

# SCIENCE

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## THE DUTY OF BIOLOGY<sup>1</sup>

IN speaking of the duty of biology, I refer to the services which, as a science, it may reasonably be expected to render to mankind. We must regard the subject pragmatically, and value it for what it is worth. In order to do this, we must first determine what is of service to our species—to us as individuals, or to *Homo sapiens* generally, in the long run and the fullness of time. Contemplate the situation of a human zygote, soon after fertilization, about to float down the stream of time, and ultimately disintegrate, at least in a physical sense, at the age of say eighty-five years. At the very outset, it is closely circumscribed by its heredity, by which we mean the consequences of innumerable past events. It may be a very serious and dreadful matter if some ancestor mated with some one carrying a congenital defect. This lamentable occurrence may date from the time of Julius Caesar, or from last year. It may be a matter for great rejoicing if the various ancestors united high qualities and the newly formed zygote is in possession of the potentiality of genius. So much, then, for the heavy hand of the past, but what of its future? Being human, this zygote is enormously complex and extremely susceptible to various influences. It is subject to the power of choice, compelled to confine itself to the realization of only part of its numerous potentialities. It will react in the most subtle ways to phenomena which might seem to some outside observer of no possible consequence. The more highly it is developed, the more delicate its reactions, like those of the princess in the fairy tale, who was made uncomfortable by a pea under six mattresses. The science of the mind can not keep pace with these events; we classify and define them, but to understand them we should have to solve the puzzle of the flower in the crannied wall.

Evidently, biology has its limitations; but what can it, what should it, do for us? The human machine, like any other, is subject to mechanical laws. As conscious beings, our very bodies are in a manner external and objective, subject to the domination of our will. I once went through an automobile factory and watched the men at work. The power was provided, and the highly complex machines appeared at first to be working quite independently. One could almost imagine that automobiles would continue to

<sup>1</sup> Presidential address, Southwestern Division, American Association for the Advancement of Science, Phoenix, Arizona, February 15, 1926.

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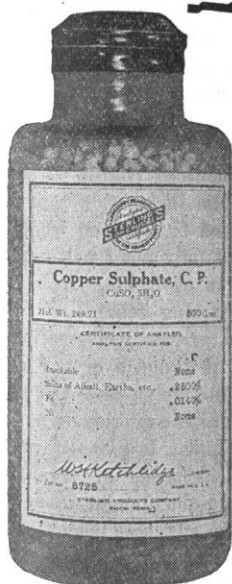
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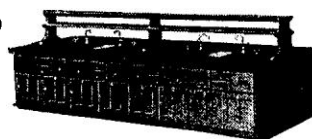


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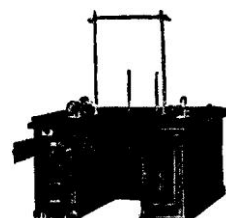
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