the human body. The science, skill and art of the surgeon certainly falls outside of the "healing art," for to him particularly belongs the province of destruction, *secundum scientiam;* while to the physician is committed the oftentimes difficult task of "promoting here, restraining there, and so bringing about that equilibrium of the forces of life which constitutes health."

In disposing of Dr. Jones' objections to my classification of the forces of organic life, it may be proper to say that the organizing or formless force is certainly a co-relation of the ordinary physical forces of light, heat, etc.; and is to be regarded as the laborer—and that the form force is the architect—the giver and preserver of form with the momentarily changing material of organic tissues. And that these relations of laborer and architect are constant and unchangeable, so far as purposes and results are concerned in organic life. That a disturbance of their natural relations constitutes disease—that is to say, where form is preserved, but repair arrested, or where form is lost and repair continues—the one medical, the other surgical, but each tending to death.

In the consideration of impending death, or death forces over doses of chloroform, in my former article, they were considered entirely from a dynamical point of view. When enveloped in the muddle heretofore spoken of in regard to organic life, and the relations of therapeutic agents to organic structures, such terms as "asphyxia," spasms of the glottis, etc., etc., had to satisfy me, as to how these conditions were brought about. But when held down squarely to consider and realize that the acts of the circulation and respiration were due to some mode of force, and that in the act of their accomplishment force was not destroyed, but correlated in some other mode of force, it was found necessary to leave them entirely out of consideration as too loose or indefinite for the expression of the solution of any dynamic problem. The acts of circulation respiration require power. Where does this power come from? Physiology points to the nerve masses (not nerves) as the source. Pathology shows that it does not reside in the nerves, and further shows, that the nerves are only conductors of force.

Again, force depends always, whether in organic or inorganic natures, upon change of matter. Thus, the natural force available to man for mechanical results, are gravity—as fall of water, gravity in every such instance being correlated in heat, though compelled to turn round millstones before it is dispersed as heat. Currents of wind—heat being correlated as mechanical motion. Combustion—chemical affinity—complex organic compound retroceding to simple states, the heat correlated in organization, reappearing during their oxydation or combustion.

So, also, in organic nature. All animal life depends for food, at last on the vegetable kingdom, As inorganic elements are advanced in organization, light and heat are correlated, consumed or disappear and form part of the organization itself. That is to say, a grain of wheat represents so much C. H. N. O. S. P. + light and heat. Upon the return of these elements to their state in nature, the heat correlated in its organization re-appears. If it were not the law that all organic compounds represent their inorganic elements, plus heat, gardener could have no hot-beds from the slow oxydation o refuse vegetable matter, as manure, grasses, et Hence the formulæ, "for every dynamic result there must be change of matter."

The circulation and respiration being dynam results, require power of force for their continuance That force depends on change of matter; and deat by chloroform is certainly due to an arrest of th changes of matter, which furnishes the forces fo each, in all instances whatever. Dr. Jones objec to the formulæ that death by chloroform is alway due to paralysis of the lungs, or heart, or both What is paralysis? Can it be anything else tha a suspension of the power necessary for the per formance of their functions? Then again, force i organic life always depends on, or is due to, oxyda tion. How can oxydation be carried on withou oxygen?

Dr. Jones speaks of the "respiratory sense," by this, perhaps, meaning the "hunger," as it were of the capilliaries for oxygen. As this was no alluded to in any way in my article on the conversion of gravity into organic force, it requires no notice here.

The remainder of Jones' physiology is, to say the least, a little "foggy." My understanding is, that destructive metamorphoses in the living body, for the production of dynamic force, can only take place where oxygen is supplied; and the atmospheres of nitrogen and hydrogen, or either, are incapable of oxydizing any organic substance whatever.

Dr. J. may be sure that the reign of law is supreme in the human body, as well as all organic life, and that nothing occurs by chance, or outside the pale of law. Chloroform is sometimes the immediate occasion of death. For it must not be forgotten that we are all due, or owing, each for ourselves, to death. (*Debemur morti nos nostraque.*) Before death, in such cases, the heart and lungs cease their play; in my experience in impending death (never had a death from chloroform), sometimes one and sometimes the other fail first, and the failure to perform their acts is certainly due to want of power or force.

In the study of dynamics, force must be traced through all its correlations, or modes, always remembering that it can neither be increased nor destroyed. If one mode of force disappears, another reappears; for the forces of light, heat, chemical affinity, gravity, etc., are all convertible into each other, and each into all.

In the arrest of the circulation by chloroform, heat, and its correlative, mechanical force, disappears, and gravity reappears, as shown by the blood settling to the most dependent portions of its circuit in the body. By depressing the head, before the blood has coagulated, gravity takes it to the brain and lungs and nerve masses; and, as in Dr. Mobley's case, disappears, organic force reappearing. Can anything be more plain, or more certainly demonstrated?

Permit me to say, in conclusion, that I thank Dr. J. for the opportunity he has afforded me to explain the modes by which the results stated in my former article were reached. Facts I know, and law I know, but symbols, as asphyxia, in the solution of