

The Primum Principium Vitae.

IT is my purpose in this essay to establish the following thesis :

Life in its three grades has for principle the substantial form or the soul, which is essentially distinct from any material, chemical, mechanical, or physico-chemical principle.

Incidental to the main theme of the discussion, I shall from time to time, as I see fit, introduce refutations of the more important and more prevalent errors which may appear to vitiate the logical strength of the particular phase of the subject which I may then be engaged in treating. Life, from a psychological viewpoint, is divided into three grades, such division being necessitated by the striking divergence between the three classes of creation in which it is manifest ; namely vegetative, sensitive and intellective ; this latter being itself divisible into intellective simply and rational. The rational, or the form of life in man, contains all that is comprehended by the vegetative and sensitive principles with the additional powers of a discursive faculty.

Psychology considers life under two different aspects ; namely "in actu secundo" and "in actu primo." Life "in actu secundo," or as it is understood physiologically, is simply the vital operations which are the outward and sensible manifestations of it ; and as the senses are the direct or indirect mediums of intellectual apprehension this phase of life is the one under observation, and hence the source from which modern scientists using the inductive method draw their conclusions. From these concrete and sensible manifestations of a vital activity one must necessarily infer, according to the principle of causality, an abstract principle of such activity, which is called "life in actu primo."

What is life, or what constitutes that species of activity in organic matter which we call life ? "Primo" says St. Thomas "dicimus animal vivere, quando

incipit ex se motum habere, et tamdiu judicatur animal vivere, quamdiu talis motus in eo apparet; quando vero jam ex se non habet aliquam motum, sed movetur tantum ab alio, tunc dicitur animal mortuum per defectum vitae." Meaning that the distinguishing mark of life is intrinsic motion or "*motus ex se.*" This opinion makes a strong appeal to our reason and is well attested and strongly supported by facts divulged by scientific observation of organic life. Let us suppose we have before us two objects, representative of the two classes of created matter—living and non-living—for example, a stone and a fly. Upon a separate examination we observe in the case of the stone, absolute inertia. In the case of the insect, however, we have motion or what we call manifestations of a vital activity. It is possible to produce motion in the stone by external pressure, and it is precisely the externally produced motion in inorganic matter, that, when contrasted with the activity in vital organisms, differentiates living from non-living species. The motion of non-living substances is the product of external influences or due to extrinsic causes in other words it is "*motus ab extrinseco.*" Motion in living bodies, on the other hand, is fundamentally different. Let us place the fly under the microscope and we are able to observe a minute organism pulsing with vital activity, each component part intimately connected and engaged in the reciprocal transmission of energy. This motion is immanent and intrinsic originating in the insect itself, in contradistinction to the motion of inorganic matter which is due to external influences, and being regulated by physical or chemical laws lacks the spontaneity of vital activity. It would appear then that the actuating principle of the vital organism is intrinsic or immanent.

All bodies, from the viewpoint of cosmology are a compound of prime matter and substantial form. And the intrinsic quality of *primum principium vitae* being proven, we must necessarily admit it to be either one or the other of these constituent parts. It must also contain the quality or attribute of motion; because motion is apparent in all its operations. Therefore as

matter is intrinsecally and per se inert, it is evident that it does not possess nor cannot produce motion ; and so cannot advance any claim for consideration as the first principle of life. We are then, by the process of elimination, driven to conclude that the ultimate and basic principle of our vegetative, sensitive and rational life is the *forma substantialis* of the body, or as it is commonly known the human soul.

The fact that the soul is the principal of vital activity in the whole organism does not necessarily exclude the possibility of other subsidiary principles maintaining some kind of existance in the individual cells of the human tissue. Recent experiments of Dr. Carrel and other scientists who have succeeded in keeping separated tissue alive, and even engaged in cell-production, for long periods after its separation from the soul-vivified organism, have given considerable prominence to this aspect of the question. The words of St. Thomas, however, would almost appear to have been written with a view to this very contingency ; for he says, "The soul is compared to the whole body *primo et per se sicut ad proprium et proportionatum perfectibile ; ad partes autem per posterius, secundum quod, partes habent ordinem ad totum.*"*

By the word soul we understand the ultimate principle of our life, from whence proceeds thought, volition and sensation. We may now proceed from a definition of the term to a justification of our doctrine concerning the reality corresponding to it.

It is perhaps necessary to assert that the human soul is a substantial principle. This assertion merely maintains the impossibility of the ultimate basis of our conscious life being an accident. This is easily demonstratable. By a substance we understand something which exists per se, as opposed to an accident which has no independent existence but merely an inherent one, depending on the existence of the particular substance in which it inheres. The *principium vite* must be a substance ; because otherwise the accidents of thought, sensation and volition would ultimately inhere

**Summa Theologica*, Question 76, Art. 8.

in nothing, which is an impossibility. Motion presupposes something moved. Feeling necessarily implies a being which feels. In short, the superstructure of our conscious life must have a substantial groundwork. This is indicative of a substantial principle which moves the vital organism. Even those materialists who hold the vital organism itself to be this ultimate principle are forced to admit its substantiality. They do not attempt to deny the reality of sensation, and so cannot deny the general principle that a state of sensation necessarily implies a subject in which it is rooted. That this subject cannot be the material organism is evident; because the material organism is composite or made up of distinct parts, and as the essential quality of the first principle is simplicity, composite matter cannot be considered as such.

The simplicity of the principle is proven by a number of facts based on the mental operations. These facts may be drawn from all the faculties of the soul, but it will be sufficient disproof of materialism if we can maintain only one. Let us select for a field of operation the intellective faculty of judgement. This faculty supposes an indivisible agent capable of grasping and assimilating simultaneously two distinct ideas. Suppose that the judgement "Man is an animal" is to be elicited. If the actuating principle be composed of, let us say, two parts, A and B; its operation will be restricted to either one or the other of two alternatives. In the first case the judgment may be separated into two parts, man and animal; part A of the principle apprehending man and part B—animal. In this case it is evident that we have no judgment at all, the constituent parts being separated with no bond of connection. The other alternative is that each of the parts A and B apprehend the judgment in its entirety. This involves the principle of a multiplicity of judgements which we know through experience to be false. The same line of argument is applicable to reasoning or inference. We can easily see that the three judgements, "Every animal is living. Every man is an animal. Therefore every man is living," would not constitute a syllogism if apprehend by a composite sub-

ject ; for this would be equivalent to an attempt to uphold the logical strength of a syllogism whose component judgments were each apprehended by a separate man. The above argument is a complete logical check to those who claim that the brain—a composite and material body—is the subject of thought and volition.

The absurdity of materialism, however, may perhaps be more easily shown. The essential properties of any material agent, as such, may be reduced to two; namely motion and the power of producing a material product. That is to say it is something which can be perceived by the senses, something which shows extent or occupies space. Now from experience we know that it is exactly the absence of these characteristics which distinguish not only the intellective but the sensitive operations as well.

Other materialists seriously assert that vital activity is satisfactorily explained by the physical and chemical properties of matter. A student of physiology should dismiss this as not meriting serious consideration. It is plain that the essential differences of structure, chemical constitution, origin and reproduction between living and non-living bodies, preclude the possibility of any identity in their actuating principles. Again, with the realization of the more extended sphere of action in living bodies comes the knowledge that vivification must be a special force or energy, as distinct from the physical and chemical principles of matter as cell-formation is from crystallization.

Let us examine the differences of structure in living and non-living bodies. In vital organisms we find a vast number of cells, each occupying its determined place and bearing such a relation to the whole structure as is required for the execution of certain common functions. Even the single cell must be constructed in a manner convenient to the discharge of its own particular function. In non-vivified matter, on the other hand, we find merely a heterogeneous collection of molecules not one of which exercises a common or individual function, nor bears any relation to the structure save that of juxtaposition. Even the crystal, the nearest equivalent of

the animal cell, is only a mass of non-living matter within geometrically regular boundaries.

Pasteur in shattering the theory of spontaneous generation firmly established the principle of "*Omne vivum a vivo*," and this by a process of natural generation. We may also assert in the absence of any adequate proof of the contrary, that this generation is confined to beings within the same species. In dead matter, however, this order is practically subverted. Its bodies are produced by an almost infinite number of chemical combinations of specifically different elements.

We have seen in the course of this discussion that an intrinsic principle of motion or life must exist in vital organisms. By accepting the doctrine of Hylemorphismus we limit the constituent elements of a body to prime matter and substantial form; and as prime matter cannot actuate a vital organism because of its material restrictions, the substantial form must be the principle of life. This principle is also distinct from any material, chemical or mechanical principle; because such principles as the actuating forces behind the external motion of non-living matter, produce effects diametrically opposed to those observed in living organisms.

O. C. TRAINOR, '15.



The happiness of a man in this life does not consist in the absence, but in the mastery of his passions.



The roses of pleasure seldom last long enough to adorn the brow of him who plucks them; for they are the only roses which do not retain their sweetness after they have lost their beauty.



Every subject's duty is the king's; but every subject's soul is his own.