

thinking" or of free enquiry, but an unconditional devotion to truth. Does science demand free thinking? Perhaps the answer may be "yes," and there can be no objection provided that free-thinking means free enquiry, and the absence of all compulsion. But the free-thinking that is demanded by science means at the same time an absolute obedience to the laws of thought. The same free-thinking, which is at the same time an unconditional surrender to truth, is the cardinal demand of religion. The great reformer Martin Luther called it the freedom of conscience and considered it as the most precious prerogative of a Christian.

*The Open Court* does not propose to conciliate science with certain Christian or Mosaic or Buddhistic doctrines. This would be absurd and such an undertaking would justly deserve a severe criticism, for it would be truly a predetermined conclusion in the sense that our critic intends. It would "imply a defect of intellectual integrity and undermine the moral health." Autocracy and individualism are not reconcilable, but socialism and individualism are reconcilable. Order and liberty are not such deadly enemies as may appear at first sight. Superstition and science are irreconcilable, but religion and science are not irreconcilable. Indeed, the history of religious progress is a constant conciliation between science and religion.

Religion and science, it is maintained, must "seek each a self-development in its own interest." Certainly it must, but this does not prevent that which we deem to be religious truth being constantly examined before the tribunal of science, and that which we deem to be scientific truth being constantly referred to religion. Our critic seems to have no objection to religion and science coming into accord, but he proposes to wait until they approach completion. If this maxim were universally adopted, there would be no progress in the development of religion. Is not "completion" a very relative state? Waiting for completion would be about equivalent to stopping all social reform until mankind has reached the millennium. Every social reform is a step onward along the path to the millennium, and every conciliation between science and religion is a step onward in the revelation of living truth.

The religion of the middle ages was a religion of dualism, it proposed the duality of truth. The religion of the future will be a religion of Monism; and what means Monism? Monism means unity of truth. Truth is invincible. It never contradicts itself, for there is but one truth and that one truth is eternal.

#### A SHEEPISH TAX.

BY F. M. HOLLAND.

THERE is a good deal of romance about the shepherd with his pipe and crook. Our American shep-

herd's crook, however, throws too heavy a burden of taxation upon our people; and we pay him exorbitantly for piping the tune to which we all have to dance. How badly the poor are fleeced to enrich the wool-grower, was shown in my previous article;\* and I now wish to show how the tax for his benefit is actually collected, and also what effect it has upon the prosperity of manufactures and on rates of wages in factories.

This duty, in the case of merino and other fine wool, such as is used for clothing, is ten cents a pound for grades not worth more than thirty cents a pound; for more costly grades the rate is twelve cents; and the average increase of price in consequence is fifty per cent. Coarse wool, used for carpets, is taxed two and a half or five cents a pound, according to value; and in this case the duty amounts on the average to about twenty-five per cent. The result is higher prices of American as well as foreign wool, and also of all woolen goods, wherever manufactured. This is precisely the way in which the duty was meant to act; and if it did not work so, it would be abolished at once. The duty on wool was intended for the benefit of the grower; and the only way it can help him is by keeping up the price of his fleece. His gain is his neighbor's loss. Even protectionists admit that "protection raises prices"; and they would not want it if it did not.

It is estimated that one-half of all the wool used in America is imported, partly in the form of woolen cloth. In taxing the half which is imported, government raises the price of the half which is grown here also, and of all the woolen goods sold in America. Every dollar thus raised by the government costs the people two dollars, one of which goes as extra profit to the wool grower, who could not be protected otherwise. This makes the tax on wool twice as oppressive as if it were laid on articles not produced in this country, like rough diamonds. They come in free of duty; but every dollar taken from our people by taxing them would go straight to the government.

It must also be noticed that this tax on wool is not intended to protect the manufacturer in the least; and its actual effect is to make him pay twenty-five or fifty per cent. more for his wool than his rivals do abroad. Every other nation which has factories lets them have wool and other raw materials free of duty.

Our National Association of Wool Manufacturers complained, some years ago, that they were thus put under "disadvantages from which our foreign competitors are wholly exempt;" and the Wool Consumers' Association, largely made up of owners of factories in New England, has asked in vain of Congress, "that American industry may be relieved of this un-

\* See No. 150, of *The Open Court*.

condition of our nerve-activity. It is not the cause of a man's will, but it is the expression of a certain state of mind, which, under normal conditions, will be followed by an act of will, be it a real muscular motion, a spoken word, which of course is muscular motion also, or the inhibition of a motion.

Every idea considered not as a mere feeling but as a brain-structure fit to serve as an irritation to action (we call such ideas impulses), will, if not inhibited, pass into an act, whether it be connected with consciousness or not. Consciousness itself is not the motion that causes the transmission of nervous irritations, it is not the agency that discharges the inner-ervation for contracting the muscles. It is a phenomenon that merely accompanies the physiological process of a nervous transmission through the ganglion.

It is not the shadow that makes our body move; it is the body that moves; and the shadow accompanies the movement. It is not the ticking of the pendulum that sets the wheels of the clock in motion, but the swinging. The motion of the clock is produced by the pressure of the weight which is transferred to the pendulum in the form of vibrations. The motion of our limbs is caused through the transmission of a nervous perturbation, setting free a part of the potential energy stored up in our motor nerves and in our muscles; but there is, properly speaking, no change of "consciousness" into "will," no change of "feeling" into "motion."

When we compare consciousness to the ticking of a pendulum, we do not wish to maintain that consciousness is as superfluous and indifferent as the ticking of a pendulum. We merely express in this simile that it is destitute of motor power. Although consciousness is destitute of motor power, it is nevertheless of paramount importance. There is nothing redundant in nature; how can consciousness be a superfluous factor in the constitution of man's mind?

Consciousness may be compared to a light. It affords in novel and difficult situations the possibility of circumspection. The light in a machine room will enable the attendant engineer properly to regulate the motions of the engine; but the rays of the lantern have no locomotive power upon the wheels and piston, so as to set the engine into action. If the engineer is a novice, he cannot do his work without light, but the expert knows how to direct the lever even in the dark. The consciousness of mental states is an indispensable condition of the proper direction of will, but it does not possess motor power.

There appeared some time ago in *The Open Court* an interesting discussion, conducted on both sides with great ability, between Professor E. D. Cope and Dr. Montgomery on the subject "Can Mind

move Matter?" Professor Cope answered the question in the affirmative, and Dr. Montgomery in the negative. But it appears that both used the word mind as a synonym of consciousness. We should answer the question "Can Consciousness move Matter?" with Dr. Montgomery in the negative, for consciousness possesses no motor power. Yet the question "Does consciousness enable the mind to control certain motions of matter?" (so Prof. Cope understood the question) we should answer with Professor Cope in the affirmative.

We understand by mind, as the term is generally used, not consciousness alone, but the whole mentality of man. It is a synonym of soul, and as such we understand by mind a special form of an organism, the activity of which is accompanied with states of consciousness. The expression "soul" appears preferable, if we think of emotions chiefly, while "mind" has a special reference to the intellectual qualities. If "mind" is used to mean man's thinking organ, not as mere form pure and simple, nor as mere feeling, as mere consciousness, which as a matter of course exists as an abstract conception only, but as real brain structure, in the sense of living nerve substance of a special form, freighted with potential energy, and representing a special combination of ideas; there can be in that case no doubt about it that mind does move matter. *Mens agitat molem!* says the Roman poet,\* and it is a very old truth. The faculty of moving matter is indeed the main thing that gives value to the mind of man, for it is his mind that enables man to control the world about him.

P. C.

## THE SUPERSCIENTIFIC AND PURE REASON.

*Fundamental Problems*, we find, has been a surprise to a reviewer of *The Nation*. He says:

"A book of newspaper articles on metaphysics, extracted from Chicago's weekly journal of philosophy, *The Open Court*, seems to a New Yorker something singular. But, granted that there is a public with aspirations to understand *Fundamental Problems*, the way in which Dr. Carus treats them is not without skill. The questions touched upon are all those which a young person should have turned over in his mind before beginning the serious study of philosophy. The views adopted are, as nearly as possible, the average opinions of thoughtful men to-day—good ripe doctrines, some of them possibly a little *passés*, but of the fashionable complexion. They are stated with uncompromising vigor; the argumentation does not transcend the capacity of him who runs. . . .

"On the whole, *The Open Court* is marked by sound and enlightened ideas, and the fact that it can by any means find support does honor to Chicago."

Although the reviewer speaks so kindly of *Fundamental Problems*, he has also faults to find. He discovers some inconsistencies:

"If there be here and there an inconsistency, it only renders the book more suggestive, and adapts it all the better to the needs of the public."

It is not the kind praise allotted to the book which prompts me to take notice of this review, it is the inconsistencies with which it is charged. Some of them have reference to the most 'fundamental problems.' Upon the solution of these problems the treatment of many less important problems depends. The critical

\* Virgil, Aen. vi. 727.

parts of the review appear to me of sufficient importance to be discussed in detail.

## THE SUPERSCIENTIFIC AND THE CONDITIONS OF SCIENCE.

The reviewer says of the book:

"The theory it advocates is superscientific."

Here I must protest against the word "superscientific." It is none of my invention. All the combinations with "super" or "hyper," it appears to me, are very useful words if employed in the domain of ethics. Morality is the constant struggle to higher planes; the moral man is always engaged in improving himself as well as the conditions of human existence. Accordingly ethics must teach us to look above, it points *sursum*. It attempts to raise man to a higher and nobler existence; it instructs him how to transcend the present state and shows to the individual a realm of superindividual interests, in accordance with which the individual must regulate his actions. Whatever be the merit of the combinations with "super" and "hyper" in the domain of ethics, they are in the domain of philosophy dangerous words; for they are full of vagueness and should be regarded with suspicion.

Judging from the context, it is most probable that our reviewer limits the term "scientific" to "empirical". Botany, in that case, would be a science, but logic would not. Botany is a natural science, it rests upon empirical knowledge; logic is a theory of formal thought, it is not properly scientific, for it is not empirical; yet it is superscientific. The superscientific is applicable to all sciences, and it is the condition of all sciences. The reviewer continues:

"There is no chaos, and never has been a chaos," exclaims the author, although of this no scientific evidence is possible. The doctrine of 'the rigidity of natural laws . . . is a *κῆρυξ ἐς ἀεί*.' Yes, emphatic as this is, we soon find the *κῆρυξ ἐς ἀεί* is nothing but a regulative principle, or 'plan for a system.'"

The phrase, "emphatic as this is," contains a tinge of disapproval, as though the statement were made boldly. If there is any boldness in the statement of the rigidity of law, our critic must not blame the philosopher alone, but also science. Science has in these last centuries (nay, it has always ever since science was science) taken its stand upon the rigidity of law. Upon the rigidity of law depends the uniformity of nature, and without the uniformity of nature science would be impossible. The philosopher may either recognize science or he may not. If he does not, he denies the possibility of knowledge and his philosophy dissolves into scepticism. The sceptic declares that we can have no science, we can never know for certain; we can never be sure of anything, not even that  $2 \times 2 = 4$ ; we can have opinions only. Two times two appears to us always to make four; yet it may be that to the people of the planetary system of Sirius twice two appears as five. Science cared little for sceptical objections; it progressed, and the progress of science has practically justified the boldness of the scientist.

A philosopher who does recognize science may either blindly accept or critically investigate the conditions of science, the premises from which science starts. He who blindly accepts them takes them to be too grand and divine for investigation. Philosophers of that kind are called by Kant "dogmatists." The dogmatist rests satisfied with assertions. Kant followed neither the sceptic nor the dogmatist, he proposed a middle way between both; he proposed the critical method, and herein we followed Kant.

The duty of philosophy is not to construct a system of assertions, nor is its aim to undermine the possibility of knowledge and end in eternal doubt. As the duty of science is to systematize methodically the facts in a certain sphere of experience; so the duty of philosophy is to explain this systemization, to show its conditions, and to analyze the methods by which it is done. The object of philosophy accordingly is mainly an investigation of

those "superscientific" premises upon which science is based. The whole interest of philosophy is centred in what we have defined as formal thought; for the analysis of formal thought, as well as an inquiry into its origin and its nature, teach us the ultimate *raison d'être* of the rigidity of law.

The rigidity of law—perhaps the most important superscientific proposition—is indeed a *κῆρυξ ἐς ἀεί*, i. e. "an intellectual possession of humanity that has come to stay for good"—not according to the private opinion of the author of *Fundamental Problems*, but according to the procedure of all scientists in all the many different branches of knowledge. The author of *Fundamental Problems* has attempted to investigate the tools with which science works not so much for the purpose of assuring the scientist that his tools are good—indeed, many scientists do not care about such an assurance, for experience has taught them to rely upon their methods, whatever be their philosophical import—but for the sole purpose of supplying the want of explanation concerning a few simple facts with which everybody is familiar, even he who cares little for understanding them. There was, for instance, one very simple question which troubled me even at an early age, the question "Is twice two always four, and if so, why?" That question has found an answer satisfactory to my mind in *Fundamental Problems*. If the statement of the solution appears to a certain class of readers too positive, I can best excuse it by a quotation from Goethe, who says:

"If I am expected to listen to the opinion of some one else, it must be positively pronounced. I have enough of the problematical myself."

Positiveness in statement is an economy in the exposition of thought, and no fault should be found with emphasis laid upon truths that remain wonderful and great even if they have become most lucid to our comprehension.

My reviewer seems to be disappointed that the *κῆρυξ ἐς ἀεί* is "nothing but a regulative principle or plan for a system." Is this indeed so little as to be called "nothing but"? Consider the importance of a plan, of a regulative principle, of a method informing us how to proceed. Let a man be lost in the wilderness; let him, then, find some means of orientation, of calculating the place where he is, and the direction he has to pursue. Would he consider that as "nothing but a plan"? This "nothing but a plan for a system" is all-important to science, and can appear only little to him who imagines that science is in possession of a magic key to omniscience.\*

## PURE REASON AND EXPERIENCE.

Further on we read the following criticism:

"Like a staunch Lockian, Dr. Carus declares that 'the facts of nature are specie, and our abstract thoughts are bills which serve to economize the process of exchange of thoughts.' Yet these bills form so sound a currency that 'the highest laws of nature and the formal laws of thought are identical.' Nay, 'the doctrine of the conservation of matter and energy, although discovered with the assistance of experience, can be proved in its full scope by the pure reason alone.' When abstract reason performs such a feat as that, is it only economizing the interchange of thought? There is no tincture of Locke here."

Locke's theory is generally, and perhaps rightly, considered as sensationalism. He proceeds from the rule that nothing is in the mind which was not before in the senses. (*Nihil est in intellectu nisi prius fuerit in sensu*.) Sense-impressions are the origin and beginning of all knowledge. Locke says:

"Whence hath the mind all the materials of reason and knowledge? To this I answer in one word, from experience; in that all our knowledge is

\* We omit to discuss here, for a second time, the problem of spontaneity of motion and the rigidity of mechanical laws. My critic says: "When we afterwards read that, 'in our opinion, atoms possess spontaneity, or self-motion,' we wonder how, if this is anything more than an empty phrase, it comports with rigid regularity of motion."

The subject has been discussed in the article "Feeling and Motion," (No. 153 and No. 154), and has been mentioned again in the discussion with Dr. Montgomery (No. 156, on page 2466, of *The Open Court*).

founded, and from that ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected by ourselves, is that which supplies our understanding with all the materials of thinking. These are the fountains of knowledge from whence all the ideas we have, or can naturally have, do spring—that is, sensation and reflection."

It appears that Kant in the most essential point agrees with Locke. The very first sentence in his "Critique of Pure Reason" declares:

"That all our knowledge begins with experience there can be no doubt. For how is it possible that the faculty of cognition should be awakened into exercise otherwise than by means of objects which affect our senses?"

Locke wrote in a time when the philosophers of mankind were still under the influence of Descartes's theory of innate ideas. So he found it necessary to inculcate the truth, that all knowledge springs from "experience—that is, sensation and reflection."

Kant made a distinction between experience and pure reason. He confined experience to sensation and placed it in opposition to that which Locke calls reflection. Kant says: "Although all our knowledge begins with experience (i. e. sensation), it by no means follows that all arises out of experience (i. e. sensation)." Kant then arrives at the conclusion that there is some knowledge altogether independent of all sensory impressions. "Knowledge of this kind," he says, "is called a priori, in contradistinction to empirical knowledge, which has its sources a posteriori, that is, in experience (sensation)."

Knowledge a priori is a learned expression for that which we would prefer to call "formal thought." Knowledge a priori, said Kant, is the condition of all experience, for there can be no sensation without the forms of understanding. In other words, sense-impressions by themselves are meaningless; they have to be interpreted in order to be conceived as sensations. A sensation is a sense-impression felt to be and interpreted as the effect of some external object. But in order to achieve this mental act of changing a sense-impression into a sensation a sentient creature wants something of that faculty—be it in ever so rudimentary a state—which is called understanding.

John Stuart Mill did not see the difficulty of the situation. He based all experience upon the principle of causation, and when he was required to give an account of the principle of causation, he declared that it was derived from experience. This is called a vicious circle.

Schopenhauer was aware of the fact that the principle of causality is the condition of all experience. "We do not see with our eyes," he said, "but with our understanding." Judging from certain effects, we conclude that there are causes which produce them. Taking this ground, he believes in the priority of the principle of causation in mind, and he considers it as a real innate idea in the oldest and most antiquated sense of the term.

The term experience should be used in a wider sense, than is done by Kant; it should be used in the sense of Locke. Experience includes both sense-impressions and reflections, sensations and formal thought, knowledge a posteriori and knowledge a priori. One single sense-impression cannot constitute knowledge; it can not (as Schopenhauer proposes) be conceived as the effect of a cause. It remains a single and isolated sense-impression. But two or several sense-impressions constitute a very weak beginning of that faculty (or rather function) which in its further development is called understanding. The forms of sense-impressions and the relations among sense-impressions are also parts of experience. The formal and the relational are the sources from which springs pure reason. From these insignificant beginnings all the formal sciences, can be and have been developed.

Animals that can frame word-symbols to represent certain mental pictures, develop into rational beings; and rational beings that learn to abstract the formal element of thought and apply the rules of formal thought to experience develop into scientists.

Formal thought not only aids us in the classification of the data of experience; it also assists in the amplification of knowledge. It is this wonderful quality which makes formal thought so valuable. For the laws of formal thought possess universality and rigidity (*Allgemeinheit und Nothwendigkeit*), and again, it is this wonderful quality—apparently mysterious and yet founded in the nature of form—to which formal thought owes that odd name "a priori," because we know of all formal laws that they hold good under any circumstances. We know that twice two are four and will be four as long as cognition lasts and even longer. A reversion of the formal laws is inconceivable; for, verily, till heaven and earth pass, one jot or one tittle shall in no wise pass from the formal laws. They are irrefragable, and all the changes that are taking place around us are nothing but a constant fulfilment of the formal laws.

Locke did not recognize the all-importance of the formal element in experience—for pure reason is nothing but a system of the formal element of experience. Nevertheless, the main principle of his method, viz., that experience is the source of all knowledge, has rather been confirmed than refuted in the further progress of philosophy.

Pure Reason, or the mental function of formal thought does not stand in opposition and still less in contradiction to experience. It has grown from experience and is an integral part of experience in the sense defined above. For we understand by pure reason agreement with the formal laws of existence. The forms of things, the relations among them are also data of experience; they are not shaped by us with arbitrary liberty, they are given to us by experience. We own them in our minds as the forms of our thoughts; we have abstracted the laws of formal thought by reflection and introspection. The formal element was imported into our minds together with the sense-impressions. We do not deny that mere isolated sense-impressions can not generate knowledge; and we must not look for the source of pure reason in the sense element of the sense-impressions, but in the formal and relational element, which is imparted to sentient beings through a constant repetition of sense-impressions of various forms. The formal accordingly is ultimately derived not from sensory sources, but nevertheless from experience. It has been gained by abstraction; i. e., we have arrived at it by omitting in our experience the sensory element and by retaining the formal alone.

P. C.

#### CONCLUDING REMARKS IN THE DISCUSSION "IS MONISM UNTENABLE."

BY DR. MONTGOMERY.

I.

I THINK the importance of the subject involved in our philosophic passage of arms justifies another round, which I hope you will not decline.

Of course, I did not expect we would come to an understanding regarding fundamental problems. Indeed, I was certain that my old-fashioned view of what Monism should be, could nowise find favor with your more modern ideas. But I failed to foresee that you would be able so completely to expose the absurdity of almost every sentence in which I endeavored to convey my thought, or rather the confusion of thought of which you have superabundantly convicted me. No wonder, that, after so universal a deluge of reproof (*Sündfluth*), I find myself stranded, as you say, "in a vast labyrinth in which I have lost my way"; and, worst of all, without any species of thought saved for future generation.

Often before misgivings overcame me, that, in the philosophical isolation in which I am passing my days, I was losing the guiding thread that leads out of the maze of contradictory opinions to progressive and consistent views. But from time to time kind friends were good enough to reassure me to some extent. Not long

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