POPULAR SCIENCE MONTHLY.

MAY, 1876.

SOCIETY AN ORGANISM.1

BY HERBERT SPENCER.

THE question, What is a society? has to be asked and answered at the outset. Until we have decided whether or not to regard a society as an entity, and until we have decided whether, if regarded as an entity, a society is to be classed as absolutely unlike all other entities or as like some others, our conception of the subject-matter before us remains vague.

It may be said that a society is but a collective name for a number of individuals. Carrying the controversy between nominalism and realism into another sphere, a nominalist might affirm that, just as there exist only the members of a species, while the species considered apart from them has no existence, so the units of a society alone exist, while the existence of the society is but verbal. Instancing a lecturer's audience as an aggregate which, by disappearing at the close of the lecture, proves itself to be not a thing but only a certain arrangement of persons, he might argue that the like holds of the citizens forming a nation.

But, without disputing the other steps of his argument, the last step may be denied. The arrangement, temporary in one case, is lasting in the other; and it is the permanence of the relations among component parts which constitutes the individuality of a whole as distinguished from the individualities of its parts. A coherent mass broken into fragments ceases to be a thing; while, conversely, the stones, bricks, and wood, previously separate, become the thing called a house if connected in fixed ways.

Thus we consistently regard a society as an entity, because, though formed of discrete units, a certain concreteness in the aggregate of

¹ From advance-sheets of the "Principles of Sociology," Part II., "The Inductions of Sociology."

those which are by many still considered to produce the most perfect of hammered work, the "wiper" was so shaped as to throw the hammer very high. The ascent was checked by a powerful spring, and thus the ascensional energy was reversed and added to the accelerating force of gravity downward; and so not only was the intensity of the blows increased, but their frequency also. This spring took the place of that muscular energy which brought the hammer down with intensified effect.

Hence, also, in steam-hammers, all muscular effect to intensify the blow is transferred to the steam, and all consequences of centrifugal action, whether from hand or tilt hammers at the ends of arms, are removed. Further, in steam-hammers nowadays, the steam operates to check as well as to intensify the blow. This checking action is called "cushioning," and it seems to do what an elastic handle does in a sledge-hammer: it relieves the rigid fabric or erection from jar or destruction. "Cushioning" is brought into play by admitting steam for the purpose of checking the intensity of the blow due to the action of gravity alone, or of steam combining with gravity upon the hammer. Hence the perfect control over large steam or air worked hammers, and the rapidity with which the intensity of the blow may be changed. Such control as this over a sledge-hammer is beyond our bodily powers. We may intensify the blow, but we cannot, except just experimentally, and for the purpose of display, bring the restraining power of the muscles to diminish the energy of the descending hammer .- Journal of the Society of Arts.

PREPOSSESSIONS FOR AND AGAINST THE SUPERNATURAL.

A CRITICISM OF DR. CARPENTER.

By JAMES McCOSH, LL. D., PRESIDENT OF PRINCETON COLLEGE.

DR. CARPENTER is master of the domain which he has appropriated for the last age, that of physiology. He has done more than any living man, not exactly to advance, but to combine and expound, the discovered truths of his science. But he is ever impelled by his intellectual sharpness and his cultivated tastes to take excursions into other regions, and I am not sure whether he has there been so successful. In particular, as dwelling so near the territory of mind, he has ever been crossing into it. He has made a very careful survey of the border-country, and given us the result in his valuable work "Mental Physiology." Ever since the palmy days of mesmerism and table-

turning, he has been enlarging on that "expectancy" and "prepossession" which have been so perverting the vision of many in their observation of facts. He will not be offended with me if I hint that it is just possible that he himself may unconsciously be under the influence of these, when, on finding how much can be explained by physiological processes, he imagines he can account in the same way for purely mental operations.

On some points Dr. Carpenter has been vigorously opposing the materialism of the day: "In reducing the thinking man to the level of a puppet, that moves according as its strings are pulled, the materialistic philosopher places himself in complete antagonism to the positive conviction, which, like that of the existence of an external world, is felt by every right-minded man, who does not trouble himself by speculating upon the matter, that he really does possess a self-determining power, which can rise above all the promptings of suggestion, and can, within certain limits, mould external circumstances to its own requirements instead of being completely subjugated by them."-("Mental Physiology," § 5.) By such utterances, worthy of the son of Lant Carpenter, of Bristol, he has gained the confidence of a number of anti-materialistic and religious men, who may find, however, that he is conducting them into a place between two armies where they are exposed to the fire of both. At this point he has been abandoned by the disciples of Bain, Huxley, and Tyndall, by M. Ribot, and the writers in the Revue Scientifique, the organ of the school in France who wonder that he should stop where he has. For, if material agency can generate so much, can account for imagination and genius generally, can explain our higher intellectual efforts of judgment and reasoning, can fashion conscience and gender the obligation of duty and the sense of guilt, and our reverence for the unseen and the sublime, why may it not also produce will, an operation evidently so swayed by causes? They who follow Dr. Carpenter will soon find that they have very insecure footing, and must either go forward and identify will, as they do intelligence, with material agency, or retreat so far back as to hold that there are many other operations, such as the discernment of higher truth and higher goodness, which cannot be derived from atoms. If there be such an agent as will—and I agree with Dr. Carpenter in thinking that consciousness testifies in its behalf—then we must provide a compartment for it, and we may place there reason and our ideas of the good, the infinite, and the perfect.

Dr. Carpenter's views of the attributes of the mind seem to me to be very inadequate. They were formed about the time when Hartley's "Observations on Man" and James Mill's "Analysis of the Human Mind" were reckoned the highest authorities among the Unitarians who felt Priestley's influence. Dr. Carpenter evidently looks upon the operations of the mind as composed of sensations and ideations. His view of both these is very insufficient. In all sense-per-

ception, there is more than mere sensation considered as a feeling; there is knowledge of something extended. Then along with every perception there is consciousness of self as perceiving. According to the school of James Mill, sensation is a mere feeling, and ideation is a reproduced sensation. Memories, imaginations, conceptions, are all ideations; nay, judgments and reasonings are only combined ideations. The sense of duty is the product of association of ideations founded on sensations of pleasure and pain. Dr. Carpenter proceeds, in fact, on this psychology. But, to his credit, he draws back at a certain point. He stands up resolutely for a self-determining will which he places above both sensation and ideation. When asked for his proof, he appeals very legitimately to a "conviction" felt by every mind. But a like conviction certifies that there is vastly more than he sees in operations which he has passed over so lightly; that in memory the idea of time is involved, as every thing is remembered as happening in time past; that in imagination there is a wonderful arranging power; in conception, a grouping power; and in judgment, the discovery of relations such as those of identity, of quantity, and cause and effect, all diving deep into the depth of things, while the conscience gives us an entirely new idea, that of good and evil, and makes us feel that we owe duties to God and our fellow-men. He who overlooks these attributes may imagine that he can identify mental operations with physiological; but it is simply because he has not noticed the characteristic attributes of the human mind.

Dr. Carpenter did essential service to science, to religion, and I may add to common-sense, by exposing the alleged evidence in behalf of mesmerism and table-turning. He showed that, in regard to these phenomena, there were a "prepossession" and an "expectancy" which led persons to believe and affirm, without any valid proof, that they witnessed certain actions. I cannot see, however, that Dr. Carpenter has here unfolded any new truth, or that he has explained the nature of this "expectancy"-certainly no light can be thrown upon it by physiology. It is to be accounted for by purely mental causes, by a hasty judgment into which people are led by the association of ideas, guided by the wishes or feelings of the heart. If we have been accustomed to see two things together, on one of them presenting itself we are apt to look for the other, and believe that this other is present when we have no valid proof. It is thus that, associating the standing on a steep precipice with a fall, many tremble when placed there, even though there be no real danger. It is thus we account for the apparent deception of the senses. We rapidly infer that an object seen across an arm of the sea or a level plain is near, following the rule, usually correct, that an object is near when there are few visible objects between us and it. It is thus that a countryman, seated, and, as he feels, at rest, on a vessel leaving the quay, momentarily reasons that the quay is moving, as he has found that when he is at rest

the object whose image passes over his eye is in motion. It is thus that when a person has come to us habitually at a certain hour, say the postman to deliver our letters, we may readily take some other person who appears at the time for him, and be ready to affirm or to swear that we saw him. It is thus that "the wish is father to the thought;" that is, we are inclined to believe what we wish and expect. It is thus, too, that in times of excitement, personal, political, and religious, we readily fall in with the fancies created by our fears and our hopes. Not only so, but a vivid idea reaching down from the brain may produce the same effect on the sensorium as the external object does through the sense of sight or hearing. Dr. Carpenter has seized an important truth in explaining in this way the erroneous declarations given by honest enough persons believing in mesmerism and spirit-rapping, and ever seeking for signs and wonders. He is right, too, in explaining how strong religious feelings may raise illusory expectations and beliefs, and that the testimony given by persons under their influence may be partial or valueless.

I think I discover proof that even scientific men may fall under the influence of this "prepossession" and "expectancy." I see an example of it in the way in which many of them account for our thoughts and resolutions: they call them reflex action. The discovery of the nature of automatic motion was one of the most important discoveries of the last age. An action goes along a nerve to the centre of a ganglion, and comes out in motion by another nerve: thus, if a frog's foot is pricked, it is immediately drawn in. Of much the same kind is the reflex action of the sensori-motor system. My nostrils are affected by a pungent substance, the action goes on to the sensorium, and a sneeze is the result. So far we have a well-understood process. But can we go on to explain in this way our special mental acts? The language used by some physiologists is fitted to leave the impression that all mental action is the reflex of some action from without, probably a sensation. Let us look at a case. I receive a letter informing me that a friend at a distance is in deep distress, needs me to defend him by my presence, my purse, and my counsel, against a false accusation, and I hasten to his assistance. Is all this merely a reflex action called forth by the appeal in the letter? Let us carefully inquire how much and how little physiology can explain. It can show how the writing in the letter, after passing through the eye, is reflected on the retina, thence carried through the optic nerve to the sensorium, thence it may be transmitted to the gray matter at the periphery of the brain, and produce there, it may be, some motion or new arrangement of the cells. But it can go no farther. When I understand the letter, when I comprehend the position of my friend, when I conclude that the accusation against him is false, when I feel that I ought to assist him, and for this purpose travel a long way and make many sacrifices, we have come to processes that cannot be explained

by any external impulse; which can as little be accounted for by reflex action as they could by gravity or by chemical affinity. Then there are eases in which the action originates within, with no prompting from without. I awake in the morning and I think and conclude that some good cause, the cause of liberty, or of my country, or of religion, requires me to take a bold, decisive action, and I hasten to put my purpose in execution. How absurd to call this, with some physiologists, a reflex action! That able men should have fallen into this error can only be accounted for by a law of "expectancy;" they have explained so much by their law, and they think that they can explain everything.

Dr. Carpenter has unfolded, as Hume had done a century ago, the tendencies which predispose man to believe in preternatural occurrences. But are there no "prepossessions" and "expectations" which incline some scientific men in the present day to account for all things by natural agency, and prejudice them against calling in any thing preternatural? The business of science is to look into the causes of obvious or recondite phenomena, and, proceeding in the right method, they have discovered the natural causes of events which many regarded as supernatural. The men who have explained lightning and mysterious diseases, and resolved light into vibrations, and detected the composition of the sun's atmosphere, and of the distant stars, are led to spurn at the very idea of there being any thing which cannot be accounted for by mundane agency. Then they have seen, or heard, or read, of so many cases of religious pretension and imposture that they at once set down every reported case of divine interposition to illusion or delusion. Some have gone the length of maintaining that a miracle is not only an improbability, but an impossibility. A "prepossession" is produced, an "expectancy" is created, that the miracles of Scripture may be solved by some natural means. In the last age Paulus labored to prove that Jesus accomplished his cures by taking advantage of the secret agencies of Nature. But this theory has long ago been set aside by every one as inconsistent with the training, the position, and known character of Jesus. Then the mythic theory was started and stretched to its utmost capacity by Strauss; but it has been shown that no myths ever had the consistency, the purity, the spirituality of the gospel narratives, parables, and doctrines. Now it is averred that historical proof is wanting of the early date of the books of the New Testament. This objection has been met already by the great scholars of Germany, and is being met by Dr. Lightfoot and others among English-speaking divines. It is shown and is admitted that some of the epistles of Paul must have been written by their reputed author, and that they presuppose a belief throughout the Church of the leading events in Christ's life, and of a perfected system of evangelical belief. If the epistles are genuine, so must be the correlated Book of Acts, with its wonderful

story of the spread of the gospel, the only "working hypothesis" to explain the facts. The synoptics bear internal marks of being genuine; give a consistent tale to account for the state of things as detailed by Paul and the Book of Acts; and have external testimony accumulating in their favor derived especially from the controversies with the early heretics. Even John's gospel is brought within a hundred years of our Lord's death, almost certainly in the first century, is shown to be as little inconsistent with the synoptics as Plato's Socrates is with Xenophon's Socrates, and breathes an air so superior to that of the Apostolic Fathers, that we see the one to be heaven-deseended, the other to be the product of imperfect human nature at a time when the minds of Christians were saturated with divine truth. It is clear that the "expectancy" of accounting for the life of Christ by human causes has not yet been realized. "The Bible," as Beza said, "is an anvil which has worn out many hammers."

Every one knows that all men, scientific and unscientific, are liable to be swayed by prejudice, and Dr. Carpenter has not been able to throw much light on this subject by physiology. Even mathematicians may have their "personal equation." Philosophers, so called, and scientists have fallen under the influence of the idols of Baeon, and not a few other idols which have been set up since his time. Historical investigators, judges, and juries, are all aware of its existence, and should guard against it. We meet with it in our daily intercourse with our fellow-men, and make allowance for it. We see it in the village parties, in political contests, and in the rivalries of rank and trade. To every reality there is a counterfeit; corresponding to every trnth there is a false appearance; if there be one Jehovah, there are many idols. Many, when they look to the dust of the confliet, are tempted to conclude that Truth cannot be found. But, notwithstanding all this, Truth can be found and won by those who court her in the right manner and the right spirit. It is to be remembered, however, that while we are required to demand evidence before yielding our conviction, all evidence is not of the same kind. "I receive mathematics," said Goethe, "as the most sublime and useful science as long as they are applied in their proper place; but I cannot commend the misuse of them in matters which do not belong to their sphere, and in which, noble science as they are, they seem to be mere nonsense, as if, for sooth, things only exist when they can be mathematically demonstrated! It would be foolish for a man not to believe in his mistress's love because she could not prove it to him mathematically. She can mathematically prove her dowry, but not her love." Some scientists in our day are insisting that every thing, even in history, morals, and religion, is to be settled by experiment and caleulation, and would place all truth under the microscope-subject it to the blowpipe, and express it in statistics—and they do not see that the highest truth escapes in the process. The defenders of religion

maintain that in religion a sincere mind will discover the truth with or without scientific knowledge. Many believe that John Bunyan saw as far into spiritual matters as even Newton or Locke, and much farther than Laplace ever did. Some of the highest statesmen and lawyers in Great Britain imagined that they could get more good from the direct and homely appeals of Moody than from those select dilectant meetings in London of savants and litterateurs who have abandoned Christianity, and are seeking to catch some higher religion which evanishes as they would lay hold of it.

Everybody acknowledges that all witnesses are not to be trusted; yet in the common affairs of life, in trials, in history, we do find testimony which we implicitly believe. To the great body even of edueated men, scientific knowledge depends on the trustworthiness of those who have made the observations and experiments. Notwithstanding all their preconceptions, there are declarations of men of science as to matters of fact which we can trust; and it would be a violation of their whole nature, in fact it would be a miracle, were they to deceive us. Dr. Carpenter is entitled to credit for having helped to expose the fooleries and the rogueries of spirit-rapping, rope-tying, and of levitation. But he seems to think that it is possible by the same method to undermine the miracles of the Old and New Testaments. All who have inquired carefully into the subject see that the testimony in favor of spiritualistic manifestations cannot stand the common tests of evidence. But it has been maintained by many of the greatest and most sagacious minds, and by the highest moral minds which our world has produced, that the testimony in behalf of the essential events of the New Testament cannot be set aside without undermining the whole of aneient history. Even at first sight the spiritual séances and performers have no moral prestige in their favor. The products are unworthy of God, and inconsistent with his mode of operation in Nature. We can discover motives enough to induce them to act as they do-such as the desire to create wonder-with some the hope of getting money. How different with our Lord, who, so far from taking advantage of the wonder-loving spirit of the Jews, actually restrained it! The wonders of the spiritualists are performed in rooms prepared for the purpose or in darkness, whereas the miraeles of our Lord were performed in open day, in unexpected eircumstances, and before all men. Then the whole teaching of Jesus was totally above and altogether opposed to the spirit of his age and nation, and only exposed him and his followers to opprobrium, poverty, and suffering.

But Dr. Carpenter has discovered that there is no stronger evidence in behalf of the events of our Lord's life than we have in favor of the miraeles attributed to St. Columba. This is a proof that, amid his multifarious employments, Dr. Carpenter has not carefully surveyed or minutely examined the whole body of Christian evidences. The

only original life of Columba is the "Vita" of Abbot Adamnan, written about one hundred years after the saint's death. All that it proves is, that at the time the life was written Columba was believed to have wrought miracles. But there is satisfactory proof that the first gospels were written while many who had seen the events were still alive. The account given by the abbot was all in accordance with the popular belief, and had not, like the earlier Christian records, to encounter the hostile criticism of keen and able opponents. The voice of the Irish dove was a very pleasant one, but all the good words uttered were got from him on whom the spirit alighted as a dove. We have no utterances of his to be compared with the teachings of our Lord and his disciples. Then we have no record of such lives and sacrifices as are described in the letter of Pliny the Younger in A. D. 112. Nor have we such corroborations as the Book of Acts, such original productions as the Epistles of Paul, such a mighty result as Christianity with its influence over the world, over its education and its civilization, for the last eighteen hundred years.

Dr. Carpenter quotes Locke as saying that we are to regard the doctrine as proving the miracle rather than the miracle proving the doctrine. Locke believed both the doctrine and the miracle. Dr. Carpenter does not tell us whether he believes either. He does not say whether he looks on the doctrine as proving the miracle. The wisest defenders of Christianity have always combined the two, the lofty teaching and the high morality, with the attested supernatural action. In estimating the validity of even common testimony we combine the character of the witness with the facts to which he depones. We look to his manner of testifying, to the consistency and transparency of his statements, even to the name he has borne among his associates and the motives by which he may have been swayed. So in weighing the evidence we have for Christianity we are entitled to combine the truth testified to with the testimony. We do not choose to separate the record of miracles in Matthew from the Sermon on the Mount. We are prepared to believe that he who uttered those bold and transparently sincere and pure precepts could not have been guilty of deceit. It is clear that Jesus claimed supernatural power. If there be any truth at all in the accounts of him, in fact, if there ever was such a person as Jesus, it is clear that he claimed to work miracles. His claims are found imbedded in the heart of discourses which contain his loftiest ideas, moral and spiritual, far beyond the conception of the evangelists or the early Christian writers. His discourses are, in fact, his greatest miracle. His acts and words are like the warp and woof of his garment, which is woven throughout and cannot be divided.

The doctrines, the precepts, the providential occurrences, the miracles, constitute a system quite as much as the Cosmos docs. In this system one part supports another, each helps to bear up the whole, and

the whole makes every part cohere. He who assails Christianity has to attack a phalanx. The pure morality fits in to the character of God, revealed as a spirit, revealed as light, revealed as love. The miracles, being almost all of them meant to remove evil, most of them to heal diseases, adapt themselves to the manifest disorder in the world, to our consciousness of sin, and the doctrine which reveals an atonement. The supernatural system is higher than the natural, but it is in accordance with it. The higher joins on beautifully to the lower quite as fittingly as vegetable life superinduces itself on inanimate Nature, as animal life completes vegetable life, as the soul fits into the body. Science and philosophy may not be able to go back to a beginning, but they require a source. It is not more certain that "ex nihilo nihil fit" than it is that what produces must have power to produce. All these later discussions as to force and cause show that there must be some intimate connection between the effect and its cause. Mayer wrought out the grand doctrine of the conservation of force by the principle that "cause equals effect." This is not, as it appears to me, the correct expression of the law, but it points to a deep law lying at the basis of that development which men are studying so eagerly in the present day. All that is in the effect has come from the causes—it may be the successive causes. We are thus carried back to an inherent power, not created by development, but the source or spring of development. This source may surely be declared supernatural. The Bible simply speaks of the continuance of that supernatural in revelation and in inspiration. This supernatural is not inconsistent with the natural; it is the complement of it. The higher world overarches the lower world as the sky does the earth. The world to come consummates what is begin in the present world-provides a place for the immortal soul, and for the body raised to join it.

The conclusion of the whole matter is, that we are to weigh the evidence in behalf of revelation in the same way as we weigh any other evidence, laying aside all "prepossessions" and "expectancies" for and against supernaturalism; and that the evidence for Christianity, so large, so varied, so compact, is not to be summarily set aside by any physiological doctrine sufficient to explain mesmerism and

spirit-rapping.