

RACHEL L. CARSON

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Dear Mrs. Boyette:

In further reply to your letter - I plan to use the Achievement Award to further the studies I already have under way as a basis for a new book.

From my earlier work ~~on~~ in marine biology and oceanography, first dealing with the sea itself as a dominant feature of the earth, and later with the extraordinarily varied life of the shore, my thinking seems to be drawn more and more to the basic problems of life itself: what were its origins? How has it evolved? what is its future?

Because this is the field in which the AAUW award will assist me in my reading, thinking, and conferring with research people, I have selected as the topic of my brief acceptance speech: "New Frontiers in Biology."

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In biology, as in the completely revolutionized science of physics, new frontiers have been opened. Wholly new conceptions are leading toward the understanding of life processes that have heretofore remained in the realm of mystery. The old, man-made barriers between the sciences are breaking down, and it is now acknowledged that, whatever else life may be, it is to an important extent a chemical and physical process.

By using new tools provided by chemistry and physics, biologists are opening doors that ~~have~~ ^{had} remained closed throughout the centuries of human intellectual effort. Until recently, I have been among those who believed that we should never be able to penetrate the mystery of how life arose, but the biochemists have convinced me that now we can at least form a reasonable theory as to how it may have happened.

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So, too, they are showing us how those mysterious entities - the genes - actually direct and control the processes of the developing organism so that hereditary characteristics may be transmitted.

By a union of physics and biology, others are learning the atom-by-atom structure of a protein molecule.

The possibility that molecules, or even aggregations of molecules, that have the characteristics of living ~~material~~ organisms, might actually be synthesized in the laboratory is seldom acknowledged. But it exists.

All this means that biology has moved forward into a wholly new phase of its development. Its leaders are men and women who are courageous enough to abandon preconceived ideas and to seek whatever truth may be revealed to them.

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It is a privilege to be a biologist in this particular era of expanding horizons. I consider it my especial privilege to have the opportunity to interpret some of these discoveries for those who are not scientists. They have meaning and significance for us all.

RC

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