

SOME GUESSES BY AN IGNORAMUS.

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The average man of science, when he hears this paper read, is likely to exclaim with Pope,—“Fools rush in where angels fear to tread”. I frankly confess myself an ignoramus as to matters of science. I can claim only such superficial knowledge of matters that are commonly classed as scientific, as may be acquired by any busy professional man who thinks, and whose thoughts carry him beyond the boundaries of his own profession. We are surrounded by matters clothed in mystery. To the man who thinks, there is nothing more fascinating than a study of these mysteries. We want “to see the wheels go round”, and to learn what makes them go. As a general thing, however, our thinking can’t carry us very far. We find the problems perplexing, and we are content to leave their solution to men of science, and are prone to accept their explanations as the average orthodox churchman takes his theology,—on faith. Occasionally, however, we find heterodoxy in matters of science, as well as in matters of theology. Somehow some of the explanations do not seem to explain. For instance,—the attempts of science to explain the problems relating to life and evolution fail to satisfy me. This of course may be due to my ignorance, and to my inability to comprehend. Still an ignoramus may have ideas, and though his ideas may be wide of the mark, may there not be times when even ignorance stumbles onto a truth?

All about us are living things, but what is it that makes them live? What is life? All about us are different types of living things, but what is the cause of the difference? Were they all different from the beginning, or did they all begin alike, and have the differences resulted from causes operating since they began? Has man always been man, or did he begin as something else?

I am encouraged to make some suggestions concerning these matters, because as to life science gives no satisfactory answer, and as to evolution many things are advanced that are confessedly mere guess work. When men of science attempt to tell what life is, their answers remind one of the Lord’s answer to Job in the whirlwind,—“Who is this that darkeneth counsel by words without knowledge?” As a rule, they use a multitude of words and end with a guess. Two of the latest pronouncements that have come to my knowledge are by Sir Oliver Lodge and our own Edison. Sir Oliver Lodge, in one of his latest published utterances, says:

“To show that the living principle in a seed is not one of the forms of energy, it is sufficient to remember that that seed can give rise to innumerable descendants through countless generations without limit. It is nothing like a constant quantity of something to be shared, as there is in all examples of energy. There is no conservation about it. The end embodies a stimulating and organizing principle which appears to well from a limitless source.”

In a recent issue of the *Scientific American*, I find an interview with Edison, who says that—

"Life, like matter, is indestructible. There has always been a certain amount of life in this world, and there will always be the same amount. You cannot create life: you cannot destroy life: you cannot multiply life."

Again, he says:—

"I believe our bodies are composed of myriads of infinitesimal entities, each of which is a unit of life, which band together to build a man."

Sir Oliver Lodge does not attempt to tell us what life *is*, but is quite positive that it is *not* a form of energy, and one of his reasons is that it is without limit. Life can create new life through countless generations and without limit. While Edison seems equally confident that there is only a limited amount of life in the world; that there has always been a certain amount, which can be neither increased nor diminished.

Theories of life and theories of evolution, as I understand them, are closely interrelated. While evolution is no longer a mere theory, but is an accepted and a demonstrated fact, the limits within which it is thus demonstrated and accepted are, it seems to me, far from being settled, and it is difficult to determine where fact ends and imagination begins. Thus, we are told by the evolutionist of a germ,—an atom of protoplasm that in some mysterious way and at some time in the dim and distant past appeared in primeval slime, and from which all living things have been evolved, and that this germ was the bearer of life to our globe. Of course evolution, as thus conceived, assumes the pre-existence, somewhere, of this initial germ, this life bearer. If we become inquisitive concerning the life with which this initial germ was charged, they sidestep, and we are blandly informed that evolution does not deal with origins or with beginnings,—it only deals with the way things have gone on since the germ appeared. I find that where knowledge ends, science does not hesitate to guess, surmise and imagine. So various guesses are ventured concerning the germ, with its inseparable companion or property, life: among others, that the original germ may have been wafted to us from space on the wings of an atom of cosmic dust. But as our earth is itself, relatively to the universe, only a speck of dust in illimitable space, this guess only transfers the genesis of the germ to some other speck of cosmic dust, and tells us nothing of the life it carried. Another guess is that through some mysterious process of nature's chemistry, protoplasm happened to form, with life as one of its inseparable properties, and chemists have been industriously trying to learn just how this happened and to make artificial protoplasm, and with it, of course, life. As yet I have seen no record that they have succeeded. But suppose they do? Will that tell us what life is?

And now, with much timidity, as against some of these guesses and imaginings of science, I venture my suggestions, which are, of course, only my guesses and imaginings. To me it seems a certainty that back of all the complexity of that which we call nature, is a supreme intelligence, which is made manifest by the operation of law,—law which so far as we can grasp the idea of infinity is infinite in its operation,—law which in the reach of its grasp, as well as in the certitude of its control, passes any boundary which we have been able to reach with any instrument yet devised,—

whether of things minute beyond the power of the microscope, or of things vast beyond the reach of the telescope, the spectroscope, or the camera, from the suppositious electron on one hand, to the mighty suns and the nebulous star drift of unbounded space on the other. It also seems to me that this certainty extends to all things visible or invisible, animate or inanimate, physical or non-physical, and that all are in the inescapable grasp of that law. If so, all are therefore equally within the comprehension and the design of that supreme intelligence. It also seems to me that while our world is only a comparatively insignificant atom in an apparently boundless universe, the evidence given us by the instruments devised by science shows that that universe is homogenous, and that the differences in its various members is a difference not due to differences in their composition or to laws by which they are governed, but to differences in the stages of their growth or development; that all of the things in that universe have always been, and always will be, including those things to which we give the names matter and force. As the scientist apparently feels justified in using his imagination by way of supplement to his knowledge, so my imagination has included under the terms "force" and "energy" other things than those which conform to the so-called law of the conservation of energy;—such as gravitation, and life, with other possible and probable undiscovered, undifferentiated, or unnamed forces or modes of energy; that nature is only a name for that which lies back of all those things,—that supreme intelligence; that the so-called laws of nature are simply attributes of that supreme governing power or entity, and the so-called forces simply the methods by which that intelligence makes itself manifest. In my ignorance I am able to find in the physical universe only three ultimate and fundamental things, viz: the action of that supreme intelligence of which I have spoken, matter or substance, and force or energy,—force and energy meaning to me only different phases of the same thing. To me, matter and force are inseparable, and I cannot imagine one as existing apart from the other. Science tells us of many elements, but to me they are all resolvable into one elementary substance,—the various so-called elements being due to the manner in which the electrons composing them are combined. To me there is only one elementary force, all the various so-called forces being due to the manner in which that one elementary force manifests itself under varying conditions. My imagination carries me further, and to me life seems to be nothing more than one of those forces,—nature's organizing and constructive force,—nature's master builder; that germs are its trestleboards on which it finds the perfect plans for the structures it is to build, whether that structure is intended to be a tree, an earthworm, or a man; that protoplasm and germs have not just happened, but that they are a part of the plan of that supreme intelligence; that each germ embodies an idea of that supreme intelligence, and that in each of these germs life, the builder, finds every detail of the future tree, plant, flower, or animal. True, I have been told that in animal life, up to a certain stage in the development of the embryo, it is not possible for us to distinguish between the human embryo and that of other animals. While this may all be true, is it not also true that life never encounters any such difficulty? On the contrary, when life begins its work with a given germ, is it not plain that it knows exactly what the finished product is to be,—

just what is enfolded within that germ? Whether it is the germ of a horse, a dog, a monkey, or a man, life makes no departure from the plan it finds traced in that germ, except in the way of development and improvement. For instance, when the germ is that of a horse has not the finished product been at all times unmistakably a horse? Is not the Eohippus as certainly a horse as is the thoroughbred of today. True, some of the toes of the Eohippus, with their several toenails, have disappeared under the one big toenail we call a hoof, but do not the vestiges of the submerged toes remain to tell their story?

I have watched with interest the zeal with which the search has been prosecuted for the missing link that it is said will confirm our Simian ancestry, and have wondered why, if this is true, nature neglected to preserve some vestige of our lost caldral ornament,—some hint of the missing vertebral attachment. I have wondered if it were not possible that instead of all forms of life having developed from a single germ, that nature had not exhausted itself in producing one type of germ, but instead had been capable of producing and had produced innumerable germs, so that each separate type of organic life may have had its start in its own particular germ. I know it often happens that men, in delving into their genealogy, encounter disagreeable surprises. It may be true that we are only improved monkeys (with apologies to some monkeys for some men). But if nature did not exhaust itself when it produced the initial germ, may it not be after all that the germ from which we are descended was from its beginning a germ of humanity?

Evolution must be accepted, but not necessarily the mere guesses of the evolutionist. As long as it is a mere matter of guessing, I claim the right to guess for myself. It takes more than the Neanderthal man, or the so-called Ape Man of Java, to make valid the guess of our Simian ancestry. The beginning of mankind on earth doubtless goes back to an initial germ, but it is my guess that the plan traced in that initial germ by the master architect, and which was followed by the master builder, life, was always man. Man, as man, has developed and is developing, but I decline to acknowledge kinship with either the mighty Saurian, the equivocal Simian, or the lowly earthworm.

And now I venture one other guess: Protoplasm is not life, nor is it any part of life. It is simply the conductor of life. It is the vehicle through which life acts and with which it works.

All this of course deals only with the visible, physical world, and the visible, physical universe,—the world and the universe of phantasmagoria, of visible, changing, but transient forms,—forms which are simply the effects of causes beyond our ken. It is another story that deals with that other world, where consciousness dwells, that real but invisible world of causes and of realities.