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EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. ADVERTISING CORRESPONDENCE: Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE 6-1858.

## Not by Truth Alone

As a humanist I lived in contented ignorance of mathematics until, a few years ago, I read a little book by Sir Charles P. Snow, entitled *The Two Cultures*. Sir Charles had become alarmed about the growing gulf between science and the humanities, resulting in the creation of two publics that could not speak each other's language. It struck me that he had raised an important issue, albeit in a rather strident tone.

A well-read friend of mine told me: "Oh, don't bother with Snow. Go back a few years and read what George Sarton said about this in his great Colver lectures of 1930." I obeyed, and was delighted with the amiable, smooth-flowing prose of that charming historian of science. Sarton was already proposing what he called "the New Humanism." "The New Humanism," he said, "will not exclude science; it will include it and . . . it will be built around it. Science is our mental armature; it is also the armature of our civilization. It is the source of our intellectual strength and health, but not the only source. However essential, it is utterly insufficient. *We cannot live on truth alone.*"

You can imagine how this relieved me. In gratitude to Sarton I felt that I should lend a hand at building this desirable bridge between the two cultures.

But when I looked at science I was immediately perplexed. There seemed to be not one science-culture but a host of highly specialized groups that were not speaking each others' languages. In a general way they could communicate, but specifically they had little time for, or interest in, each other. There is the man of pure science, and there are the many of the applied sciences. Maybe, before the great bridge is built, the scientists will have to construct some small ones in their own domain.

I now have the conviction that pure science is pure art. I find the appreciators of the great mathematicians and physicists using the same terminology that I employ when I express my feelings about the loveliness of Plato's *Crito*, or the supreme poetry of Shakespeare. Sarton spoke of the explanation by Eudoxos (of the motions of celestial bodies) as *elegant*. Selig Hecht, writing of Frederick Soddy's theory of the mixtures of isotopes in most natural elements, says that it was "sublime guesswork of the kind that *gives one's heart a lift*" (italics added). P. A. M. Dirac uses language like this: "Schrödinger got this equation by pure thought, looking for some *beautiful* generalization of De Broglie's ideas. . . ." It sounds like one artist paying his respects to the creative power of another.

"Not by truth alone," said Sarton, speaking, naturally, of scientific truths. No, truly we cannot so live. But what if, after all, truth and beauty are just two words describing (with those other abstractions, like love and justice) aspects of a sublime essence that was postulated twenty-five hundred years ago by Socrates?

If this (or "something like it," as Plato would have said) be true, then the gulf is not as deep as it might seem. We who are not equipped with the kind of mind required for the pursuit of science (the *exact* sciences, I mean) are still free to follow beauty where our nature seems to lead us while the scientists pursue beauty in their realm. We may not understand the details of each other's work but we are united in the creative spirit and we already have the rudiments of a common tongue for the creation of Sarton's new humanism.—FREEMAN TILDEN

[Condensed and adapted from a guest editorial in the April 1965 issue of *Trends in Parks & Recreation*. Mr. Tilden, a writer and lecturer on conservation and author of *The National Parks*, resides in Arlington, Virginia.]

# Science

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Freeman Tilden

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