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MIND IN NATURE

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SCIENCE AND THE STATE.

[SECOND PAPER.]

R. W. SHUFELDT.

In my article in the February number of *MIND IN NATURE*, under the above title, I attempted to point out a way in which the present existing scientific bureaus at Washington could and should be grouped together under the head of a DEPARTMENT OF SCIENCE, forming one of the establishments of the general government of the country. In the same paper I ventured to suggest that the administrative head of such a department should be a cabinet officer and a member of the National Academy of Sciences. A few instances were cited, going to show the enormous advantages that must eventually accrue from such a re-organization, as well as the gains from an economical point of view, as compared with the present condition of these bureaus, and their management.

In an admirable criticism of my article from the pen of the editor of the *Chicago Times* (Feb. 7th, '86), another great saving is pointed out, *i. e.*, the annual rentage of the buildings, now occupied in Washington by these bureaus, would in a few years, pay for the new structure.

In this paper I propose to enlarge upon some of the more important questions therein brought forward, discussing them in a way that the limitations of space prevented me from doing in my first paper.

Another object I have in view is to test the correctness of the principles set forth by the editor of the *New York Nation*, in an article touching upon this subject, entitled "The National Government and Science" (Dec. 24, 1885), for I believe an entirely false light has been thrown on the matter from that direction, and the problem unsafely handled. Some excuse may be made for this, however, from the fact that that able journalist is not a scientific man, nor has he, so far as I know, ever had any experience in the administration of such affairs.

Let us for a moment look into the growth of one of these scientific bureaus of the Government.

From a modest signal corps of the army, through the wise guidance of "Old Probabilities" we have now a splendid bureau of climatology on a sound scientific footing, and its excellent reports have far outgrown both the needs, as well as *the size* of the

army. The growth of our famous bureau of Ethnology of the U. S. National Museum, is so well known as not to require special remark here.

Another example is seen in the library and museum of the Surgeon General's office of the War Department. In this last instance the nucleus was formed about the material supplied by the war, and from it, there has grown the far-famed anatomical and surgical collection, with a medical library that has but one or two rivals in the world, its volumes running far into the tens of thousands. This latter establishment is certainly out of all proportion with the needs of the medical department of the army, which gave it birth.

A similar bureau is rapidly growing up under the care of the Navy Department, and there is no predicting what its proportions may arrive at some day.

Now the questions may be asked,—what right has the army to this enormous Weather Bureau? or what right has the army to this collection, this prodigious library, this establishment from which some dozen other activities are already showing their heads. Are not the medical gentlemen there employed commissioned or specially contracted with, to take charge of the sick of the army, and for no other purpose? Whom of the medical department of the Army or Navy, ever have access to the stupendous "Index Catalogue" that is issuing from the Surgeon General's office, the size of which work must be seen to be appreciated,—and it will take a number of years to complete it?

Whence the necessity, for the *needs* of the army, of the splendid medical museum now in course of construction at Washington, to contain this superaddition to the department, with all its collections, laboratories and library?

What right has the Government to countenance such apparent irregularities, without raising a hand to correct them?

The common answer to all of these interrogatories must evidently be, that the Army or Navy, *per se*, has no right to these establishments, whatever. It is very evident that they have long ago outgrown their original status, and now belong to the people at large; to the proposed DEPARTMENT OF SCIENCE. But I weigh my words well when I say, that the Government not only has the right to support these institutions, and maintain them in the way she does, but in so

doing, performs only her plain *duty* in the premises.

I am not a believer in war, nor in an army, nor in disease, but let me assure you, that it is in the strong arm of science that all these see their most successful enemy.

Then let science be fostered under any *pretence* whatever, planted and reared by the Government on *any* ground where it will take root! And let me say here to the *Nation*, that the more of it the Government sustains, the better are the chances for its cultivation by private individuals in all parts of our country. How long would the material for Marsh's magnificent work upon the *Odontornithes* have lain dormant in the cretaceous beds of Kansas, had it not been for the helping hand of the Government to assist in its exhumation and due publication? And does the *Nation* entertain any appreciation, whatever, of the stimulus to *private research*, the production of that work has been? Again, may I ask, how long would we have to have waited for private enterprise to start and sustain the "Index Catalogue" of the Surgeon General's Office? And has the *Nation* any idea how much the science of medicine has been advanced in this country, since the appearance of that work? There are an hundred instances of a similar nature I might invoke in support of the Government fostering science in every manner she can conjure up.

I think I am perfectly safe in saying that there is not an honest American scientist living, one whose heart and hand is in the progress of science, irrespective of his personal comfort or his personal advancement, that would willingly check, in the slightest degree, the scientific work going on at Washington. As a scientific man, I can attest to the fact that,—notwithstanding all that has been done in science in this country, either by the Government or through private enterprise,—we have hardly had a peep at the threshold of the door that leads into the storehouse of yet unfinished work.

There is not the remotest chance in the world of the government work discouraging private undertakings in that direction, but as I have already hinted above, the grand scientific works of the Government are the rallying points for scientific endeavor all over the country. Ask the gentlemen of science of England in private life, what their Government has done for them in the "Voyage of the Challenger," and they will rise to a man, to have it repeated if possible!

Does the editor of the *Nation* know, that we still lack even such common things, as good, comprehensive Manuals of American Mammals, or of American Herpetology, anything, for instance, approaching the scope of Professor Coues' Key to American Birds, or brought up to the date that of work. What's to hinder some young Cuvier in private life striking out in that direction? I hardly believe that there is any danger of his clashing with government science, indeed I know full well, if he shows the slightest signs of promise and determination, Professor Baird will be the first one to clear the way for him.

Ask any young zoölogist if I am not right on that score; and has Professor Agassiz's refusal of the charge of the coast survey no significance in the eyes of the *Nation*? No, your ground is illy taken, for you neither understand science, or how science does and must grow.

A few moments ago, I asked the question, who of the medical department of the Army or Navy ever have access to the stupendous "Index Catalogue" of the Surgeon General's Office? My answer now, to that is, that there are officers in the army who do not even know that such a work is being published, plenty of them, and there are members of the medical corps who might be for the rest of their natural lives at the fountain-head of its publication, and would never so much as lift its covers. Abide the time, though, until some mind arises among us, either in civil life or the services, that *must have it*, and mark the difference.

Let the editor of the *Nation* rejoice with me that we breathe an atmosphere in this age that is absolutely charged with scientific activity and progress. Raise not your hand to check it at all, come from whence it may, and thank Heaven, that it is the natural order of things, for all the music, all the poetry, all the science we can have about us, obliterates the bonds that connect us with the brutes from which we are descended, and poisons to the death war, disease, and ignorance.

It must not be understood, that in my plan for the re-organization of the bureaus, that I would have any of the present existing ones lose their individuality, for even were a DEPARTMENT OF SCIENCE established, the old time-honored Smithsonian would still essentially remain the Smithsonian, and the Library and Museum of the Surgeon General's Office still retain its

identity as a part of the section of sanitary science.

The department would meet its proper limitation in due course, as the chiefs of these sections would be called upon to make their reports of progress, and other matters to the administrative head, the secretary, for his Annual Report, which would be made in common with other departments.

Aside from its being an establishment at which every American could point with pride,—the far greater economy involved must be patent to everybody. No scheme could be more expensive than the present one, wherein appropriations are dealt out in dribbles to different quarters, and the work done largely in a haphazard way.

Several years ago, in a paper that I published, I had something to say about the course that the Government should adopt in regard to her disposition of such scientists of note that appeared upon her rolls. In my February paper in *MIND IN NATURE*, I touched once more upon this topic, so that to bring it up here again might endanger its pertinence, were I not assured that the song was to be sung to other ears, and my opportunities for observation in that direction have not only confirmed me in my former opinion, but added a large stock of material to the original evidence at my command, going to prove most conclusively the soundness of my former utterances, demonstrating, first, that it is the Government's duty to place such individuals in their proper environment, and second, the gain to the country and the world at large, that is affected by such a disposition is incalculable.

The truth of the philosophy of him who stands high among the greatest of living philosophers, Huxley, still rings in my ears: "But a small percentage of the population is born with that most excellent quality, a desire for excellence, or with special aptitudes of some sort or another. Mr. Galton tells us that not more than one in four thousand may be expected to attain distinction, and not more than one in a million some share of that intensity of instinctive aptitude, that burning thirst for excellence, which is called genius."

"Now, the most important object of all educational schemes is to catch these exceptional people, and turn them to account for the good of society. No man can say where they will crop up; like their oppo-

sites, the fools and knaves, they appear sometimes in the palace, and sometimes in the hovel; but the great thing to be arrived at, I was going to say the most important end of all social arrangements, is to keep these glorious sports of nature from being either corrupted by luxury or starved by poverty, and to put them into the position in which they can do the work for which they are specially fitted." I reckon these words among the truest that ever fell from human lips, and could I but hold the purse-strings of the worthless millions of the American Rothschild, just dead, I wager I know where I would allow a little of it to leak out, and the two or three I have in mind are not all upon Government enrollment, either. The views over the field that my career in science often admit of, are worthy of study, indeed; and during the past ten years, I could name more than one good arm that has ceased to strike, where the brain was willing but the physique not capable of coping with the circumstances, but where a little change in environment, or a little loosening of the purse-strings, would have given ideas to the world worthy of her acceptance.

And so far as the Government is concerned there is no excuse for such a thing, even in the present day, and she simply cripples herself when she insists upon keeping a morphologist between the binnacles, and a Maury in the laboratory.

Let us trust, as civil service reform gains strength, and the servants of the Government in any department are removed from their positions for cause only, remaining unaffected by party changes, that when those in authority in the affairs of state, discover the fact that an engineer *of mark*, for instance, is holding the position of a treasury clerk, they may remove such a person to his proper sphere of action, to that department where his services can be utilized, and he perform the work he is best fitted to do.

In closing, allow me to lay stress on the following points: The establishment of a Government DEPARTMENT OF SCIENCE, is certain to prove a great economy and credit to the nation, and not the slightest danger exists of its *ever* becoming contaminated by politics, or being overstocked by the general rush of American scientists in civil life to obtain position therein. The balance of things in this world militate against any such unheard-of phenomenon! Many of

them are men of great wealth, and neither desire to leave their homes and go to Washington, nor accept government position.

That the magnificent scientific work done by the Government of this country has been a powerful stimulus to private research, rather than a hindrance to it, and that when it comes to be published in a systematic way, from the DEPARTMENT OF SCIENCE, the benefit to science and scientific investigation all over the country will reach a still higher degree.

Other matters referred to in this paper will surely follow the perfection of such a reorganization, coming as it will in due course, with improvements in legislation, maturity of the nation and national character, and applying means to ends in the general fitness of things.

MYSTERY OF MANNER.

The personal equation which differentiates two observers is not confined to the tower of the astronomer. Every human being is individualized by a new arrangement of elements. His mind is a safe, with a lock to which only certain letters are the key. His ideas follow in an order of their own. We may not be able to assign the reason of the fascination which Emerson exercises over us. There is a charm in his poems which can not be defined any more than the fragrance of a rose or a hyacinth; any more than the tone of a voice which we should know from all others if all mankind were to pass before us and each of its articulating representatives should call us by name. He unites a royal dignity of manner with the primitive simplicity of primitive nature; his words and phrases arrange themselves as if by an electric affinity of their own, with a *curiosa felicitas* which captivates and enthralls the reader who comes fully under its influence. He throws his royal robe over a milking-stool and it becomes a throne. Such delicacy of treatment, breadth and force of effect, is hard to match anywhere, and we know him by his style at sight. It is as when the slight fingers of a girl touch the keys of some mighty, many-voiced organ and send its thunders rolling along the aisles and startling the stained windows of a great cathedral.

O. W. HOLMES.

The fate of the child is always the work of his mother.—*Napoleon.*

SPIRITUAL EVIDENCES OF MAN'S DESCENT.*

HONORÉ D. VALIN, M. D.

TEMPTATIONS AND THEIR SCIENTIFIC BASIS.

Temptations are so frequent and so overwhelming, especially in early life, that too close an attention to them is liable to render a person insane, and I think that I have seen several such cases. One of them, after creditably finishing his classical course, entered the theological department, and soon began showing signs of eccentricity of a devotional nature. One peculiarity of his was an almost continual shaking of the head while praying, and when asked by my classmate why he done that, he answered: "In order to chase away temptations." Later he became rector of a parish, but had subsequently to be taken to an insane asylum.

The evil resulting from temptations is the most pernicious, as they are believed by a great many to be the suggestions of a devil or a bad angel whispering iniquity into one's ear to revenge itself of God by causing the perdition of man. And no amount of spiritualistic experiments, I think, has ever done half as much to encourage the belief in spirits, especially evil ones, as this, for times immemorial, only explanation of temptations. And the amount of misery that it has caused among Christian nations outweigh, in my opinion, the self-improvement that a steady resistance to temptations must ever produce. But these evil insinuations which so frequently recur in one's mind are *facts* which are not to be dismissed as superstitions or frivolities; and, while modern philosophy has been drawing nearer to pantheism, and while the last version of the English bible has changed our notions in regard to eternal punishment and the place where it was to be applied, still our temptations are all knocking at our conscience's doors louder than ever, and it is the aim of the philosopher to resist them as effectively as the most pious anchorite of the deserts of Egypt ever tried to do. But that end shall be attained the better by those who entertain clear ideas as to their nature. Who amongst us has never had to suffer materially or mentally for having succumbed to even trifling temptations? And yet the same temptations have recurred in spite of dearly bought experience. However, no one, I believe,

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will doubt that temptations are more or less anomalous in most of us, though frequent, and that they are far less troublesome in adults, especially when the personal circumstances are at all favorable.

It would seem, then, that temptations are to the mind what numerous rudimentary organs are to the body—a souvenir of what we were once, or rather a proof of what our ancestors have been—and this, I intend to show, is the true significance of temptations.

Just as the coccyx of man stands a proof that our remote ancestors possessed tails, just as the handlike shaped feet of an embryo of six weeks is evidence that some of our ancestors were quadrumanous, and as the gill slits of the same embryo earlier in life point to our marine cradles, or the rudimentary breast of a man tells us that a remote ancestor of the whole back-boned family was hermaphrodite; in the same manner, our hatred of stranger people, our temptations to abuse people of a different belief even in one's own family, our desires to murder a person for little pretext, our early temptations to steal, even worthless objects, and our inborn egotism, are all so many landmarks by which to discover the earlier ancestors of man. We see here at a glance that some early ancestors had no idea of international rights, that some were not even social, that earlier yet they were cannibals, as their mental characteristic reappears in our midst in cases of mayhem, that the idea of property did not exist in earlier days, and that our earliest ancestor had no thought whatever for anybody but itself.

Another set of evidences is furnished by a close study of the morals of our children, for it is a law of embryology that the progeny repeats seriatim in its development the different stages in the development of the species to which it belongs. Whether our embryo children have ideas, or whether they are even capable of perception, is not known, though I contributed some facts to prove the latter in *MIND IN NATURE*, Dec., 1885; but I think we may safely suppose that their mind is no better developed than that of a fish, so that we need not study the development of the mind, as we do that of the body, before birth.

The most striking characteristic of a child's mind, however, is its perfect egotism, as every parent knows. And this is best noticed in the absolute jealousy of all children, which even extends to inanimate

objects. Another familiar trait is their destructiveness and their cruelty to the lower animals and to other children, which is amazing. And once in a long while, the cannibalism of our ancestors shows itself so well in our children, that they injure seriously, frequently bite, or even hang or murder their own little sisters or brothers, a thing which our greatest criminals would be incapable of doing in cold blood. Their instinct to steal is so wonderful that I would like to hear of one person yet who never took something clandestinely from its parents, when quite young. Our children's dislikes for all strangers are so marked that they will show their contempt for most every one except their parents, and among the lower strata of the community, this is sometimes manifested in a sort of horror, which the parents sensibly explain by saying that their child is wild, in English, *sauvage* in French, and *schüchtern* in German. Now, there are on record classes of social animals far lower in organization than monkeys or wolves, so that this want of sociability in very young children points to lower stages of evolution yet.

The social instinct of children is very slowly developed indeed, sometimes only in school; and in matters of love, the primordial selfishness of man often reappears in full force, as witnesses the abusive character of sexual love, which is sometimes the very opposite of all generosity, for in case love is not returned, the loved one is annoyed and persecuted. And in the complete gratification of love, I believe most men have experienced low animal feelings, some of which the better classes are ashamed of, and style sins, and such they are considered by some theologians.

In higher life yet temptations become rarer and fainter, as men know and perform their duties better, and then they assume a more interesting character as they become rudimentary. An intimate friend of mine, a physician, and one of those good souls that never need shun their innermost feelings, was telling me lately that one of the most weird and frequent temptations that he had was to smash plate windows, whenever he walks by, with his cane. Another intimate friend that has made a study of such temptations in his own person has observed the following: In the presence of his best friends or kindest relatives, he often experiences a desire for

kicking them or injuring them, although he loves them sincerely, and the same destructive instinct or temptation, shows itself whenever he is looking on and admiring fine works of art—a sort of vandalism in idea.

The same line of evidence can be traced in the decadence of old age, in passions, bad habits, in insanity and in crimes. In those queer cases of minds of doubtful sex, something of a reversion to primitive hermaphroditism even, is clearly seen, and let the readers who feel in doubt take a look at the dude who is putting on his new ulsterette, and see whether the beam in his eye and the fluttering of his heart are not sufficient evidence that a remote ancestor of his was both female and male.*

Evidences from so many sources can not be rejected except by the bigoted, and they give rise to a most important practical consideration, that in our temptations we remember our animal descent even to the low stage of the Moner, just as some among us repeat in their criminal acts some of the stages of that descent, and such evidence of organic evolution, in one's intellect is greater in my mind than the experimental proofs given by Darwin or Hæckel. This idea also conforms with the preaching of many rectors who so often allude to the brute underlying the good man. But like the Darwinian Theory of which it forms a necessary part, our memory of having been different species of animals in the remote past of life on earth is not a modern discovery, for Empedocles, a Greek philosopher who lived twenty-three hundred years ago, had the memory of having been a fish and an hermaphrodite.

However, this memory is as great an incentive as could be found for us to strive with all our powers to rise above such ancestors, and extend the domain of reason, the attribute of our manhood, just as in the midst of a great prosperous nation, the lowest bred immigrant receives the greatest incentives to rise higher in civilization than his friends at home. And such in fact is the course of development of normal minds.

The child who succumbs to most temptations when it is not watched, and unknowingly commits crimes, begins after a time to discern these lower from his better in-

stincts, and tries to avoid the former—its mind is in a state of transition from the animal to the human. In the adolescent, most of these instincts remain below the surface, and only make their presence felt as temptations, some of them distressing at that. Still, forces in the realm of mind work very much as elsewhere in nature, that is in rhythm (Herbert Spencer), or alternately. When the animal instincts have spent their force, the human instincts have freer play, and as a rule, a bad young man becomes a gentleman all at once when he *settles down*.

Whenever this metamorphosis in the evolution of the mind happens to be connected the least with any religion, it is called a miraculous conversion. But what does the infidel and philosophic business man think when his son, who has no creed either, and has been a wild young man, reaches the age of twenty-three or four, settles down to business and turns out a first-class citizen? Does he think that it is a miracle as most people have thought in the cases of Saints Anthony, Augustine, Francis Xavier? Not at all. He simply thinks that his son has finally overcome his animal instincts and has become a *man*.

Thus mental heredity reproduces in the progeny, even in isolated groups of phenomena, not only the very peculiarities of the parent, but some of the mental characteristics of all the ancestral species which form the pedigree of mankind.

"THE OCCULT WORLD."

FT. WINGATE, N. M., Feb'y 3, 1886.

To the Editor of *Mind in Nature* :

Permit me to say in regard to Doctor Coues' letter in the February number of this journal, professing to be a reply to a criticism of mine, which appeared in your columns in January, that his rejoinder sufficiently answers itself, and in no instance meets the points which I raised, as any one who read it, may see. For surely, neither my *age*, nor my *accomplishments* are relevant to the question at issue; nor are your critic's strictures met by informing him that he is "printing nonsense." Moreover, I regret to see, that at least in one instance, I have been misquoted by Doctor Coues, a fact which further detracts from the little remaining pertinence that attaches to his communication. Very truly yours,

R. W. SHUFELDT.

* For those who wish to reconcile science with the Bible, the formation of Eve from a part of Adam's body, would indicate the hermaphroditism of our earliest ancestor.

THE DIVINING ROD.

Our scientific brethren who have so freely boasted that "The Witch Hazel Divining Rod" has been forever buried in the ashes of its grandmothers, the witches, will doubtless soon admit that it was buried in a too shallow grave; and that its ghost is now walking in far better company, than it was wont to keep in olden times.

The discovery of a large volume well of natural gas on the property of the Cleveland Rolling-Mill Co., which was located by Mr. Charles Latimer, the well known civil engineer of the N. Y., P. & Ohio R. R., and also president of the International Inst. for Preserving and Perfecting Weights and Measures, will result in a complete resurrection of the magic wand and invest it with a prestige heretofore unknown, in spite of all scientific sneers. Capital is pre-eminantly practical, and if the wand will locate gas wells, capital will come and worship it, though the *power* come from Satan himself.

The above company have been boring at various points for gas, for some time. The local scientists had all declared against the presence of gas in large volumes at the spot where it has been found. The depth, over 3,000 feet was an unusual one, the company had decided to abandon the well, and it was solely at the request of Mr. Latimer, that they continued to bore 200 feet farther. As this was a clear test case of science and experience *vs.* the Divining Rod, and the subject one of interest to many of our readers; we asked Mr. Latimer to give us the facts in the case; to which he replied as follows:

CLEVELAND, O. Dec. 21, 1885.

Your request for the facts in connection with my location of the Cleveland Rolling Mill Co's gas well is before me.

I wrote to the Rolling Mill Company in 1883, advising them to put down a well on their grounds, and make the test for gas.

At that time I had detected several veins of gas passing through the property, and contiguous to it. Accordingly they asked me to locate a vein. I went with Mr. Stewart Chisholm, Prest. of R. M. Co., and located a vein extending under their works. I told them that they would get gas at about 1,000 feet, that there would be abundance of salt-water, and a little trace of oil, that I could not find any gas below 1,200 feet. The gas in this vein was struck, but was not in large quantity. They continued boring till they passed at near 2,000 feet through great salt beds, 163 feet in thickness. I learned that they had concluded to go to 3,000 feet, but no further. Having determined to make this a

test case, I made several examinations as I passed on the train, and caught influence of a vein at 3,150 feet; having tested it several times, I became convinced that there was another vein at this distance. In order to have a clear and unmistakable record, I wrote the company on the 2nd of July, last, not to fail to go 3,200 feet before they stopped, allowing 50 feet for any error. After consultation, the board of directors agreed to follow my suggestion. The president asked me to find out what the geological predictions would be. I had made no examination of that nature. I wrote then to Prof. White, of Morgantown, Virginia, told him my prediction and asked for his opinion geologically. He said that gas should be found 1,500 to 2,000 feet below the salt beds. On Dec. 3rd, gas was struck at 3,160 feet, 10 feet below the depth I had predicted, about 300 feet short of the geological prediction made Sept. 10, 1884. I refer you to the journal of engineering societies for a statement of what I have done in relation to coal. The facts are attested by witnesses, and will show you the possibilities of the rod.

The tools were lost after striking the gas, and they have been fishing for them; the gas has been coming all the time. I think that there is much more gas rock below, and the C. R. M. Co. are preparing to continue boring.

Hoping that this information may be of service to you. Your sincerely,

CHARLES LATIMER.

Professor Mayo, in a little work published in 1850, "On the truth contained in popular superstitions," says, "in mining districts, a superstition prevails among the people, that some are born gifted with an occult power of detecting the proximity of veins of metal, and of underground currents of water. In Cornwall, they hold that about one in forty possesses this faculty. The mode of exercising it is very simple. They cut a hazel twig, just below where it forks. Having stripped the leaves off, they cut each branch to something more than a foot in length, leaving the stump three inches long. This implement is the divining rod. The hazel is selected for the purpose, because it branches more symmetrically than its neighbors. The hazel-fork is to be held by the branches, one in either hand, the stump or point projecting straight forwards. The arms of the experimenter hang by his sides; but the elbows being bent at a right angle, the fore-arms are advanced horizontally; the hands are held seven or eight inches apart; the knuckles down, and the thumbs outward. The ends of the branches of the divining fork appear between the roots of the thumbs and fore-fingers."

"The operator, thus armed, walks over the ground he intends exploring, in the full expectation, that, if he possess the mystic gift, as soon as he passes over a vein of

metal or an underground spring, the hazel-fork will begin to move spontaneously in his hands, rising or falling as the case may be."

"It is shown by the testimony adduced, that whereas in the hands of most persons the divining rod remains motionless, in the hands of some it moves promptly and briskly, when the requisite conditions are observed."

"It is no less certain that the motion of the divining rod has appeared to various intelligent and honest persons, who have succeeded in producing it, to be entirely spontaneous; or that the said persons were not conscious of having excited or prompted the motion by the slightest help of their own."

"It appears that in the ordinary use of the divining rod by competent persons, its motion only manifests itself in certain localities."

After considerable evidence, and reasons for investigating the rod, Dr. Mayo says:

"I have concluded my case in favor of the pretensions of the divining rod. It seems to me, at all events, strong enough to justify any one who has leisure, in cutting a hazel-fork, and walking about with it in suitable places, holding it in the manner described. I doubt, however, whether I should recommend a friend to make the experiment. If, by good luck, the divining rod should refuse to move in his hands, he might accuse himself of credulity, and feel silly, and hope nobody had seen him. If the first trial should succeed, and he should be led to pursue the inquiry, the consequences would be more serious: his probable fate would be to fall at once several degrees in the estimation of his friends, and to pass with the world, all the rest of his life, for a crotchety person of weak intellect."

"As for the divining rod itself, if my argument prove sound, it will be a credit to the family of superstitions; for without any reduction, or clipping, or trimming, it may at once assume the rank of a new truth. But, alas! the trials which await it in that character!—what an ordeal is before it! A new truth has to encounter three normal stages of opposition. In the first, it is denounced as an imposture; in the second—that is, when it is beginning to force itself into notice—it is cursorily examined, and plausibly explained away; in the third, or *cui bono* stage, it is decried

as useless, and hostile to religion. And when it is fully admitted, it passes only under a protest that it has been perfectly known for ages—a proceeding intended to make the new truth ashamed of itself, and wish it had never been born."

PHYSICAL EDUCATION.

A National association has recently been formed in Brooklyn for the promotion of physical education, and the discussions at the first session show that its founders have a broad, comprehensive view of the field to be cultivated. The vice-president, Rev. Dr. Thwing, said: Physical Education has a literature. Its history is an engaging feature. This study is related to Pulpit and Forensic Oratory, to Plastic Anatomy, to Music, to Histrionic and Mimetic Art; to Sanitary Science, Anthropology, and so to Ethics. For these reasons it deserves a thorough, scholarly consideration. The Greeks saw in one's gait the key to character. His "*walk*" and "*conversation*" or life, had more than an accidental connection. Plato says that a good soul improves the body, and that he is but a polished clown who takes no interest in gymnastics. Pythagoras, the philosopher, Sophocles and Æschylus, the poets, Epaminondas, the chieftain, were graceful athletic performers. Roscius, an actor in Cicero's day, had an income of \$32,000. In modern times, Rothstein, in Germany, Ling, of Sweden, Delsarte, of France, and Guttman, Lewis and others, of this country, have shown the fruitfulness of this science. We may approach the study of Physical Education from many points; that of the drill-master, the artist, the actor, the athlete, the musician, the physician, or the psychologist. The utterances of representative men deserve a permanent record for the perusal of those who are not present. Many years of experience in college and seminary instruction have deepened my conviction of the vital importance of the themes now discussed.

The establishment of Normal Classes is one of the first things aimed at. A committee have also in charge the formulation of uniform methods of measurements.

Professor Edward Hitchcock, M. D., of Amherst College, is president, and W. H. Anderson, M. D., of Adelphi Academy, Brooklyn, is secretary.

“*MIND-CURE ON A MATERIAL BASIS.*”

URSULA N. GESTEFELD.

“*Mind-cure on a Material Basis,*” by Sarah Elizabeth Titcomb, is an exposition of the true inwardness of mental healing, as the authoress understands it. She states that she has “acquired the method of curing disease which is practised by the ‘Christian scientists,’ or ‘metaphysicians,’ and has come to the conclusion that the success attending that method is due to concentration of thought.”

She says further:

“The cure of disease by the concentration of thought is probably effected by the idea of health becoming, unconsciously to the sick person, the dominant idea in the sick person’s mind by transferred thought. Thus the mind-curer’s mind is concentrated upon the idea that the sick person has no disease, and this idea being transferred from the active brain of the mind-curer to the passive brain of the sick person, it becomes there the dominant idea, and the sick person becomes well.”

“Allowing that transferred thought becomes the dominant idea in the brain to which it is transferred, and that it continues to control the brain by unconscious cerebration, the mystery of the cure of disease by transferred thought is entirely done away with by the single-substance doctrine, which demonstrates that mind is a property or product of matter; in other words, that mind and body are *one* instead of two separate entities. The theory held by many physiologists,—that mind is an attribute of the body as a whole, instead of being located in the brain only,—still further simplifies the subject of mind-cure.”

Her quotations from numerous authors show her to have been a diligent student in her line of thought, but all the testimony which she brings to bear to establish her theory would be but corroborative evidence of the truth of “Christain Science,” did she clearly understand it.

The fact seems to be what she herself states. She has “acquired the method of curing disease which is practiced by the ‘Christain Scientists’ or ‘metaphysicians.’” Only the method, without that understanding of the principle of the science, which is the soul of the method; an understanding acquired only through the sixth sense, the spiritual one.

The conclusion which she has arrived at, that the brain is not the sole organ of the mind, but that mind acts through every part of the body, and is a part of the body, is one she could have formed from an understanding of the teachings of Christain Science. That shows the whole body to be mortal mind; its lowest and coarsest strata, that part which enables it to see itself, and which material sense says is real, is substance, is man. This mind acts through every part of the body, and material sense says, this mind and body together make living man, and separated make dead man, or no man. The question to settle is, which is cause and which effect. If mind, or the power of thought is the product of matter, or of a certain arrangement or combination of atoms of matter, what determines that same combination and arrangement?

If there is but one substance and matter is that one, and mind but its product, how can a thought of the mind produce any change in that substance? And, in order for mind or the power of thought to exist, must not the same arrangement or combination of matter which produced it remain unchanged? Either that combination and arrangement must be eternal, or some other power produced it and can terminate it.

By taking the ground that there is but one substance, and that one Mind, and mind and its body one and inseparable, as Christian Science teaches, we find a complete and logical explanation of what the material body is, whence come its apparent diseases and imperfections, and how they can be overcome and destroyed, and how all changes in the body are produced.

Miss Titcomb says: “The thought of the mind-curer that the sick person has no disease, is transferred to the brain of the sick person and becomes there the *dominant idea.*”

All her argument and the testimony which supports it, tends to show the power of the dominant idea. The thought in the brain of the patient is one of sickness; that in the brain of the mind-curer one of no sickness, or health. The thought of sickness is the patient’s dominant idea; no sickness, the mind-curer’s. These two dominant ideas should be equal in strength. How then does the simple transference of the mind-curer’s thought remove the patient’s and substitute itself in its place? And if the restored health of the patient

is simply the transferred thought of the mind-curer, a person who is perfectly well can be made ill, and of any disease any other person wishes, who simply concentrates his mind upon the given disease and transfers his thought to the mind of the well person. In that case we are all at the mercy of our enemies, who, by simple concentration of mind, and thought transference can make our dominant ideas what they will and make us suffer accordingly.

If the dominant idea can so govern the body as to produce a change in it, what is to hinder it from continuing to do so until it has completely transformed the body; and in that case what has become of the original combination and arrangement?

From her standpoint we have an effect swallowing up its cause. Again, if mind is a product of matter, does it not seem reasonable that when a portion of the body is gone, the power of thought will be lessened also? But a man may lose both legs and thus nearly one-half of his body, and he will still be as conscious of a body as he ever was. That consciousness is so complete and unimpaired that he will even experience the sensation of having legs, notwithstanding his material sense of sight tells him he has none. And if that consciousness remains with one-half of the body gone from that sense of sight, why not when three-quarters, or seven-eighths, or the whole, is gone?

To quote further:

"Doubtless many will think it impossible for them to cure disease by concentrating the mind upon the thought that the sick person has no disease, as it is impossible not to believe in the reality of disease."

"It appears that what is only imagined in the mind-curer's brain becomes a reality in the brain to which the thought is transferred."

If, then, the dominant thought in the brain of the mind-curer is that the patient's disease is real, and he only imagines him well, a thought not equaling in power the dominant idea is sufficient to remove that same dominant idea from the brain of the patient; and in that case the dominant idea can not have the power she claims for it, or it could not be so easily removed. It would be the lesser destroying the greater. The belief of the reality of the patient's disease remaining the dominant idea in the brain of the mind-curer and his imagined thought of no disease destroying the domi-

nant idea in the brain of the patient and taking its place and so restoring health to the patient, what becomes of the mind-curer's belief in the reality of the patient's disease? Is there a reflex action from the brain of the patient to the brain of the mind-curer, and is his dominant idea, which is the reality of the patient's disease, thus destroyed, or does he still hold it?

In regard to the impossibility of not believing in the reality of disease, one might as well say that it is impossible not to believe that the sky and water touch away in the horizon, when one stands on the lakeshore and looks in that direction; or that the sun moves, when it, as we say, rises in the east. In both instances we see an apparent truth, which science teaches us is not true. Until we understand those teachings, however, the apparent will remain to us as the real.

To a practitioner of Christian Science disease is not real, its appearance upon the body to the contrary. That is evidence which is overthrown by a higher authority. Miss Titcomb's theory that simple concentration of mind and thought transference will cure disease, can be easily put into practice, and one would suppose it would be universally attempted. But even to those who see, in some degree, satisfactory results from such a process, there must still remain an unsatisfied feeling as to the why and wherefore. It does not seem possible that a materialist can at all times rest content with the conclusion which he has arrived at.

The modern scientist, who, after years of labor and research, has disposed of one theory after another as to the origin of man, what he is and what he will become, and has evolved the—to a scientist—satisfactory fact, that he is simply a mass of atoms, each atom governed by its force, the union of the atoms and forces creating mind, or the power of thought; the disbandment of them destroying that power, and consequently man finds satisfaction and conviction in that statement in his study, where he is the man of intellect, testing every step of the way with cold reason and logic.

The result of his labors is a grand iceberg, towering so high that he can see nothing over or beyond it. Magnificent to look upon, it draws him nearer who would fain know, "Is this truth?" But its hard, repellent surface, the deadly cold which chills

and freezes all that which has been his incentive to look for truth, makes him draw shudderingly back, and say, "I feel this is not truth."

The father, forgetful of the scientist, takes his child upon his knee. What is he training? What is he educating? What is he developing? What is he loving?

Merely a mass of atoms? That kind of force combination which has produced a human being?

No force evolved from matter ever created love. That is the divine sun in whose unchanging light the father sees the iceberg melt steadily, surely away.

There is no sentiment in science, it is said. But material sense comprehends neither love nor science. What is true to one man is not true to another; what one man loves, another has no such feeling for. But there is a part of man which knows that back of and apart from material sense is a sense which shows to him the divinity of science, the unchangeableness of the triune principle, life, truth and love, even in its manifestation, man.

NATURE never works like a conjurer, to surprise, rarely by shocks, but by infinite graduation; so that we live embosomed in sounds we do not hear, scents we do not smell, spectacles we see not, and by innumerable impressions so softly laid on that though important we do not discover them till our attention is called to them.—*Emerson*.

A true man is earnest, therefore enthusiastic.

Attempt the end, and never stand in doubt;

Nothing's so hard but search will find it out.—*Herrick*.

You can't keep a dead level long, if you burn everything down flat to make it. Why, bless your soul, if all the cities of the world were reduced to ashes, you'd have a new set of millionaires in a couple of years or so, out of the trade in potash.—*O. W. Holmes*.

In the treatment of nervous diseases, he is the best physician who is the most ingenious inspirer of hope.—*Coleridge*.

Happiness is not the end of life: character is.—*H. W. Beecher*.

HOW DO I KNOW IT?

REV. OLIVER H. P. SMITH.

I stand before a tree, that is, it appears to me to be a tree; but how can I know it to be a tree? A friend comes along, and I say, "What is this object?" He replies, "A tree. Another friend approaches, and I put to him the same question, and receive the same answer. So, perhaps, I question a hundred people, differing from each other in appearance, temperament, experience, and habits of thought. They all unhesitatingly assure me that it is a tree. Suppose that the nations of the world could, one man at a time, pass before me, and that I could ask each one the character of the form upon which I am gazing: Each would reply with his word for tree. But, if the first friend to whom I appealed were to say that it was *not* a tree, then I should at once conclude that either he or myself was laboring under a delusion; and the chances would be even; who would decide between us? But, if the second friend appears, and answers in the same way, "It is *not* a tree," it is possible that I am right in thinking it is a tree; but the balance of probabilities would lean in the direction of my two friends. Finally, if the whole world were to agree with them that no tree was there, it would be absolutely proven that I alone of all men, was deluded. *Indeed, how could I know the word, "tree," or even dream of the existence of such an object.* It is because a universal opinion exists that there is such an object, that every language possesses the equivalent of our English word, "tree."

It matters not whether the tree is *real*, or only *ideal*; for practical purposes the result is the same. In other words, I, alone, may be mistaken regarding the existence of any object; but with each additional witness asserting the same conclusion with myself, the presumption increases that the object really exists, and is not a mere appearance to the disordered fancy. So, to state the case in the fewest words, *The test of the Truth is Universality.* If this were not so, no madman would ever be separated from his friends and the business of life. But the consensus of opinion is so strong against *his* opinions, that every state has at least one madhouse, wherein she secludes those who see trees where the majority do not see them.

Theologians base perhaps the strongest

argument for the existence of a God upon the universal instinct or intuition of a power higher than nature—higher than man; upon the universal intuition that whatever appears must have a cause. If only the English-speaking people felt this, and all other men had never a trace of anything like the religious instinct, then this feeling on the part of the first named would possess no authority as evidence of a God, and they might reasonably be put into some vast asylum for the insane, especially as this belief of theirs leads some of them to abandon most of the joys of civilized life, and spend their days interfering with the customs and habits of the rest of the world. But universality is the test of truth, and therefore missionaries of any faith are not utterly prohibited from advancing their views among those differing from them in belief, for all hold that there *is* a supernatural source of truth. Every man instinctively believes in an outer world,—a world of mountains, plains, seas, cities, forests, men.

I believe it, and am confirmed in the correctness of my belief because all others believe the same. But there is an other world, differing in all or nearly all respects from this,—a world of supernatural interferences, of occult influences. I have, for instance, some strange experience. Nothing in the outer, sensible world, with which I am acquainted seems to be a possible cause, or to offer any possible explanation of the phenomenon. I immediately, while filled with wonder, perhaps with terror, or with a strange joy, conclude that I am the victim of some delusion, and, perhaps, like the cerebralists of the present day, seek an explanation in disordered nerves, or some reflex brain action. Still I am not, in the depths of my consciousness, satisfied with such explanation, and so put the mystery away from my thought as being entirely inexplicable. After awhile, however, I meet with a friend who relates a similar experience—perhaps many of them. In the course of time I find persons of different temperaments, of all degrees of culture, who have marvellous pictures of the kind, hidden from the vulgar gaze—pictures which they timidly produce to view only in the presence of trustworthy friends, then expecting to be laughed at for their folly, when, behold! perhaps the most “practical” and “hard-headed” of the circle exhibits a picture more wonderful still. Indeed, I think it safe to say that no man lives who has not, at least *once* in his life, experienced

apparently supernatural interference, or heard such experience related by some one whose bare word he would receive as soon as his bond, in any matter concerning the outer world of the senses. Then, when we examine history, we find that the marvellous, the supernatural, has been believed in, and embodied in the poetry, the religion, the folk-lore of every people. Divination, spirit-rapping, apparitions, mind acting upon mind even at a great distance, are no new things—things of the nineteenth century. They are as old as the race. And the most matter-of-fact materialist would, at times, much rather enter a dark room, even in his own familiar house, with a light, or a friend or both. In one of the old McGuffey's Readers, of our boyhood days, is a story of a boy, walking at night upon a lonely road. All at once he saw something in the darkness, something tall and white, reaching out a long arm. He is frightened, but overcomes his fear sufficiently to approach the object, when he discovers it to be—a finger-post. Then the writer of the story proceeds to reprove the “silly people who believe in ghosts,” and tells them that, if they approach such objects as occasion fear in the night, they will invariably find them to be nothing worse than the finger-post. *But he does not explain why everybody is impressed at such moments with the dread of something supernatural!* Why does every child, no matter how taught, or untaught, fear to be left alone in the dark? As surely as the universal consciousness reports an outer world, so surely does it report a mysterious, shadowy, terrible, at times enchantingly beautiful, inner world! For many, many years the eyes of Science have been turned upon the world of tangible forms. Is it not time that the same piercing gaze be turned upon the universally reported inner world of wonder?

Man knows much of what is around him; how painfully little does he know of what is within him! And yet *that* world it is from whence all his motives react upon the world without! *That* is the world in which he truly lives! And no man talks more foolishly than he who speaks dogmatically about “Ignorance” — “Superstition.” Let him read, and think upon, the *whole* definition of the word, “superstition,” as given by Webster; noting, not only its accommodated, but its real meaning. There is a flush of Dawn in the East; a wider and brighter Wisdom is yet to be our heritage.

Merrill, Wis.

*THE PHYSICAL PHENOMENA
OF DEATH.*

The physiological processes of life, from its initial point to its final close, are instructive alike to the psychologist and the physician. Health is the maintenance of normal vital activities; disease is a deviation from these normal conditions, and death their final extinction. What are some of the physical features of death? How may we be positive that life has really ended? Though very rare, it is certain that there have been cases of burial before death. Years ago I was assistant in a hospital in this city and was cognizant of these facts. A patient seemed to be near the end and I was requested among other things to minister to his religious needs and particularly to see that a burning candle was put in his hand when his spirit took its flight. I had left him comparatively comfortable at evening, when, within an hour, the attendant recalled me to the room, exclaiming, "He is dead!" I inferred that some sudden lesion had taken place, and hastened back. There lay the silent form, still and apparently breathless; but when the attendant placed the candle in the cold fingers, he turned pale with terror to see the eyes open and hear the man say quietly, "Ernest, that candle needs snuffing."

One night I had occasion to go after a box of matches. I passed through a room which was temporarily used as a morgue. There lay the bodies of seven men, nearly all young, and every one of them, I was told, had died from violence the day previous. They were lying here in the basement of a New York hospital, awaiting post mortem examination and burial. It is quite common to pinch the lower extremities to test the œdematous condition of a fresh cadava. As I passed one of them I happened to give the foot something of a twist or pinch, when the owner sprung up from the board and with a profane ejaculation exclaimed, "What are you doing here?" I thought it was more of a mystery what *he* was doing there, the living among the dead. It was the biggest scare I ever had.

The question returns, "How can we distinguish death from catalepsy, the trance in which patients have lain for days, and other abnormal conditions that simulate death?"

There are facial signs that are prophetic

of dissolution. Motion is abolished and generally sensation, as when one dies at the brain. The eyes sink, the temples grow hollow, the pupils dilate and the jaw sometimes falls by its own weight, as the inhibition of cerebral action becomes complete. At other times the dying will bring the teeth together so firmly that it is difficult to open the mouth. The face is sometimes livid, but oftener pallid and ashy. The respiration, pulse, heart action and temperature are also significant. Breathing is apt to be hurried at the last, the pulse flutters and is irregular, missing some beats, as may be shown by the sphygmograph. If the encephalon be gorged, the lungs are robbed of blood and the dying gasps. If the blood rushes to the lungs the face is flushed. There are three vital centers, the "Tripod of Life," the heart, brain and lungs. Death at either center will have its own characteristic features. One more interesting fact is this, the flexors dominate the extensors, and the thumb and fingers are bent inward, while the muscular contraction of the intestines may overcome the rectal sphincters and evacuate their contents, *in articulo mortis*.

The following are some of the determinative tests used to discover whether these physical phenomena of death are sufficient to settle the fact. A feather has been held before the mouth to see if the breath continues, or a warm mirror to see if moisture gathered. A glass of water has been placed on the epigastrium and watched to see if there be any oscillations. Maculæ and rigor mortis are more conclusive signs. The latter begins with the jaw, neck and upper extremities and proceeds downwards and disappears in the same order in about forty-eight hours, usually. The heat of the body sometimes rises from 105° at death to 110° after death, particularly in sunstroke and lobæ pneumonia. Decomposition, of course, is an absolute sign of death.

F. F.

The writer of the above is a medical professor who has had over 3,000 autopsies to perform in and about New York city. His observations are worthy of attention. While cases of premature interment are extremely rare, they do occasionally occur through haste, as in epidemics, and at other times through mistakes of medical men. Our author is authority for the statement that in an autopsy made by another surgeon

in New York, the heart was found beating after the thorax had been opened. An undertaker in Philadelphia says that he was ordered to put a body on ice, but declined to, assured that life yet remained. After two days he was forced to freeze the body, though still warm. He says: "If the same thing happens again I will let some one else do the burying." At about the same time another case he was cognizant of, when too late it was found out that the burial was premature. The victim had torn her flesh and plucked out her hair in her struggles for liberty.

Making all discount possible for exaggeration, the subject is one of sufficient importance to awaken the attention of scientific and medical men. The topic was before the N. Y. Academy of Anthropology at the February meeting. A writer in the *Popular Science Monthly*, January, 1880, presents a vast array of facts on this theme.

EVOLUTION.

PROF. R. U. PIPER.

It would hardly be reasonable to expect a serious answer to statements like the following, set forth in a communication in the January number of MIND IN NATURE, on the "Doctrine of Evolution,"—still, one might be justified, perhaps, in using them as texts on which to comment to some extent, or in order to contrast them with the utterances of men who do think, and for the benefit of those persons who may be influenced by mere assertion, or may be disposed to think that "A book's a book, although there's nothing in it."

"Huxley," says our author, "recognizes the impossibility of establishing certain facts, and hence pronounces the evidence unverifiable." He did not say that it was not demonstrative, however. "Demonstrative: invincibly conclusive (say the authorities). That is to say, a thing or fact may be "invincibly conclusive," and yet "unverifiable." The dictionaries further make "verifiable"—that which can be proved to be true. Hence, "unverifiable"—that which can not be proved to be true. Thus, a thing according to this writer may be in a condition in which it can not be proved to be true, or to exist, and yet the proof that it is true or does exist be "invincibly conclusive."

This sort of reasoning must certainly be

very convenient for a writer who could further say that if stock-breeders could have 100,000,000 years of time to operate "they would doubtless (that is to say, he has no doubt), be able to make in that period a very fine race of horses from a nest of rats."

And this kind of reasoning also answers well for an author (Darwin) who could say: "The quadrumana and all the higher mammals are *probably* derived, etc., and as a sequiter to this *probability* could add:—"In the dim obscurity of the past we can see that the early progenitor of all the vertebrata *must* have been an aquatic animal, etc." "*Must* have been," Why? Oh, for the good and sufficient reason that *all* the higher mammals are *probably* derived from an ancient marsupial animal," etc., and this "probability" so increases our power of vision that we are enabled to look through the darkness of the ages and perceive that "fine old atom molecule of the young world's proto prime" not only developing into "parrots who but prattle" and "asses who but bray," but also into "sages whose *unproved* assertions we have been discussing; for, if we apply the test here as to "what is proved and what is assumed" we shall find the whole fabric melt away like a vision.

Further says our author:—"It (evolution) is entirely demonstrable." "But it is when the order Bimana is the subject of inquiry that special creation becomes unbearable in any manner whatever, its objectionable features multiplying as we reach the species man, where they culminate in one grand climax of total absurdity.

But there is no "absurdity," no difficulty in believing (demonstrating) that the "fine old atom molecule, in size infinitesimal," never seen by human eye, "of the young world's proto prime," contains, and contained within itself the "power and potency" (self-created) for developing all the forces in our cosmos; "All the humans space has room for," all the braying asses, all the prattling parrots, all the sages whose sharpened vision could look across the abyss of time to the beginning of things; "all brute life, from lamb to lion; from the serpent to the dove;"—all thoughts, feelings or emotions, even the soul itself, or if we will, the principle which governs thought.

But in the closing of our author's paper it would seem that he does not mean any such thing, but does recognize a power behind all the multiform agencies which go to make up the Cosmos. That is, that the

Creator endowed matter from the very first with the "power and potency" to produce all the entities he has described, from Maud S. to the tape-worms. For he says, "There is no option for the sincere student of nature, who determines neither to blame nor to praise, but to find the truth; to suppose that the Creator brought this great scheme of things into existence as he now conducts it, by a process of development;—that is to say, He conducts it Himself as He did in the beginning. "Conduct: to guide, lead; applied to things; to direct; to manage (say the authorities)." That is to say, God, the Creator, directs and manages the whole matter in the *present* as he did in the *beginning*; and yet, according to our author, summing up as to the hatching of an egg, he says: "All this is done by a process of egg-development, through its *own inherent forces*, without any *outside agency of a creative character whatever, etc.*" (The italics are mine)

When doctors disagree (or rather when a doctor disagrees with himself) who shall decide?

P. S.—It has been suggested by friends that the paper I have been examining was written with reference to giving us a specimen of Evolutionist reasoning, and that like the "logical one-hoss shay" it is expected that it will tumble into dust at the appointed time;—into "cursed dust," in the language of Swedenborg.

Certain it is, if we apply Principal Dawson's tests as to what is proven and what is merely asserted here, that the whole structure "will melt away like the baseless fabric of a vision and leave not a wrack behind."

THE soul contains in itself the event that shall presently befall it, for the event is only the actualizing of its thoughts.—*Demonology*.

OF that ineffable essence which we call spirit, he that thinks most, will say least.—*Nature*.

All presentiments that are confirmed by events, give man a higher idea of himself.—*Goethe*.

Man must depart from life as from an inn, not as from a dwelling.—*Cato*.

NEW YORK ACADEMY OF ANTHROPOLOGY.—The work of this body is arranged in three sections, psychology, sociology and archæology. Reports of reading, observations or recent experiments are given each month and then a paper is read and discussed.

At the January meeting, the president drew attention to the concordance of mental states, and muscular movements as an established fact in science. As a general truth it never was doubted. It is the veriest truism; but in its finest revelations and more subtle relations the subject is comparatively new. We are beginning to trace to trophic and thermal centers, to reflex and kinetic action, certain inhibited or perverted functions. The facts of facial asymmetry in the three zones of the face afford one field of study. These three belts are supposed to be respectively related to cerebral, respiratory and visceral conditions. The corrugated brow often attends an effort to recall sometime to mind. The *alæ* of the nose and the mouth are very rich in expression, there being 2268 distinct phases according to Delsarte * thrice those of the speaking eye. The lower jaw is a tell-tale thing as every reader of character knows. Isolation is a factor in "the long face" and malnutrition another.

Francis Warner M. D. in his "Physical Expression" recently reproduced in this country by the Appletons, deals with this subject in an interesting way and presents diagrams of muscular motions in normal and pathological states, similar to those of the Sphygmograph.

"The Correlation of Mental and Physical Forces" was discussed at the February meeting by Professor Archibald Cuthbertson, formerly of Columbia College, an abstract of which may be expected next month.

* DRILL BOOK IN VOCAL CULTURE, by Prof. E. P. THWING, Ph. D., Member Victoria Institute · N. Y. Academy of Sciences, etc. Eighth edition; S. W. Partridge & Co., London; Brooklyn, N. Y., 156 St. Mark's Avenue. In paper, 25 cents.

Some men are like pyramids, which are very broad where they touch the ground, but grow narrow as they reach the sky.—*H. W. Beecher*.

How strange and awful is the synthesis of life and death in the gusty winds and falling leaves of an autumnal day.—*Cole-ridge*.