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This issue marks the 125th anniversary of *Science*, and anniversaries frequently bring our attention back to the last major one. The centennial issue emerged on 4 July 1980,* and I missed it because I was struggling with a professional transition of my own. So in preparation for this celebration, I naturally got hold of a copy as soon as I could. It's an interesting document in a number of ways. In part it looks backward—at the journal and its role in the history of science, and through splendid status reports on each of the broad research disciplines that *Science* covers. But it also looks ahead. Fred Mosteller, the distinguished statistician who was president of the American Association for the Advancement of Science (AAAS) in that centennial year, entitled his contribution "The Next 100 Years of Science." He used that essay to voice some concerns about science policy and even to make a few predictions.

Fred, never one to duck a problem, would want us to see how some of these turned out. Emphasizing the need for scientists to communicate their craft to the public, he said that AAAS's new magazine, *Science 80*, would "bring information about science to the general public." That effort, despite bold aims and an attractive format, was disappointingly short-lived. In 1980, despite a tightened academic job market, Fred could praise the U.S. National Institutes of Health for being good to young investigators. At the time, "new" investigators held 50% of competing new grants, and 23% of all awards were going to scientists under 35. Now, alas, that percentage has shrunk to less than 4%, with a huge corresponding increase in the proportion going to older researchers. In this same essay, Mosteller made some good calls. He expected more work to come from the Third World, as indeed it has. And he expressed a prescient worry about the relationship between science and government: "What began as an exuberant synthesis has become grimmer as the government presses for more paperwork and tighter accounting."

Although tempted to review the 25 years of progress since 1980, my colleagues and I went with Fred instead and decided to contemplate the future, this time by posing 25 "Big Questions" along with 100 smaller ones. The choice reflects our belief that questions are more important than answers in shaping the future of science. My love of science has much to do with its mystery; a colleague explained his own feelings by saying, "I decided I actually loved science even more than research." Research is about answers, but science is about questions, such as what is consciousness, and how could we tell, for instance, if a raven has it? Or, why are there so many more species in the tropics than in the temperate zones? (We used to say "because they're older," but it turns out that that doesn't work.)

The mental games we play in exploring questions and trying to formulate them in precise, answerable form are what gives science its special kind of intellectual fun. The essential feature of a good question is that it is ultimately testable or answerable. The Big Question that can never be wrestled with isn't worth much (that's the trouble with "intelligent design"—it's a safe harbor in terms of the testability requirement). One of the things we try to give students is the discipline that will tether their Big Question to the Big Test: Can it be answered? We hope thereby to help them avoid the fate of the postdoc whose mentor responded to his Big Idea by saying, "It isn't even wrong." In his brilliant introduction to our Big Questions, Tom Siegfried speaks of "thoroughly conscious ignorance": the state of mind that is prepared to find that important, interesting mystery whose existence had eluded us.

And the questions keep getting harder. Max Planck pointed out that each unit of new knowledge costs more than the last, because the easier answers come first and give us new techniques to apply to the next. So we are committed to asking more expensive questions that are also more difficult. Just as the progress of research creates expanding capital resource demands, it will require increased brainpower from the human resources who will pose the next questions and, eventually, answer them.

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*This volume can by found by consulting JSTOR, an archive available to any member of AAAS through the http://aaasmember.sciencemag.org gateway.