a state of vigour in persons, in whom reason and taste are in a weak, or in an uncultivated state. It is worthy of notice, likewise, that while *second* thoughts are best in matters of judgment, *first* thoughts are always to be preferred in matters that relate to morality. *Second* thoughts, in these cases, are generally parleys between duty and corrupted inclinations. Hence Rousseau has justly said that "a well regulated moral instinct is the surest guide to happiness."

It must afford equal pleasure to the lovers of virtue to behold, that our moral conduct and happiness are not committed to the determination of a single legislative power. The conscience, like a wise and faithful legislative council, performs the office of a check upon the moral faculty, and thus prevents the fatal consequences of immoral actions.

An objection, I foresee, will arise to the doctrine of the influence of physical causes upon the moral faculty, from its being supposed to favor the opinion of the *materiality* of the soul. But I do not see that this doctrine obliges us to decide upon the question of the nature of the soul, any more than the facts which prove the influence of physical causes upon the memory, the imagination, or the judgment. I shall, however, remark upon this subject, that the writers in favor of the *immortality* of the soul have done that truth very great injury, by connecting it necessarily with its *immateriality*. The immortality of the soul depends upon the *will* of the Deity, and not upon the supposed properties of spirit. Matter is in its own nature as immortal as spirit. It is resolvable by heat and mixture into a variety of forms, but it requires the same Almighty hand to annihilate it, that it did to create it. I know of no arguments to prove the immortality of the soul, but such as are derived from the Christian revelation.* It would be as reasonable to assert that the basin of the ocean is immortal, from the greatness of its capacity to hold water; or that we are to live for ever in this world, because we are afraid of dying; as to maintain the immortality of the soul, from the greatness of its capacity for knowledge and happiness, or from its dread of annihilation.

I remarked, in the beginning of this discourse, that persons who are deprived of the just exercise of memory, imagination, or judgment, were proper subjects of medicine; and that there are many cases upon record which prove, that the diseases from the

* Essay concerning the Human Understanding, book i. chapter 3.

† Mr. Locke.

* Life and immortality are brought to light *only* through the gospel. 2 Tim. i. 10.

derangement of these faculties have yielded to the healing art.

It is perhaps only because the diseases of the moral faculty have not been traced to a connection with physical causes, that medical writers have neglected to give them a place in their systems of nosology, and that so few attempts have been hitherto made to lessen or remove them, by physical as well as rational and moral remedies.

I shall not attempt to derive any support to my opinions, from the analogy of the influence of physical causes upon the temper and conduct of brute animals. The facts which I shall produce in favor of the action of these causes upon morals in the human species, will, I hope, render unnecessary the arguments that might be drawn from that quarter.

I am aware, that in venturing upon this subject I step upon untrodden ground. I feel as Æneas did, when he was about to enter the gates of Avernus, but without a sybil to instruct me in the mysteries that are before me. I foresee, that men who have been educated in the mechanical habits of adopting popular or established opinions will revolt at the doctrine I am about to deliver, while men of sense and genius will hear my propositions with candour, and if they do not adopt them, will commend that boldness of inquiry, that prompted me to broach them.

I shall begin with an attempt to supply the defects of nosological writers, by naming the partial or weakened action of the moral faculty, MICRONOMIA. The total absence of this faculty I shall call ANOMIA. By the law, referred to in these new genera of *vesaniæ*, I mean the law of nature written in the human heart, and which I formerly quoted from the writings of St. Paul.

In treating of the effects of physical causes upon the moral faculty, it might help to extend our ideas upon this subject, to reduce virtues and vices to certain species, and to point out the effects of a particular species of virtue and vice; but this would lead us into a field too extensive for the limits of the present inquiry. I shall only hint at a few cases, and have no doubt but the ingenuity of my auditors will supply my silence, by applying the rest.

It is immaterial, whether the physical causes that are to be enumerated act upon the moral faculty through the medium of the senses, the passions, the memory, or the imagination. Their influence is equally certain, whether they act as remote, predisposing, or occasional causes.

CAVIGLIA THE ANTIQUARY.—I had him to breakfast two or three days ago at Cairo, and I had a long confab with him before that. Living, as he had done, so solitary, I should rather say, in such society as that of the old Pharaohs of Egypt, their pyramids his home, and that strange enigma of a sphinx his fellow-watcher at their feet, he has become, to use his own expression, "tout-a-fait pyramidal" in dress, feature, manner, thought, and language. His history is very curious. "As a young man," he told us this evening, "*je lisais Voltaire, Jean Jacques, Diderot—et je me croyais philosophe*" he came to Egypt—the Pyramids, Moses, and the Holy Scriptures converted him, "*et maintenant*," said he, "*je suis tout Biblique*."—*Lord Lindsay's Letters on Egypt.*

MAGNETISM.—The St. Louis New Era contains an account of some interesting experiments in animal magnetism, lately made in that city. Several incredulous gentlemen declared themselves perfectly convinced so far as concerned the facts. Judge M'Clean, of Ohio, is said not only to be a believer, but a successful experimentalist.

GALVANISM TO REMOVE CATARACT.—The London Physicians are making successful experiments for removing cataracts from the eyes by galvanism. It is asserted that several eminent physicians are engaged in the inquiry, and a good deal of excitement has already been created by the little that has been achieved by the aid of this singular agent.

A CURIOUS PIECE OF ANTIQUITY has just been brought to light in Egypt, being a picture or tableau illustrating, with remarkable fidelity, an interesting portion of Mosaic history. It was discovered in the tombs of Beni Hassen, near Cairo, and represents the arrival of the brethren of Joseph in Egypt—Joseph being exhibited in the costume of an officer of State, in the act of presenting his brethren to the Viceroy of the reigning sovereign, in whose tombs the tableau was found."

WHO CAN SOLVE THIS PROBLEM?—Fill a wine glass to the brim with water, or if possible raise it in the glass even higher than the edge, by letting one drop fall at a time until the water presents a convex surface. When this is done, drop into the glass as many common pins as will fill it, and the water will not overflow. This simple experiment may be easily tried; but I have never seen it explained.—

Water is compressible in a wine glass, and hence the water in the glass remains as it was before the pins were put in.

THE MAGNET.

NEW YORK, NOVEMBER, 1842.

ERROR.—The author of the article in our last, headed "*Remarkable Phenomena*," is O. K. SAMMIS. The proof was not corrected by the printer.

PHRENO-MAGNETIC SOCIETY IN CLINTON.—It affords us much pleasure in being able to announce the formation of another Phreno-Magnetic Society, as the following will shew :—

*Clinton Seminary,
Clinton, Oneida Co. N.Y., Sept. 26, 1842.*

Sir,—You are hereby respectfully informed, that at a meeting of the Phreno-Magnetic Club, held at their session room in this Seminary, on the evening of the 21st instant, you were unanimously elected an Honorary Member of said Society.

By order and in behalf of the Society,
I subscribe myself, yours, &c.

In search of truth,
DANIEL S. HEFFRON, Secretary.

Rev. La Roy Sunderland.

POLARITY OF THE HUMAN SYSTEM.

One of the most singular properties of living bodies, is their power of producing their own heat. Some of them, we know, develop *electricity* and light; and they possess the power of resisting heat, of a much higher temperature than their own. Most persons have noticed the sparks which are often emitted from the hair of a cat, when it is rubbed in very cold weather; and a similar phenomenon is also seen, on taking off flannel drawers, &c. from the human body.

A steel needle, plunged into a nerve, becomes *magnetic*; and on being withdrawn, it is found to have the

power of attracting light substances. And that portions of the human system are often *attracted* and *repelled* by metallic substances, is a fact well known.

Muller affirms, that efficient galvanic piles may be formed from organic animal substances, without the use of metals. Wienholt states, that he has seen sparks obtained by bringing the divided end of two nerves together.* The electrical properties of the torpedo, and a species of eel, are also well known. The *gymnotus*, for instance, it would seem, possesses a complete galvanic battery. Two troughs are found on each side of the spine, separated from each other by a ligament extending the whole length of the fish; and the resemblance of this apparatus to the galvanic pile, is certainly very remarkable.

Now, if it be once admitted that animal bodies possess the power of generating and evolving electricity, or magnetism, then it must follow, that the laws which govern these forces must be, more or less, applicable to living bodies.

We have before alluded to the difficulties which every where meet us, in our attempts to describe the magnetism of the human system. For, though we think we have some tolerable understanding of this subject, yet we must not forget, that most of our readers are not familiar with its laws; and that, as it is so entirely new, and so every way different from preconceived notions of our nature, that it becomes exceedingly difficult to find the terms by which we may succeed in making ourselves sufficiently understood, when speaking of its various phenomena.

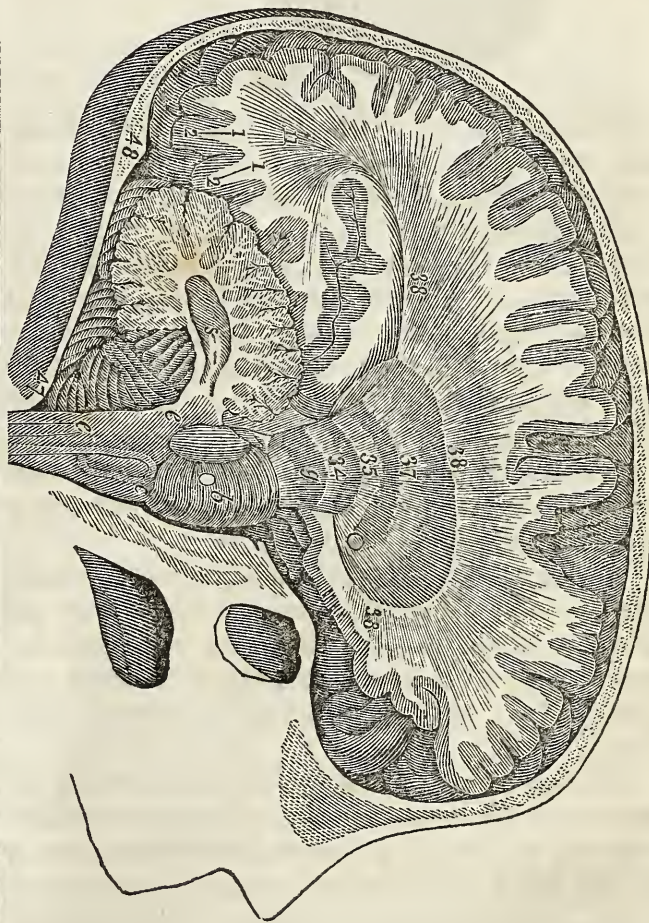
Previous works, give little or no light on this subject. True, a knowledge of human physiology will very much assist us, in arriving at a knowledge of what we denominate man's magnetic nature; and so will a knowledge of what we call terrestrial or mineral magnetism, or electricity. But then, human magnetism differs from all other branches of science. It is governed by laws of its own, and presents phenomena which cannot be wholly explained by what we know of other subjects. Nor does language, indeed, seem to furnish the appropriate terms for describing these phenomena; and hence, we are not surprised that a few of our readers have found it difficult to understand the precise meaning which should be attached to some of the language we have been compelled to use in describing these new and wonderful phenomena. If we apply old terms to new things, or new terms to old facts, the difficulty is the same. Nor is it strange, that language does not seem to furnish the necessary words for describing what has never, heretofore, been known to have an actual existence. For though it is some years since the human brain was supposed to be subject to galvanic laws, yet, we believe that nothing like the experiments by which we have, as we think, demonstrated its polarity, had ever been known, until they were commenced by us more than a year ago.

Perhaps, however, we should not use the word *demon-*

strated, in the last sentence, above. But we will say, that they go far towards demonstrating this assumption; and all will probably admit, that the natural appearances of portions of the human brain, on dissection, as well as the various phenomena we have produced by operating on the living subject with a common steel magnet, and otherwise, could not be so satisfactorily explained in any other way, as by admitting our assumptions with regard to its *polarity*.

When describing the phenomena of mineral or terrestrial magnetism, the term *polarity* is understood to signify "that quality of a body, in virtue of which peculiar qualities reside in certain *points*," which repel or attract the magnet. Certain substances, for instance, when electrified, acquire the properties of *attracting* or *repelling* other bodies, from certain centres or *points*, which are called *poles*. These poles are found to correspond with the north and south poles of the earth, depending on the manner in which the substances are galvanised, and are, like them, *positive* and *negative*; and when both are of the same kind, they repel each other, or when of opposite kinds, they attract each other—that is, the forces which tend to or from these *points*, attract or repel, as the case may be. These forces of *attraction* or *repulsion*, or whatever else they may be called, pervade all matter, animate and inanimate, as far as we know, throughout the universe of God.

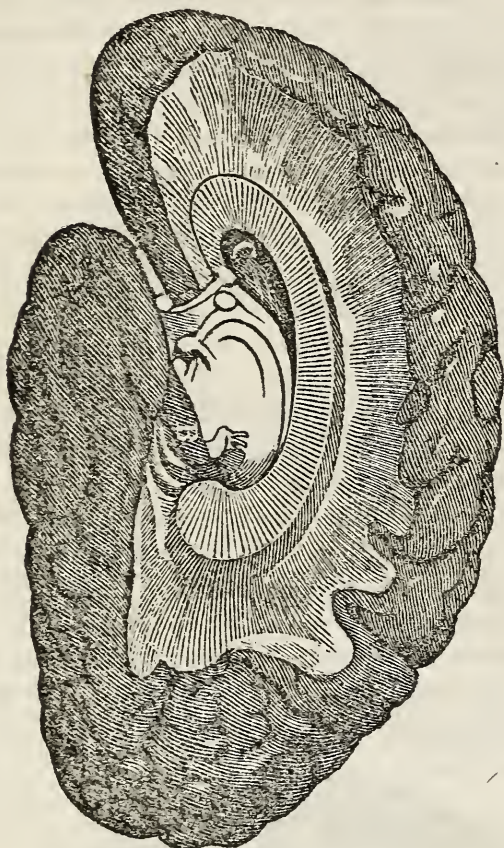
Those of our readers who desire to extend their knowledge of this subject, are referred to the article on Magnetism in the *Encyc. Metropolitana*; *Demondferrand's Manual*; the *Memoirs of Oersted, Orago, and Faraday*, and to the recent work of Dr. Henry H. Sherwood, entitled, "The Motive Power of Organic Life," from which the following illustrations are taken.



* A lady whom we cured of a most severe attack of neuralgia, was often known to have noises in the front part of her head, which sounded exactly like the discharge of electrical sparks. And we know another lady in this city, who, when indisposed a year or two since, gave off sparks from her body, whenever she was approached by the physician who attended her. She was, at the time, partially deranged.

The above represents a perpendicular section of the brain, divided near the mesial line. Observe the white, or medullary substance, *radiating*, as seen in the plate, from the base of the brain, into its convolutions, the folds of which sink down into the white substance, generally from a line to an inch deep. Nos. 11, 34, 35, 37, 38, are the cerebral fibres, which originate in the medulla oblongata, and expand into the convolutions.

A great portion of these fibres pass to and through the ganglion in their course to the convolutions, from which another set of fibres *converge* through the white substance to the centre of the brain.



This plate, as well as the others, the reader will notice, is turned up, for the purpose of getting it into our columns. It gives a beautiful view of the *inside* of the right hemisphere of the brain, with the convolutions cut away, in order to exhibit the *converging* fibres from the convolutions; a section of the great inferior ganglion is removed, which shews its white color, as you see, in strong contrast with the dark, reddish, gray color of the great superior ganglion, enclosed between it and the front part of the corpus collosum.

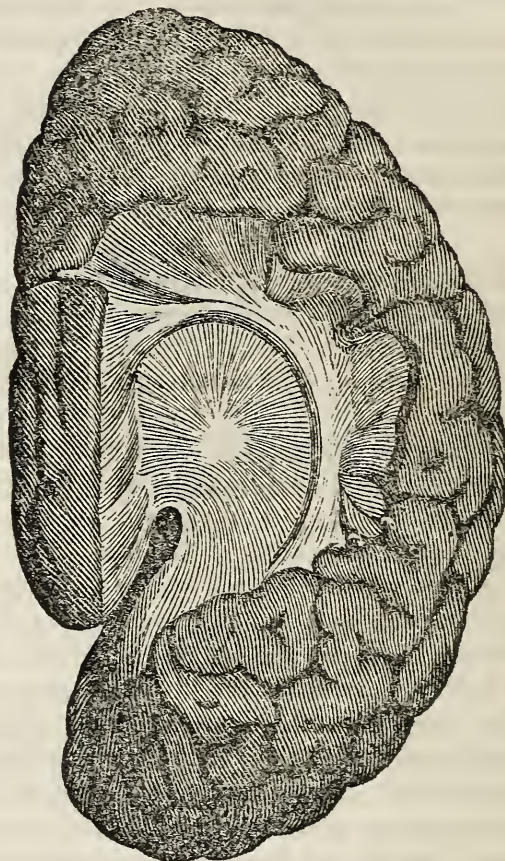
The corpus collosum extends anteriorly and posteriorly beyond the radiated portions. Its thickness at both extremities is greater than in the middle.

The fibres which compose its folds, proceed, evidently, from the convolutions which form the most anterior and posterior parts of the two hemispheres, which communicate with the great cerebral ganglions by means of a superficial band, or layer, called the semi-circular tape-worm.

Nothing, says Spurzheim, can be easier, than, by dissection, to prove the two orders of cerebral fibres, the *diverging* and *converging*; and to show that the mass, or bundle, called corpus collosum, belongs to the *converging* order. Their direction is, therefore, entirely different

from the bundles of fibres constituting either of the two great cerebral ganglions.

The *converging* fibres, like the *diverging* ones, before described, are *double*: one set of each is connected with the surface of the brain through the ash-colored substance of the convolutions, and the other with the surface of the ventricles, as is seen, also, in the plate below.



The opposite ends of the *converging* fibres are connected with the great cerebral ganglions, while the opposite ends of the *diverging* fibres are connected with the extending and contracting muscles, and with the serous and mucous surfaces of the different parts of the body. Dr. Gall and Mr. Spurzheim, both affirm, that the same nervous fibres do not go to the muscles and skin, and that the spinal marrow consists of nerves both of motion and feeling.

PHYSIOGNOMY.—We have been much interested, recently, in the details given us by Dr. James W. Redfield, of Watertown, N. Y., of discoveries which he thinks he has made in Physiognomy. He traces a correspondence, not merely between the muscles of the face and the developments of the brain, but also in the bony structure of the entire system. Some of his assumptions agree with the results of our experiments, which have demonstrated the sympathetic points of the mental organs which are located in the face. Dr. Redfield has marked a bust for us, which we design to have engraved for the Magnet.—Dr. R. thinks he has made an important discovery, also, of medical properties in different plants, demonstrating that one plant, for instance, acts on one organ, and another on another. We hope he will favour our readers with a full account of his assumptions, in a future number of the Magnet. We believe him to be an intelligent, honest inquirer after truth; and whatever he communicates on these subjects, will be worthy of consideration.

MR. BRAID'S THEORY.

We have been amused to see with what avidity some of the papers have published what purports to be an explanation of the Magnetic sleep, by a man whom Dr. Elliotson pronounces "a most vain and swaggering mechanic named Braid," of Manchester, England. The account is from the Liverpool Chronicle. The following is an extract :—

"Mesmerism has, for some years, amused and bewildered the lovers of the marvellous. Ridiculed as mere illusion or delusion, it has, nevertheless, perplexed the scientific; its effects are too palpable to be denied, but any rational solution of the cause or causes in which they have originated has hitherto eluded detection. The honor of unveiling this mystery was reserved for Mr. James Braid, an eminent surgeon in Manchester, who having witnessed the recent experiments of Monsieur Lafontaine, in the Athenæum of that town, determined, if possible, to bring the system to the test of physiological and anatomical principles. This gentleman, having satisfied his own mind that he could produce the phenomena without personal contact, and even induce sleep when in a different room from the person to be thrown into a state of somnolency, announced a public lecture on the subject, which he delivered at the Manchester Athenæum, on Saturday last, before seven hundred persons.

Mr. Braid first placed on a table a common black wine bottle, in the mouth of which was a cork having a plated top. The individual on whom the experiment was to be performed was seated on a chair, and directed to gaze intently at the cork without winking or averting the eyes. The cork was about two feet from the person operated upon, whose head was inclined backwards, forming with the object an angle of about forty-five degrees. In this position he remained about five minutes, when profound sleep was produced."

And having succeeded in producing sleep, by this process, Mr. Braid, it is said, then proceeded to give what he considered the *rationale* of his discovery! It was, in substance, as follows :—

The artificial mode of producing sleep is to fatigue the rectus and levator muscle of the eye, which is effected by a continuously strained and intent gaze at an object viewed under an acute angle. Under such circumstances, the irritability of those muscles becomes exhausted, as well as the irritability of the optic nerve; giddiness ensues, a mist rises up before the eye, and sleep ensues.

But the whole of Mr. Braid's *rationale* amounts to no more than what almost every person may have observed and felt when the attention has become fixed under certain circumstances. Any barber would have given Mr. Braid as clear an account of cases of somnolency produced under the operation of shaving, and quite as *philosophical*, as that of his patient gazing on a wine bottle. That the magnetic sleep may be produced without any passes, and when at a distance from the patient, and when the patient has no knowledge of the *design* of the operator, we know, as we have produced it under these circumstances, and seen it done times without number. In the course of the experiments at the New York Museum, last October, this phenomenon was often produced, under circumstances which did not admit of deception. At one time, it was agreed between Prof.——, a distinguished scientific gentleman, and ourselves, to deceive the patient in the following way. As she was perfectly blind, of course she could not see; and we proposed to Mr. Peale to make her *think* he was magnetising her; but instead of using the manipulations, he retired and sat down

at some distance from her. The result was, she was asleep in about one minute, merely by his willing it. —At another time, Mr. H. N. Schieffelin, of this city was present, and it was proposed by him, without the patient's knowledge, that we should cause her to go to sleep, without communicating the design to her in any way. The experiment was perfectly successful. At another time, in the presence of a number of spectators, Dr. Channing, of this city, proposed to us to go some forty feet from the patient, and by a piece of paper cause her to wake up, and then to go to sleep again; and then to speak with another person, and finally, to rise from her seat while asleep, and come to the place where he was standing. All this was done, and under circumstances which absolutely precluded the possibility of collusion or deception. We have seen the patient go to sleep, many times, without any contact with the operator, and without knowing that he was present,—and even when he was not present. Indeed, we could fill our columns with accounts of these cases, and some of them performed by some of the first physicians in this city. Hence we cannot admit the claims of Mr. Braid. He may have produced a *kind* of sleep, to be sure, as every mother does for her infant; but, if the *will* of another person had nothing to do in inducing that state, and if the patient could not be made to obey the will of another person, while asleep, without speaking to him or touching him, then it was radically unlike the magnetic state, and this is susceptible of the clearest demonstration.

ELECTRO MAGNETISM.

ATTRACTION AND REPULSION.

BY P. CUNNINGHAM, ESQ.

WINDS.

The attractions and repulsions of the sun and moon will tend to produce a westerly moving atmospheric current, or in other words, an easterly wind, upon the parts of the earth most under the above influences; while the easterly motion of the earth will again tend to produce an easterly moving atmospheric current, or westerly wind, upon the parts less under the said influence. This seems the most reasonable explanation of the easterly winds prevailing toward both tropics under the name of trade winds, and the westerly winds prevailing beyond this point toward the poles. When two moveable bodies attract each other, the less must move towards the greater; and the moveable toward the immovable, even though the latter be the smaller. The atmospheric atoms, therefore, being united with electro-magnetic atoms, and the latter being the power through which attraction and repulsion operate, the atmospheric atoms must consequently follow wherever the attractions or repulsions of their other constituents direct.

At the poles, the hot wind drawn from the tropics has its atomo-electricity expended, in summer, in assisting the sun-beams in thawing the ice and snow; and in winter again, in counteracting congelation of the water, when the sun's beams, no longer reaching these parts, admit a rapid freezing to go on.—The cold or magnetic air thus created by the abstraction of its electricity, is now attracted toward the equator by two electric forces, viz., that of the northern mass electric-belt, and that of the atomo-electricity poured down more powerfully by the sun upon

the regions there. These polar winds first approach the equator, seemingly from an almost due-east direction, a deception partly arising from the easterly motion of the earth; but closer to the equator, this seeming direction is from nearly due north and south. This easterly tendency is doubtless owing to the more rapid easterly rotation of the earth at the equator, in conjunction with the greater attraction of the electro-magnetic belt there.

The sun showering down his hot, perpendicular beams upon these cold, polar currents, they become in consequence rapidly heated, by which their particles are made to repel each other more powerfully, and thus rise into the upper regions, to be attracted toward the pole by the cold magnetic bodies there, having their place quickly supplied at the equator, by fresh polar atmospheric currents, destined to pursue a similar course. The greater attraction of the great northern *electric* belt for magnetic air, than the great southern magnetic belt, is the only reason I can divine for the southerly trade-wind blowing across the equator into the northern hemisphere for the greater part of the year, while the northerly trade-wind seldom reaches the equator.

Thus the equatorial regions are the great focus of attraction for winds, as well as all other moveable bodies, being the grand centre which the whole atmosphere of the earth, must in due course visit, to carry off its load of heat, to be deposited as it proceeds in its journey wherever there is a demand.—The cold currents from the poles to the equator, and the hot currents from the equator to the poles, in this way temper the extremes of climate as they move onward; the former moderating excess of heat, and the latter excess of cold; the former skimming along the earth's surface toward the equator, to cool down the hot regions in that direction, and the latter soaring at once into the heavens to avoid coming in contact with places already too hot. By these beautiful and harmonious motions of the wind, extensive countries are thus rendered habitable; which but for this wise provision of Providence, would be verging always upon a state of semi-congelation or semi-combustion.

The great electro-magnetic belt of the equator may thus be compared to a huge reservoir, into which the whole atmospheric ocean, surrounding the earth, must be successively poured and outpoured. The attraction and capacity too of this basin being always nearly the same, with no obstacle to the inflowing or the outflowing of the atmospheric current, a more general equilibrium of the quantity of atmospheric matter within its bounds will be the consequence; like in a water basin whose inlets and outlets are of the same capacity, the water always standing nearly at the same level in it. This seems the most probable cause of the barometer always standing at nearly the same level within the tropics—while outside of them, where the above causes of atmospheric equilibrium do not exist, it is subject to so many fluctuations.

The rising of the mercury in the barometer with an easterly wind seems referable to its being pressed upon between two opposite forces (*viz.* of the earth moving eastward, and the atmosphere westward,) in *addition* to the force or weight of the downward attraction of the atmosphere by the earth;—and its falling during a westerly wind to the latter force *alone* operating, from the earth and the atmosphere then moving in unison together.

RAIN.

Electro-magnetic attractions and repulsions must influence the motions of the atmospheric vapours, as well as those of the winds; seeing that these influ-

ence every thing throughout space, from the mightiest mass to the minutest atom, from the positions and the motions of the universe of worlds, to the glittering sun-mote or the imperceptible particles of the falling dew.

For rain to descend in any country, it is not only necessary that moisture-bearing winds should blow over it, but that it should be in a *reverse* electric or magnetic state to that of the vapours. If the earth be in a hot electric state, and the vapours equally so, they will repel each other, and no rain consequently fall; and the same reasoning will apply when they are in an equally cold magnetic state. It is only therefore, when electricity or magnetism is in excess in either the vapours or the earth, that these vapours can be attracted to the latter in rain drops.

Moisture brought by the warm electric winds, is the common source of rain in the colder northern and southern latitudes, from the cold magnetic land there, attracting downward the hot electric moisture; while in the warmer latitudes, towards the tropics, the cold polar winds are the cause of rain, by their cooling down the hot vapours there, and thus enabling them to be similarly attracted by the earth. When winds move rapidly, this attraction is materially counteracted from their bearing the vapours along with them, and therefore slow-moving winds are, generally speaking, the best rain-bearers.

Wherever the earth contains a mass of non-electric conductors in its composition, or when it is brought into a bad conducting state by drought, rain seldom falls; and when it does, it seems to fall with reluctance. Throughout Lower Peru, where the whole soil is a mass of imperfect conductors, there is seldom more than a wintry drizzle; while after the earth has been dried up by long droughts in our own country, how often may be seen rain-clouds upon rain-clouds hovering over it, as if eager to shower down their watery wealth, eventually compelled to sail away to more inviting regions; and this tantalizing spectacle continued day after day until some electro-magnetic tempest broke the spell, and hurled down the moisture in as great abundance as it had before been scantily withheld.

Bodies are bad electric conductors in consequence of their inferior electric affinity, and hence cannot attract the vapours when the latter are in an electric state.

INFLUENCE OF THE SUN AND MOON ON WINDS AND RAIN.

I have already alluded to the influence of the sun and moon tending to cause an easterly wind in the more tropical-lying regions, over which their attractions and repulsions are chiefly exerted; and of the easterly motion of the earth tending to cause a westerly wind in the more polar-lying regions beyond, less under the influence of the sun and moon. Every change, however, in the state of the above luminaries with respect to the earth, will tend to produce a change of wind as well as of weather in some part of the latter.

The attraction of the sun with the earth is greatest in June, and his repulsion greatest in December, while both of these are least when he is moving in the neutral line with the earth about the months of March and September, the vernal and autumnal equinoxes.

That the moon exerts a powerful influence on the winds and the weather, has been a prevalent opinion in all ages, though many have been shaken in the belief of this power from observing that the changes of wind and weather as often took place during other periods of the moon, as at full and change, or in quarters; the period supposed to have most in-

fluence on the weather. The principal if not the only influence which the moon can in this way exert, must be through her attractions and repulsions with the earth, and the diminution of these when moving in the neutral line with the latter; so that as her periods of greatest attraction and greatest repulsion, and of moving in the neutral line, only correspond at distant periods with the phases above alluded to, hence the disappointment so generally met with by those anticipating changes of weather, from changes in the phases of the moon. Instead of full, change, and quartering, therefore, we must look to the periods of her greatest attraction and repulsion, and of moving in the neutral line, for the effecting of the above changes, the most likely periods for such to happen, being when her attractions and repulsions upon the earth are least, viz. at the time of her neutral line period with the latter, from the earth being now enabled to exert her own attractions more strongly upon the atmospheric particles and vapours on her surface, and to move them to and fro as she lists.

It is at this period, therefore, that rain is most likely to fall; a likelihood necessarily much increased should the sun be in the neutral line with the earth at the same time. Thus the moon, besides the agreeable light with which she enlightens the earth, exerts also a constant influence over the winds and the vapours on the latter's surface, conferring thereby a more pleasing variety of climate by the changes to which she gives rise; while being propelled by the sun alternately from one hemisphere to the other, as summer approaches in that in which she reigns, she is thus enabled more effectually to control the violence of the wintry elements that might otherwise be productive of the most disastrous results to both agriculture and navigation.

The attractions and repulsions of the sun being, however, more powerful, as well as more extensive, than those of the moon, and the period of his moving in the neutral line being much longer also, consequently his attraction and repulsion will exert a greater influence upon the winds and weather than those of the moon; while his longer movement in the neutral line with the earth, will give the latter more time to exert her attractions, as well as more power of carrying them into effect, from the influence of the sun being now paralyzed. Hence the hurricane season in the northern tropics, commences as the sun begins to decrease his repulsion with the earth; and that in the southern tropics, as he begins to decrease his attraction, when slackening as it were his bridle rein upon her; and hence also the violent gales and rains which the equinoxes produce when he has thrown the reins upon her neck, and allowed her thus to wanton with the winds and waters at will.

The sun vibrating with the southern hemisphere of the earth will naturally exert a more powerful influence over the winds and the vapours there than in the northern hemisphere, while the moon (as I am led to believe,) vibrating principally with the latter, will exert a greater influence in the northern hemisphere than in the southern. This will apply, however, chiefly to their attractions and repulsions; because when moving in the neutral line both hemispheres must be nearly similarly influenced.

PERIODICAL CHANGES.

The weather is subject to periodical changes, extending over a series of years, too regular in the extent of duration, and their returns, to be the work of chance; a series of dry years of weather being usually succeeded by a series of years of rainy weather, and these again by a series of years of moderate seasons, if such have not already intervened be-

tween; each series generally extending over a period of from two to three years.

These periodical changes, though much more marked in the tropics and latitudes bordering thereon where the sol-lunar influence is greatest, are still sufficiently apparent in the more polar regions.— Their continuance for a series of years implies their causes to proceed from bodies continually operating upon the earth, and these bodies are in all likelihood the sun and moon. The influence of the moon in fact, must be generally prejudicial to the descent of rain upon the earth, from her counteracting more or less the attractions of the latter upon the vapours.— This influence of the moon upon the vapours is so well known indeed to old seamen, as to have generated an expression among them during hazy weather, of "Wait till the moon rises, and she will soon eat up the fog;" a result I have often witnessed from the moon's rising.

Her influences, therefore, upon the seasons, as it is found to be upon the tides, will necessarily be greater in proportion as the tropic circle in which she moves is approached, and consequently, greatest of all within the latter; so that as we progress from the tropics, the season must be more uniformly moist, and *vice versa*, as we approach them more uniformly dry; giving thus to the tropical latitudes a climate of great extremes, corresponding to the great extremes of the sun and moon's influences there.— When we contemplate, however, the diverse capabilities of the sun and moon in raising or depressing the ocean-tides according to their relative positions with each other, we may consequently admit similar diverse capabilities of their relative positions in influencing the nature of the seasons as to dryness or moisture. The periods, however, of dry, of rainy, and of moderate seasons, continuing over a series of years, we must not, therefore, look for the causes of the above in the ordinary rapid changes in the relative position of the sun, moon, and earth taking place daily, monthly, and yearly, and prominently conspicuous to all; but in those slower changes, remarked only by the astronomical eye, extending over a series of years, viz. the slow westerly movement of the lunar points of greatest attraction and repulsion with the earth, by which they complete a westerly revolution from the sun to the sun again in a period of rather more than nine years. Now, as the above lunar points are each in conjunction or opposition alternately with the sun once during the said nine years, and the lunar neutral line or equinoctial points twice in conjunction and opposition with him in the same period also, four great epochs thus take place in each nine years' revolution, at a distance of two years and four months from each other, in which great changes in the seasons are likely to be brought about.

As the attractive and repulsive influences of the sun and moon, through the medium of their electromagnetic zones, must necessarily be of a similar nature; therefore, the only difference between them will naturally be in the greater body possessing more of this influence than the lesser; and hence the influences of the moon's positions upon the earth, in affecting the weather, will be best illustrated by a reference to those of the sun. Thus, gales of wind and heavy rains being the usual result of the sun's movement in the neutral line at the equinoxes, in the extra-tropical regions, we may consequently infer, that when the moon's bi-monthly equinoxes take place, at the period of her being in alternate conjunction and opposition with the sun, heavier gales and rain may be anticipated in the above extra-tropical regions. The amount of rain, however, will necessarily depend upon the winds thus produced blowing from the sea or from the land; so that the

vernal equinox winds in the northern hemisphere being usually easterly, and the autumnal equinox winds westerly, this reversion of wind consequently tends to cause drier springs and wetter autumns in northern Europe than in northern America, and wetter springs and drier autumns in the latter than the former, from the west being the rain wind in the one, and the east the rain wind in the other. In the southern hemisphere, however, the equinoctial winds blow from the east at the northern autumnal equinox, and from the west at the vernal, though still corresponding in their designation to those of the north, from the spring and autumn months of the latter, being the autumn and spring months of the former. The hurricane and rain months again, in the northern tropic, taking place while the sun is relaxing his attraction upon the earth, and those in the southern hemisphere when he is relaxing his repulsion; we may, therefore, infer also, that should the moon be relaxing at the same time her attraction on the one hand or her repulsion on the other, when either in opposition or conjunction with the sun, heavier winds and rains than usual will take place in the above respective latitudes. Should the above views be correct, there would be a tendency to very rainy seasons every four and a half years, in the extra tropical latitudes, conferring two of such cycles of seasons upon them during the nine years' revolution of the moon. If the rainy seasons be ascribable to the lunar equinoctial points being alternately in conjunction and opposition with the sun, the dry seasons must be owing to the lunar points of extreme attraction and repulsion being alternately in opposition and conjunction with him also, or else one of these points only; producing thereby dry seasons at four years and a half, or nine years of interval from each other. But as both the above series of lunar points would be sufficiently near the sun to be influential for a longer period than a year, therefore the wet or the dry seasons might be continued over a two years' period, or even longer, particularly should other assisting causes contribute thereto.—The changes in the earth's axis, called her nutations, as well as her changes of polar parallelism, may tend to do this; their extent of period evidently showing their cause to be in the westerly revolution of the lunar points. Thus the latter is performed in a period of nine years, and the revolution in the moon's nodes, and in the earth's nutation, as well as the latter's changes of polar parallelism (if I can comprehend astronomical description aright), are completed in a period of about 19 years; the periods of the three last therefore, being rather more than double the period of the first, showing thereby, a connection between the whole. The coincidence, again, of the above with wet and dry seasons is very pointed; a series of dry seasons taking place about every ninth year in New South Wales, extending over a period of from two to three years, like those which have done so much mischief of late in the Cape Verds, Chili, and La Plata. In England, again, cycles of seasons have been noticed by observing men, corresponding closely to the above; the disastrous wet harvest of 1799 and 1816 pointing to a cycle of about eighteen years, nearly approximating to the eighteen years' revolutionary period of the nutations*. By a comparison of the position of the lunar points during the various years distinguished as very wet or very dry, a conclusion may be readily arrived at, whether the above lunar revolution influences the seasons

or not, from the lunar points coinciding or not coinciding in the respective wet and dry years; while, if they do coincide, the particular position of the lunar points causing these seasons will be thereby ascertained.

The approach of the earth nearer to, or her recession farther from the sun than usual, will naturally cause a great change in the seasons. If, for instance, the earth should come in a direct line between any of the superior planets and the sun, while she is *moving toward* the latter, their repulsion will accelerate her onward motion, and thereby force her to a nearer approximation than usual with the sun; in consequence of which, she will be more powerfully repelled, and thus made to recede as proportionably far from the sun as she had been previously made to approach him. This will cause the southern summer to be hotter and southern winter colder than usual, on account of the nearer approximation of the earth's southern hemisphere to the sun in the former period, and its greater recession from him in the latter; while the same causes will render the northern summers colder and the northern winters hotter than usual, provided there be no increased angular motion of the earth, a circumstance not unlikely to happen. The accelerated motion of the earth, above spoken of, will necessarily render the atmospheric vapours less liable to be attracted by her, thus giving a tendency to drier years in both her hemispheres. When coming, however, in a direct line between any of the superior planets and the sun, while *receding* from the latter, her motion will be retarded instead of accelerated, as in the preceding case, and the reverse effects of the foregoing illustration consequently produced, neither approximating so near to, nor receding so far from, the sun as even in ordinary years; thus giving a tendency to moist temperate seasons throughout both hemispheres of the earth. But when the earth's motion has been either preternaturally accelerated or retarded, it will necessarily be some time before an adjustment therefore takes place, and hence the above seasons may be of some continuance, if not counteracted in the interim by the action of another passing planet. The inferior planets, Venus and Mercury, will of course, have a contrary action to the superior planets; the above actions of them being necessarily greatest when they are nearest the sun, and those of the inferior when they are farthest from him.

Variations of seasons, particularly as relates to heat and cold, are doubtless, however, frequently occasioned by an increase or diminution of the usual amount of heat radiated from the sun. The sun's aspect at rising or setting is indeed, frequently indicative of the temperature of the succeeding day; and when unusually pale, a cold, or at least, a cool day may be expected, and when of a fierce fiery heat, a hot day as well as a hot wind also, in countries subject thereto; the pale aspect evincing an unusual amount of magnetism, while the greater redness at rising and setting may be ascribed to the lesser atmospheric refrangibility of the red rays, admitting them thereby to be radiated to a greater distance over the earth before being bent down thereon to meet the human eye. The above subject is a most interesting one to the whole human race; as, by once attaining a knowledge of the *causes* producing the great changes in the seasons, wet, dry, and favourable years might be predicated with a considerable approximation to truth; by which the husbandman would be better able to suit his sowing to the seasons, and thus secure a sufficiency from the good years to supply the deficiency of the bad, while guarding against eventual loss in planting of seed in places where either the excessive rain or excessive drought might occasion the destruction of its product. Hence

* The present wet winter fully bears out the truth of the above cycle, while the nine years' cycle is similarly strengthened by severe westerly gales and high tides, resembling those of 1824, occurring during the present wet winter also.

the great benefit that would result from meteorological observations on the winds and rain, kept on various points of the globe; by which, from the comparisons together, and with the respective positions of the heavenly bodies at the time, a meteorological table of infinite value might eventually be appended to the almanac.

The atmosphere, the atmospheric vapour, and the weight of bodies, must be considerably influenced in the hemispheric neutral line, by the opposite attractions and repulsions of the hemispheric zones, between which they are placed, from the magnetic poles of the above bodies being attracted laterally by one hemisphere, and their electric poles laterally by the other, through which the poles of all bodies in this space would be changed from a vertical to a horizontal position with each other, and their movements consequently influenced thereby. This changing of poles by lateral hemispheric attraction is doubtless one of the causes of the almost incessant rains between the trade winds, both the hemispheric zones here uniting to attract downward the atmospheric vapours, from their joint attractions operating on both poles of the above particles; instead of one pole of these being attracted and the other repelled when acted on by one hemisphere only.

LIGHT.

The strong resemblance in properties between the rays of heat and light emanating from the sun, have led to a belief of some identity existing between their constituent principles. Both coincide in their ready transmission through transparent bodies, in their radiating in straight lines, and in being reflected and refracted by the same bodies at the same angles; while, wherever light enters heat enters also, so that to exclude the one you must exclude the other. The rays at the extreme edges of the rainbow fan, into which the sun-beam is refracted by the glass prism, are the red rays on the one hand and the violet rays on the other; the first of which I have previously demonstrated to consist principally of atomo-electricity, from their power of exciting heat, and of producing all the effects of electricity or heat on bodies; while the latter I have similarly demonstrated as being constituted principally of atomo-magnetism, from their exciting a magnetic power in bodies, as well as from their great affinity for oxygen, and being colder than the red rays.

As, however, all the sun's rays (even including the red and the violet) are more or less capable of exciting the sensation called heat, as well as of extracting oxygen from bodies, it may be reasonably inferred, therefore, that they are all composed of varied atomic proportions of these two bodies; magnetism prevailing toward the violet ray, and the electricity toward the red.

From the above, therefore, we may view the sun as a huge galvanic battery, pouring incessantly down his electro-magnetic rays upon the earth, for the vivification of every living substance thereon, as well as for the assisting in the completion of those great changes which it has been undergoing since its formation, with the wise view of making it a fitter nursery for the animal and vegetable creation which the beneficent Author of all has implanted upon it.

ANTHROPOLOGY.

THE NERVOUS INFLUENCE.

IDIOCY AND INSANITY.

I do not believe that the immaterial principle even of a lunatic or an idiot is in itself different from the spiritual part of a rational being; the same inherent

powers exist in both, but the organ by means of which they *use* these powers is in an unnatural state. I am convinced that in both cases the fault lies entirely in the brain; the action of which is too feeble in the one, and too violent in the other.

CAUSE OF IDIOCY.

A laxative and defective organization of the brain may cause a total, or nearly total want of memory, by incapacitating it from repeating and concatenating the impressions it receives, and this might be sufficient to produce the phenomena of idiocy. The indispensable necessity of the faculty of memory is sufficiently apparent; for if our brain were not capable of repeating the impressions which the properties of material objects make upon it, it could only feel the sensation they produced at the time, and our knowledge would end at that point. Idiots cannot, I suppose, be totally deficient in this respect, for they are capable of perception, and they generally retain, in a greater or less degree, the impressions made by external objects; * but there always appears to be a defect in the brain, which incapacitates them in a great measure from forming *associations* of ideas.

The immaterial principle of the idiot must possess the inherent powers of feeling, understanding, and willing; but when the agent of the mind is imperfect, the proper development of its faculties must be impossible. The over exertion of an active mind has been known to produce idiocy, which shews that it may proceed from want of power in the brain, without any natural imperfection of the immaterial principle. In this case, there is a *loss* of nervous energy, from previous over excitement; while in the idiot by birth there is a natural deficiency of nervous power from a bad organization.

I should ascribe the phenomena of insanity to a cause precisely opposite to that of idiocy. In this case, the energy of the brain is *increased*, which is made evident by the accession of strength not only in the physical, but in the mental powers—these being deranged, but not *weakened*.† The vividness of the ideas is such as to overpower, in many cases, even the impressions made by material objects; the power of the imagination is prodigiously increased; the memory is stronger, and the associations more tenacious; but they are false, the old being broken, and new ones formed by the hurried and disordered action of the brain. If the derangement is protracted beyond a certain time, this new order of associations may become firmly established, and remain even after the brain is restored to a healthy state. The association of the ideas with the moral sensations is broken sooner than their concatenation with each other; for the first symptom of insanity is not an aberration of *judgment*, but an alteration in the feelings, inclinations, and habits of life.‡ I imagine that the phenomena of insanity are caused by an increased secretion of the nervous fluid, as idiocy is produced by its deficiency; or the portion of nervous fluid required for the functions of an internal organ may be *transferred* to the brain, while the general quantity remains the same, or is even diminished, as in palsy, which I have often seen accompanied with a morbid action of the brain, particularly affecting

* The CRETINS, in the valleys of Switzerland, have not, I believe, even this degree of intellect.

† According to the account of a recovered lunatic, he could, during a paroxysm of insanity, perform with ease certain mental operations which were impossible to him at other times.

‡ In canine madness, it is observable that the first symptom is a change in the *habits* of the animal; but he continues to *know* his master long after this.

the feelings. However it may be, the medical treatment required for the cure of mental derangement shews that it is of a physical nature, and the brain, upon dissection, exhibits the same appearance as in apoplexy, epilepsy, fever, and convulsions. Perhaps the state of idiocy might admit of medical treatment also, and the faculties of the idiot might be further developed, if the physical causes of imbecility were made the object of attention. It is my belief that, in insanity, the *intellectual* powers do not undergo any change; but that as we can only perceive and judge according to the impressions we receive, our perceptions and judgments must of course be erroneous, if the impressions are false, the associations altered, and the real experience lost. So far is the spiritual part from being diseased, that it acts as usual in consequence of its impressions and associations, whether false or true: for instance, no lunatic who mistakes his friend for a mortal enemy will caress and confide in him in consequence—no, he will distrust him as he would have distrusted the real object when in his senses. The man who fancied his legs were made of glass carefully protected them from every accident, and the man who thought himself of enormous bulk, refused to pass through a passage too narrow to admit a person of his imaginary bulk. But it would be endless to enumerate such cases. The lunatic retains the highest and most intellectual faculties, but in a state of inordinate action, overpowering those which are inferior, instead of operating by their assistance. The idiot, on the contrary, possesses only the lowest faculties, the others remaining undeveloped. In short, the phenomena these exhibit appear to me to be of an exactly opposite kind. They may be thus briefly enumerated:—the idiot possesses the powers of physical sensation and volition; of forming, and not associating ideas; a moderate degree of perception; little memory; and *no* imagination. The lunatic has a powerful imagination, vivid ideas, and a strong memory, except when its office is usurped by the imagination; an erroneous judgment, incorrect perceptions, false associations, and deceitful sensations. The moral sensations, which are wanting to the idiot, are intense or violent in the lunatic; the only point in which they agree is in the want of judgment, which the one has lost, and the other never possessed. In extreme old age, the natural tendency is to idiocy; for the faculties decay, not because the spiritual part of the individual has lost its attributes, but because the brain and nerves have lost their sensibility. Frequently the experience which belongs to age, and the coolness and self-possession produced by the moderation of the feelings, make a compensation for the diminution of the mental powers, and preserve the correctness of the judgment.

IMAGINATION.

The imagination reigns despotically in the insane mind, and is, thus uncontrolled, a tearful and dangerous power; but this faculty is productive of extensive good as well as evil, and, when in proper subjection, is one of the noblest attributes of the mind. It is the power of the brain to form new associations of nervous actions, and of the will and the judgment to direct its operations, that the human mind owes its capability of intellectual improvement, for if we only possessed the faculty of memory, and that the brain could only repeat impressions in the order in which it had received them, we could never overleap the iron boundary which would encircle our faculties.—The operations of the memory are certainly indispensable, and those of the imagination, without them, could only serve to make madmen; but memory alone could never produce talent. It is the

power of the will over the imagination, which makes us responsible for our actions, for it enables us to form new associations of feelings and ideas, though indirectly and gradually, and also to contend with a present inclination, by representing other motives of action; it is in fact, the field of battle in which the conflict of reason and feelings takes place. It also enables us to diminish our mental sufferings, and to increase our mental pleasures, by its influence over the nervous system of the moral sensations; when we hope, the imagination represents the event we wish for, accompanied by the pleasing sensations that would attend its reality.—Fear is the reverse of this operation: brutes appear to be entirely destitute of imagination, which could only be productive of mischievous consequences, if not properly balanced by the other mental powers. The lunatic can never be considered as having sunk to a near level with the brute, though he is led by passion instead of reason, for insanity is characterized by wildness of imagination, and a *false*, not a *deficient* mental action. Neither can the immaterial principle of the idiot be compared to that of the brute. For it is inferior in appearance, and superior in reality; the unerring instinct, which supplies all deficiencies in the brute—and the well constituted brain, which gives to the higher orders a quick perception, and a strong memory, is productive of a decided superiority *practically* considered; but the immaterial principle of the idiot is endowed with faculties which only lie *dormant* owing to the imperfection of its material agent, and which the most perfect cerebral action could never develope in the brute, because they do not belong to its nature.

OBSERVATIONS ON THE JUDGMENT.

Judgment—a sound and cool judgment, perfectly free from the influence of passion, is the most valuable, and perhaps the most rare of qualifications. Talent abounds, but calm good sense as is scarce as it is precious. The strongest mental powers cannot secure us from the dangerous and often unperceived effects of our own feelings upon our understandings, and so apt are we to deceive ourselves, that we often fancy that our judgment is guided by a *reason*, when in fact it is influenced by a *motive*, and we think that our actions are the result of *one* motive, when we are unconsciously impelled by another. When the feelings are strong, they not only urge us to act in opposition to the reason, but they affect the operations of the faculty itself. This accounts for the errors of judgment, and especially the deficiency of prudence or practical judgment, often observable in individuals endowed with great mental powers, and consequently having the *natural capability* of perceiving clearly the consequences of actions. Brilliant talents, which result from a quick perception and a lively imagination, are partly owing to a rapid and energetic nervous action, and the same cause gives quickness to the feelings; consequently, though the judgment may be very clear in indifferent matters, it will be biassed in those which nearly affect the individual, owing both to the warmth of the feelings, and the natural hastiness of decision which attends this character.* But the spiritual part is formed to rule over the material principle, and though it is subjected to its influence in a certain degree, it is also gifted with the capability of resistance. Its distinguishing characteristic is power combined with intelligence; and the exertion of the power accord-

* The strength of the nervous action has, in my opinion, so important an effect upon the moral and intellectual character, that I intend devoting a chapter to the consideration of the subject.

ing to the direction of this intelligence, is the most imperious duty that is imposed upon us. The natural violence of the feelings must never be considered as an excuse for acting in opposition to the direction of the reason, for it is the trial that is allotted to us during our state of probation.

If the judgment is sufficiently strong to be of *practical* use, the feelings are distrusted, and are never allowed to influence our actions until they have obtained the approbation of their calm and impartial director: they are vigilantly watched during every operation of the mind; and the motives which may influence the conclusions of the reason in argumentation, as well as the resolutions with respect to the actions, are duly scrutinized. Under the mild authority of this intellectual director, the passions are hushed, and the prejudices and errors which naturally result from uncontrolled feelings are dispelled, the wishes and inclinations are restrained within bounds, and extremes of every kind are avoided. Indeed, this alone would be productive of beneficial and important consequences, for all that is good and all that is useful lies between opposite extremes.*

The subjugation of the feelings is the most difficult but the most glorious task that can be assigned to an ardent mind: the exertion, however painful, is amply repaid by advantages, both temporal and eternal. In a worldly as well as in a moral point of view, the possession of a steady well-regulated mind is the most desirable and useful of all qualities: those who would govern others, must first learn to rule themselves. The most effectual power is that which is gained over the mind, for actions then follow of course: but it is only the preponderance of spiritual power that can ensure spiritual dominion, and it is never obtained by those who are themselves in thralldom, and are both deceived and tyrannized by their own passions. Besides, a calm and temperate state of mind can alone enable us to acquire that knowledge of the human heart, which is one of the best guides to the judgment, for it is as impossible to discern the motives of others, when we look through the medium of our disturbed feelings, as it would be to distinguish objects through the clouds of sand raised by the whirlwind of the desert. By judging of the intentions of men according to their character, their situation, and their feelings, without allowing ourselves to be biassed by our own, we learn to understand their motives and to foresee their decisions, and by regulating our actions accordingly, we are enabled to influence those of others, and to avert many of the evils that may result from our relations with those that surround us. Unswayed by our own feelings, we harbour no prejudices, and while we make due allowance for the errors and weaknesses resulting from ignorance, mental infirmity, and all the circumstances that are adverse to the improvement of the mind, we tear off the veil which vanity throws over our own imperfections, and judge ourselves with stern and inflexible severity. Strong sense, therefore, secures to us a more certain and lasting influence over

our fellow creatures than any other kind of power—but the advantages which it brings to its possessor are even greater than the empire we gain over the souls of men—for the power that is appointed to repress every violent emotion—to crush every rebellious feeling—to guard vigilantly every weak point of the heart—and to govern the inclinations and affections with a view to the benefit of man and the honour of God—produces, if firmly exercised, a temper of mind so calm, so equable, so independent of external circumstances, as nearly to resemble the unclouded felicity it is destined to enjoy in Heaven, when moral and physical pain shall have ceased to trouble us for ever.

OBSERVATIONS ON THE WILL.

The conclusions I have drawn respecting the general operation of the mental faculties is, that their effect is to throw the mind into two states: viz. of *belief* as to *facts*, and of *determination* as to *actions*. The first is produced by *reasons*, the second by *motives*.

THE STATE OF WILLING PRODUCED BY THE MOTIVES.

Further, it appears to me that the mind can only be thrown into these two states, though the capability of doubting, disbelieving, etc. seems at first to contradict this opinion; but I consider *disbelief* as the belief of a different proposition, and *doubt* as either a suspension of judgment, in which the mind undergoes no change at all, or an *alteration* of belief in two opposite propositions. The same may be said of the state of *hesitation* respecting our actions.* Belief, as I have before observed, is influenced by reasons—actions, by motives. The reason that appears the strongest produces belief, and the strongest motive produces determination.

FREEDOM OF WILL.

It should seem, therefore, that the mind is brought to a state of belief and determination involuntarily; and indeed, as far as I can discern, the mere power of volition cannot, by its *direct* influence, throw the mind into any state whatever. If, however, we remained at this point, we might adopt an opinion as false as it is dangerous, as it would put an end to free agency, and consequently to moral responsibility. But, upon consideration, we shall find that the *previous* operations of the mind, which give preponderance to certain reasons and certain motives, are in a great measure influenced by the will; and it is there that the responsibility attaches. I believe that philosophers and religious moralists take up opposite opinions on the subject of free agency, and, as it seems, fly into opposite extremes. The necessity of belief in consequence of the reasons presented to the understanding, being reckoned a dangerous doctrine by the latter, they will not grant what must be evident to every metaphysician—but on the other hand, if philosophers imagine that they are free from moral responsibility in the adoption of *any* opinion, this notion must be equally incorrect. It must be acknowledged that an act of belief is considerably less subject to the will than a muscular action; but though the will may not be directly concerned in the production of belief, it has a large share in many of the operations which precede and which ultimately produce it—sometimes the responsibility may be traced very far, and must be sought in the habits and feel-

* It may be objected, that the rule of steering between opposite extremes cannot be an accurate guide to the conduct, because it is impossible to define the *line* exactly, as it must be different in the opinion of different individuals, and that for the same reason it is useless as an argument; for what seems within the bounds of moderation in the judgment of one person, appears beyond it in the opinion of another. But I believe that such a rule is useful, both in conduct and in argument; for it appears to me to be subject to calculation I would place excess at the point in which the evil consequences predominate over the good: this point may be ascertained by examining consequences, and is not therefore so vague and indefinite as we imagine.

* I will here observe, that the changes of nervous action in doubt and hesitation are extremely fatiguing to the brain, and that the prolongation of this kind of operation has the effect of producing nervous diseases.

ings which have been formed at a time antecedent to the adoption of some particular opinion; these may indirectly influence our present decision. We know that we have the power of directing the course of our thoughts more particularly to certain considerations, both by direct and indirect means; of suspending our judgment, when it leads to immoral or irrational conclusions, by a proper conviction of our own ignorance and circumscribed power; of distrusting our own conclusions from the consideration that our feelings, our circumstances, and the particular turn of our own character, may influence us; of detecting and throwing off our prejudices and endeavoring to judge dispassionately; and of yielding with humility to a superior intelligent power.* This temper of mind will effectually secure us from adopting any notion destructive of sound morality even if its truth should seem to be demonstrated. The most powerful and enlightened human intellect cannot be an unerring guide, which is made sufficiently evident by the opposite opinions maintained by individuals of equal mental power, and even by the same individuals at different times. We must therefore, beware of trusting to its clearest conclusions, if they are incompatible with moral truth, for the principles of the latter are certain and immutable, while our opinions are changeable and erroneous. Without this conviction, an inquiry into the nature of free will might, from what I have observed, be dangerous as well as perplexing; but the most subtle metaphysical reasoning must, in the rationally pious mind, yield that God has made us *responsible agents*; that God is *perfectly just*, and consequently that he must have made us *free agents*.

PRECISE POINT AT WHICH THE WILL AND THE JUDGMENT OPERATE IN THE PERFORMANCE OF AN ACTION.

Leaving aside the degree of freedom which the will possesses, we may easily ascertain the precise point at which its power is exerted, as well as that of the judgment. In the performance of an action, we find first, that some *physical sensation*, or some *idea*, excites another idea combined with a mental feeling; this constitutes a *motive*, which acts upon the mind, and *inclines* it to a particular course of action, whether mental or muscular. It is at this point that the action of the will and the judgment are required. If we could only be influenced by a single motive, the will would be compelled to obey it, and this I imagine is the case with the lower order of brutes; but man is capable of being influenced by a variety of motives, and between the inclination and the action, the will calls them forward, and the judgment can form its decision; the ideas which constitute a decision of the judgment throw the mind into a state of *determination*, which is the state that must necessarily precede every voluntary action.—Hence it is evident, that whoever acts from the impulse of a moral or physical sensation, without the aid of the judgment, acts like the brutes.

MOTIVES.

With respect to the nature of the various motives, we may observe that the human mind has but one object of attainment, and that all the motives of our actions may be reduced to the wish of avoiding mor-

* At the same time we ought not to take an offence at the pertinacity with which others maintain an opinion different from our own, as if it only could proceed from an assumption of superior judgment; for whoever, examines metaphysically the causes of difference of opinion among mankind will readily perceive that it is impossible for all men to view the same object precisely in the same light.

al and physical good.* The same sentiment pervades the whole creation, the difference lying in the number and nature of the objects that are associated with these feelings of desire or aversion. The lower classes of animals have apparently no motive of action but the inclination for *physical* good and the aversion for *physical* evil. The higher classes are evidently gifted with some of the moral sensations, the gratification of which presents motives superior to physical sensation; for we may often observe that they have affections which prompt their actions in defiance of physical pain. But still, the motive, whether moral or physical, is present—it is the attainment of *present* satisfaction, or the escape from *present* suffering. The rational part of the creation has another set of motives of a more intellectual kind, which is the representation of *future* pain or pleasure by the operation of the imagination, and this may be so forcible as to render the motives of this class more powerful in the direction of the actions than those of the other. As actions must take their direction from the strongest motive, the addition of this set is of the highest importance, for it is the means by which we are enabled to oppose the impulse of the passions. How precisely is this constitution of the mind adapted to the situation of a being destined to a state of future reward or punishment, and made responsible for his actions! When passion and feeling strive against the conscience and the judgment, religion casts an eternity of happiness or misery into the scale, and the motives to virtue can then preponderate. The more intellectual and free from passion is the mental constitution, the more easily will the anticipation of future pain and pleasure overbalance the influence of present feeling, and the inclination for present gratification. I shall conclude by observing, that motives are the only means by which our minds can be controlled by others, for the immaterial principle is not subject to physical force. It is therefore free in proportion to its power of resisting the inducements held out by the moral and physical sensations.

OBSERVATIONS UPON THE DEPENDENCIES OF THE IMMATERIAL PRINCIPLE UPON MATTER.

The immaterial principle not only acts upon matter, but receives impressions from it, and operates by means of this principle.

ALL CREATED BEINGS MATERIAL.

It is my opinion that in this respect, all created beings are constituted alike, from the lowest, possessing only the faculties of sensation and volition, to the highest, endowed with the noblest intellectual powers. The privileges and perfections of a being untrammelled by matter, independent of sensations, and capable of acting without the aid of material organs, would, I think, be far beyond what appears on a first view, and I am inclined to believe, that even *Angels* are not unembodied spirits; that their frames, though perhaps pure as light itself, are still material in their nature, and that the Supreme and Eternal Spirit alone exists independent of matter. Indeed, any other supposition, in my apprehension, seems to diminish the distance between the Creator and his creatures. If I understand St. Paul rightly, our hopes for the future must be confined to the acquisition of a *better* body, not subject to disease or death, and possessed of more perfect organs; this

* The preference which we give to the happiness of others, when we make a disinterested sacrifice, is no exception to the rule; for in this case, we derive more real satisfaction from the indulgence of a noble and elevated feeling than from the gratification of a selfish wish.

alone would increase our mental powers prodigiously, even supposing that no alteration were to take place in the immaterial principle. The strongest intellect is greatly dependent upon the perfection of its material organs, and may be incapable of using all its natural powers during its state of mortal existence, owing to a deficiency in this respect. The memory especially, which is an indispensable assistant in the performance of the mental operation, is dependent upon the constitution and actual state of the brain. The feelings and inclinations also, which in a great measure constitute the character of an individual, are partly dependent upon the physical constitution, and a perfect body may not only exempt us from disease, and death, but enlarge our mental faculties by the superior activity and perfection of its organs, while it is the seat of purer feelings.

IDENTITY.

I should imagine that our *identity* must be sought in the active powers of the mind, i. e. in the power of *understanding* and of *willing*, which form the nature of the immaterial principle, while all that is dependent upon received impressions, and that is liable to alteration during our present existence, may be changed without affecting the identity of the individual. The active powers may remain *essentially* the same, though the means by which they are exercised, the materials upon which they operate, and the impressions to which they are subjected are different, and we shall, in fact, be the same beings when the material organs that are our tools, have ceased to obey our impulse, and when the passion, feelings, and inclinations which tempt and disturb us during this life, have given place to the pure and elevated sentiments which must be the natural accompaniments of a life of glorious immortality.*

DIGNITY OF THE IMMATERIAL PRINCIPLE.

Although I believe that the simple addition of more perfect organs would add considerably to our powers, I do not give it as my opinion, that the immaterial principle will remain unchanged with respect to the number and perfection of its faculties.—On this point, indeed, it is impossible to form any surmise. Of this, however, I feel convinced, that the weakness and imperfection of the human mind is chiefly attributable to the constitution of its organs. Their feebleness does not allow the soul to develop its real powers, while the nature of the moral and physical sensations subjects it to temptations of various kinds. Yet under all these disadvantages, how nobly does it soar above all that surrounds it; how infinitely is it superior in dignity to the most stupendous, the most beautiful and perfect combinations of inert matter! Weighed down by human infirmities, possessing but a partial power over a few atoms, and working with miserable tools, the intelligent power still shows its divine origin, and the mind which possesses sufficient energy to struggle with its difficulties, shines forth like a sun beam that pours its light from among dark and heavy clouds. If a limited degree of intelligence, occupying a single point in a feeble and imperfect frame, can retain the comprehension of divine truths; can make splendid discoveries even beyond the confines of the world which it inhabits; can discover the secret workings of the elements; if it is possible for a limited wil,

ruling partially over so insignificant a portion of matter as a few nerves and muscles, to bring thousands of other beings into subjection, and to direct their actions; what notion then shall we form of the power and intelligence that occupies and fills infinite space, that wields the whole material world, and that governs all things in heaven and in earth! The imagination is dazzled, and the mind is overpowered, by the very idea.

EFFECTS OF THE NERVOUS INFLUENCE UPON THE MORAL AND INTELLECTUAL CHARACTER.

Having traced the effects of the nervous action upon the *vital* and the *intellectual* operations according to my apprehension of the subject, I shall conclude by giving the result of my observations upon its influence upon the *character*. I shall, in the first place, consider the existence, office, and limits of this influence, after which, I shall enter more fully into a detail of its effects.

EXISTENCE OF A MENTAL CONSTITUTION.

The human character seems, upon a first view, to present an endless variety of combinations, owing to the numerous causes, which contribute to form, to alter and to modify it; but an attentive examination of our own dispositions and those of others, will enable us to perceive that there is a *mental* as well as a physical constitution, reducible to a small number of combinations, and subject to classification. This constitution of the mind exhibits itself in the *natural* strength of the faculties, and in the natural force and tendency of the feelings, which may be easily discerned by those who watch the development of the infant mind; it is born with us, and is connected, as I shall presently endeavor to show, with the *physical* temperament; education, the operation of the intellect, and many external circumstances may change some of its distinguishing characteristics, but in general it is only softened and modified by them, and the original disposition often continues to exercise a silent and unperceived effect upon the individual, when it is apparently moulded anew.

CONNECTION OF THE MENTAL AND PHYSICAL CONSTITUTION.

It will not appear unlikely that a connection should exist between the mental and the physical constitutions, if we consider that the mind receives its impressions through the medium of matter (i. e. of the nerves); that it performs its operations by the assistance of a material organ, and that this organ, which is the brain, is at the same time concerned in the execution of the corporeal functions; this must surely render the perfection of the faculties and the strength of the feelings dependent in some degree upon the activity of the nervous system. I certainly believe that the immaterial principle is created with its own inherent powers, and that it is only dependent upon its material organs for their *development* and *exercise*; but this dependence is so considerable, that the faculties may remain almost useless, owing to the imperfection of these organs, as in the case of idiocy.—Two powers must therefore combine in the due performance of the mental operations; the one physical, the other intellectual. The difference in the respective strength of these two powers, is one source of the variety observable in the characters of men, as will presently appear in the analysis of this part of our nature.

DIRECTION OF THE FEELINGS.

Hitherto I have only represented the nervous system as being concerned in the degree of quickness, clearness or vigor of the faculties, and in the force or tenacity of the feelings; its influence, so far, will per-

* I have formed the following conjecture respecting the alteration that will take place in our physical constitution.—Perhaps our immortal bodies may be so formed as to execute only the functions of the *animal life*, by which the immaterial part communicates with the external world, and the functions of the organic life will not be retained, being unnecessary to a body that is neither subject to decay nor death.

haps be readily granted; but I would extend its limits still farther, for I believe that it has some share in the *direction* as well as the *strength* of the feelings. It must not be supposed that I ascribe their particular direction to a nervous cause; respecting the *cause* I offer no conjecture, and my object is neither to show *why* we are born with good and evil inclinations, nor from whence they originate, but only to state from observation, that certain passions and inclinations are more especially attendant upon one kind of nervous constitution than another. If, as I suppose, the feelings of the mind consist of a peculiar *sensation* concatenated with an idea, it is easy to account for the connection of the nervous influence with the strength or feebleness, the tenacity or fickleness, the dullness or susceptibility of the feelings, because a sensation supposes a nervous action; but their *direction* must be very partially influenced by such a cause; that it is in some degree affected by the physical temperament however, is evident, especially in characters of a marked description, except when reason, education, or external circumstances have wrought a complete change in the original disposition; but this is seldom the case, and we generally find in civilized man, a mixture of natural and acquired feelings, which may possibly account for many of the inconsistencies which we detect in ourselves and others.

THE FOUR VARIETIES OF THE MENTAL CONSTITUTION.

I shall now enumerate and describe the varieties of the natural character, which, as I have before observed, are fewer in number than might be supposed. The strength or feebleness of the nervous action produces two temperaments, which I shall distinguish by the appellation of the ardent and the phlegmatic; each of the temperaments may be united to a strong or a feeble *intellectual power*, and these four combinations, with the several gradations from one extreme to the other, form the varieties of the natural mental constitution.

ARDENT TEMPERAMENT.

An energetic nervous action (which I am inclined to attribute to an abundant secretion of the nervous fluid), produces a rapid circulation of the blood, a quick evolution of animal heat, with some tendency to inflammatory diseases, a certain degree of muscular power, (independently of the strength or weakness of the muscular *fibre*) and a sensibility of the nerves, which gives vehemence to the feelings, warmth to the temper, and quickness and acuteness to the senses.

PHLEGMATIC TEMPERAMENT.

The slow nervous action is shewn by a tranquil circulation, a low temperature of the blood, a moderate portion of physical strength, an absence of irritability in the nerves, and consequently in the temper.*

But before I proceed, I must mention that physical strength is derived from two distinct causes which, as it appears to me, form four different *physical* temperaments; as these also have their effect upon the character, I shall add them to the four mental constitutions above enumerated, and describe their various combinations. Physical strength results both

from the firmness of the muscular fibre, and from the energy of the nervous action. "It appears, (to use the words of an able anatomist) that the power of muscular contraction is in a compound ratio of the *strength* of organization in the muscles, and the *excitation* which they receive from the brain. When both these are small, the motives are feeble. When both are elevated to their highest pitch, we can hardly set a limit to the effects which they may produce. If energetic nervous influence be combined with a weak muscular tissue, or vice versa, the phenomena of contraction hold a middle place, and this is the kind of arrangement which we generally observe in nature. Women and children who have weak muscles, have a nervous system easily excited; men, on the contrary, particularly athletic ones, have nerves less readily moved."

COMBINATION OF THE PHYSICAL CONSTITUTION.

The ardent temperament may be united, first, to a firm, muscular fibre; and secondly, to a lax muscular fibre; and the phlegmatic temperament may also be combined with a strong or weak muscular system. Of all the constitutions, the ardent temperament combined with the lax muscular fibre, is the most irritable; its physical strength is entirely derived from the vigour of the nervous action, and this is often irregularly distributed, and subjects the frame to various morbid affections, particularly of the nervous kind; the sensations are acute, and the mind partakes of the sensibility of the body, and is very liable to a morbid degree of irritability. The ardent temperament combined with a firm fibre, exhibits the greatest degree of physical strength; the constitution is vigorous, but liable to inflammatory diseases. The phlegmatic constitution united to a lax fibre exhibit the greatest deficiency of physical strength, but it does not seem particularly liable to disease until the strength is reduced below its natural standard by external circumstances; the nerves are not irritable, consequently the sensations are not acute, and the mind is usually placid. The phlegmatic temperament united to the firm fibre is the most desirable of all constitutions, as it gives the advantage of strength without irritability; an athletic form, robust health, and an even temper, are its usual concomitants.*

EXAMPLES OF THE PHYSICAL CONSTITUTION.

These varieties of the physical constitution are best exemplified in the brute creation. The difference of the two strong constitutions is seen in the tiger and the elephant; the first, compact, vigorous and alert, shews the energetic nervous action united to a firm muscle; the other, huge, ponderous and clumsy, shews the phlegmatic temperament combined also with the strong muscle. The soft muscle united to the phlegmatic temperament is seen in the fish kind; its combination with the ardent temperament I cannot trace in animals.

MISCELLANEOUS.

PUBLIC EXHIBITIONS.

We did not suppose we should have occasion to refer to this subject again, but so numerous have been the commendations bestowed on our remarks from different sources, that we think it but just that we should do so, once more at least.

* The richer the blood is in red globules, the stronger is the vital power of producing heat in the system. In the temperaments which physicians call lymphatic, in opposition to sanguine, and which I call phlegmatic, on account of its influence on the temper, the blood contains fewer of the globules which give it colour. It is more cold and watery, hence probably results the fairness of hair and skin, which is the usual external token of this temperament.

* I cannot help fancying that this was the constitution of Adam; but we have woefully degenerated since his time, for we seldom meet with that calm possession of power, that gives majesty to the deportment, and serenity to the mind.

Our attention has been called to the following article from the Castleton (Vt.) Statesman. We give it a place in our columns, for the purpose of showing some of our friends one reason why we are opposed to these public exhibitions of the magnetic sleep. We do not, of course, suppose that every public operator is exposed to the censure deserved by the persons alluded to in the following account; but we do know, that this subject is liable to abuse; and where there are any found so destitute of moral principle as we know some to be, the public should be put on their guard against such shameful impositions.

On the evening of August 24, 1842, the following handbill was circulated in the village of Castleton, Vt.:—

"THE GREATEST MYSTERY IN THE WORLD!"

"Lectures by Dr. Adrien, on ANIMAL MAGNETISM, combined with Electricity and other Philosophical Experiments, will be given at the——, on Wednesday, Aug. 24, 1842, at 7½ o'clock, for one night only, owing to previous engagements.

PART FIRST.—Showing the original discovery of the science, and its progress in France and Germany.

PART SECOND.—Dr. A. will go through many experiments on this interesting science, which has bewildered all the Savans of Europe and America. In one visit the greatest skeptic will be convinced of the truth of this most occult of all wonders which the world has ever known. This science was discovered by Dr. Bradshaw, when travelling in Egypt, among the natives on the banks of the river Nile. The subject will be managed in such a manner as to insure the most happy results, and with a strict regard to its scientific and philosophical bearings. The audience will have the liberty to appoint a chairman, and three of the most scientific gentlemen in the room, as a committee to investigate the science by the persons put in the magnetic state, in presence of the audience; and many astounding experiments, which baffle all attempts at description, will be performed by the ladies or gentlemen in the magnetic state."

In answer to the call of the above handbill, an audience assembled, many for the purpose of testing the magnetic powers of the operator. After a few preliminary remarks, the lecturer proceeded to place his boy in the magnetic sleep. Then, according to Dr. A.'s request, a chairman and committee of three was appointed on the part of the citizens. I. T. Wright, Esq., Chairman; Professors Reese, Post and Perkins, Committee.

The committee report, that on examination they were satisfied that the boy was not asleep, and that on the part of the boy and the operator, as well as his assistant, there was gross collusion and imposture. The precautions the committee took defeated every experiment, until the operator dismissed the boy and closed the experiments, promising to give a free exhibition the next day. On their abruptly leaving the premises, the instruments of collusion between the parties were found, consisting of strings, pulleys, &c., concealed beneath the carpet, and moved by the door-keeper of the exhibition. On this discovery, the audience were indignant at the grossness of the attempted imposture, and the next morning measures were taken for the legal arrest of the parties, and on their disgorging their ill-gotten gains, and signing a paper for publication which accompanies this notice, they were permitted to depart without enforcing the penalty of the law.

A committee of the medical class then presented the following paper, to which the other three parties severally affixed their signatures, with a perfect knowledge of the use to be made of it by publication. The paper was signed in the presence of Professors McClintock and Post, I. T. Wright, Esq., and of the committee, whose names are annexed.

"We, the undersigned, exhibitors of Animal Magnetism, do acknowledge at the exhibition at Castleton, Aug. 24, 1842, we for want of the power of producing the promised effect, did contrive by means of wires, strings and pulleys, an attempt to impose upon the good sense of the audience, but by the close examination instituted on the part of individuals, utterly failed in the attempt."

E. D. Ransom,	(Signed)
Luther Buxton,	Jesse Begle,
J. E. Claghorn,	John Adrien,
Elton R. Smilie,	his
Langdon Sawyer,	John X Williams.
Committee.	mark

CURIOUS GEOLOGICAL DISCOVERY.

A few days since, some workmen employed in raising stone from one of the lias quarries on Brockridge Common, made a discovery. 14 feet from the surface, of what they called the "bones of a fish," and of which they gave information to Mr. Dudfield, of Tewkesbury, who immediately proceeded to the spot, and found it to be, on examination, the fossil remains of an ichthyosaurus or fish lizard. Mr. D., after much care, patience, and labour, succeeded in disinterring it, had it safely conveyed to his house, and upon minute examination and careful cleaning, had the satisfaction to find that he had obtained one of the most beautiful and perfect fossil skeletons of this extraordinary antediluvian animal this country affords. This magnificent specimen measures six feet and ten inches in length, having the head, the whole of the spine, consisting of upwards of 100 vertebrae, with many of the spinal processes, the tail perfect, even to the smallest point, two of the paddles or fins quite perfect, and a considerable portion of a third, both the scapulas, many of the ribs, and some very delicate small bones near the tail, which render it probable that the animal had an appendage there, probably used as a rudder, which will excite the interest and curiosity of scientific men, as they have been hitherto unnoticed or undescribed.—*Cheltenham Chronicle*.

TOBACCO A REMEDY FOR ARSENIC.—A young lady in New Hampshire fell into the mistake so often committed, of eating a portion of arsenic which had been prepared for the destruction of rats. Painful symptoms soon led to the inquiry; and her mistake was quickly discovered. An elderly lady who was present, advised that she should be made to vomit as speedily as possible; as she had always felt a perfect loathing for tobacco in every shape, it was supposed that this would at once effect the purpose. A pipe was used, but without producing a nausea. She next chewed a large portion of strong tobacco, and swallowed the juice, and that even without a sensation of disgust.

A strong decoction was then made of hot water, of which she drank perhaps half a pint. Still there was neither nausea nor dizziness, nor did it operate at all, either as an emetic or cathartic. The painful sensations at her stomach, however, subsided, and she began to feel well. On the arrival of physicians, an emetic of blue vitriol was administered, and produced one operation.—One or two days after there was a discharge of a dark green color, approaching black. No ill consequences followed.

Another case occurred in the same place a few years subsequently, in which arsenic was taken through mistake, by a sick person, and she employed tobacco with success. She, too, had always loathed the article, but now chewed it, and swallowed the saliva, without producing sickness at the stomach. No emetic was administered nor any other remedy.—*Sullivan's Journal*.

CURIOUS FACT IN NATURAL HISTORY.—*Hair worms from a cricket.* We suppose every one has seen the long, slender black worm frequently found in tubs and pools of water, which some have thought were produced from horse hair more than any thing else. It is not certainly known how they are propagated, or, from whence they come or whither they go. The other day, Mrs. Elijah Jacobs, of this village, observed a cricket (one of the common black crickets that are so common in the fall of the year), in a basin of water that was set in a sink. The water had been used a little while before, and was clean. Her attention was soon attracted more carefully to the subject, by the appearance of a worm that was making its way out of the body of the cricket. It proved to be one of these hair snakes, as they are called. Presently another one showed itself, not quite so long as the other, and soon after a third, considerably smaller than either of the others. As soon as the third one had come out, the cricket struggled violently and died. These are the facts as observed by Mrs. Jacobs. The basin, cricket, worms, water and all, were brought into our office for exhibition. The largest worm was about six inches long, and very lively, the others were not very active. How came these worms in the cricket? are they generally found in or about such insects, or are they exclusively a water animal?—*Winthrop (Me.) Farmer*.

CAUSES OF APOPLEXY.—Any thing calculated to hurry the circulation and to increase the force of the heart's action, is likely to operate as an exciting cause of apoplexy simply in augmenting the momentum of the blood against the sides of the cerebral vessels, which in advanced life are so often diseased and weak. Strong bodily exercise, therefore, is a thing to be avoided by all persons in whom the predisposition to apoplexy has declared itself. It is of much importance to make patients aware of this, for many persons think, when they labor under uncomfortable bodily feelings of any kind, they may get rid of them by brisk walking, or galloping some miles in the country on horseback. Another dangerous state of such persons arises whenever the free escape of the blood from the head is subsequently obstructed. Certain diseases, chiefly thoracic, which tend to keep the veins of the head inordinately full, rank among the predisposing causes of apoplexy.—*Medical Gaz.*

INSANITY ON THE INCREASE IN ENGLAND.—Nervous affections, including, of course, among them insanity, have alarmingly increased of late years in this country. The fact must be obvious to those whose situation and avocations give them an opportunity of obtaining an insight into the present conditions of society. The medical profession appears conscious of the evil, and yet are fearful of admitting its existence. In hesitating to grapple with the common enemy, we allow it to obtain possession of the citadel. We are like soldiers sleeping at our posts, instead of being actively employed in watching for the first appearance of the foe. The stream is allowed to flow until it swells into a torrent, sweeping everything away that attempts to impede

its progress. It is painful to contemplate the encroachments that this the most terrible of human afflictions is making among the ranks of the British aristocracy. It may be said that there is no public record of this fact, that the general and medical press are silent on the point. This may be the case, but it should be recollected that it is not in such channels that information relating to the increase of mental disease in the upper walks of life is to be obtained. Peculiar sources of information enable me to state as a fact, that the public is but little aware of the awful extent to which insanity has increased in England. Many causes operate in keeping the public mind ignorant of this fact. Insanity is supposed to cast a stigma, and leave a stain, on any noble or aristocratic family in which it may make its appearance; consequently, they are most desirous of concealing the existence of any such ailment when it develops itself. The origin of the evil is to be sought for in that artificial state of society which grows necessarily out of constant advancement and civilization. We multiply our comforts, and by consequence our cares and crosses. We beat out and expand our minds, as it were, and thus create a more extended surface for impression.—*Polytechnic Journal*.

ATMOSPHERIC RAILWAYS.—A report of Lieutenant Colonel Sir Frederick Smith, Royal Engineers, and Professor Barlow, F.R.S. to the President of the British Board of Trade, on the atmospheric railway, has just been published by order of Parliament.—This report is dated Whitehall, Feb. 15, 1842.—Lieutenant Sir F. Smith and Professor Barlow, having stated *seriatim* their views on the subject, and having given in the appendix to their report, the experimental results and investigations on which they are founded, conclude by stating as follows:

"1. That we consider the principle of atmospheric propulsion to be established, and that the economy of working increases with the length and diameter of the tube.

"2. That the expense of the formation of the line in cuttings, embankments, bridges, tunnels, and rails will be very little else than for equal lengths of a railway, to be worked by locomotive engines, but that the total cost of the works will be much greater, owing to the expense of providing and laying the atmospheric tube, and erecting the stationary engines.

"3. That the expense of working a line on this principle, on which trains are frequently passing, will be less than working by locomotive engines, and that the saving thus effected, will, in some cases, more than compensate for the additional outlay; but it will be the reverse on lines of unfrequent trains.—However, there are many items of expense of which we have no knowledge, and can form no opinion, such as the wear and tear of pistons, valves, &c.; on these further experience is needed.

"4. That with proper means of disengaging the train from the piston in cases of emergency, we consider this principle, as regards safety, equal to that appertaining to rope machinery. There appear, however, some practical difficulties in regard to junctions, crossings, sidings, and stoppages at road stations, which may make this system of less general application."

A SINGULAR PLANT.—Lieut. Alvord of the Army has presented to the National Institution at Washington a specimen of a plant, known in Wisconsin and through the West, as the "Polar Plant," having one large flat leaf whose plane always points to the North and South.—Such a magnet must be valuable to travellers upon the desert prairies of the far west.