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Science and the Philadelphia Story

We are little more than a year and a half away from celebrating the bicentennial of the American Constitution. Are we light-years away from waking up to the impacts of scientific and technological exuberance on the vital propositions of that political statement? Perhaps apocryphal, but nonetheless striking, is the remark ascribed to a scientist and framer of our Constitution, Benjamin Franklin, who emerged from the Philadelphia conclave to tell a curious bystander, "We have given you a republic, sir, if you can keep it."

Apart from providing for patent and copyright protection, the Constitution is quiet on the subject of science in the affairs of the budding nation. This was natural enough two centuries ago, even though, in the debates over the Constitution, proposals for the encouragement of science were considered and finally dropped. It would have been astonishing had the authors guessed the extent to which science and technology would become entangled with government in the second half of the 20th century—at once enriching, extending, and complicating the political process. Now, however, the intricacy of government's involvement with science is such that the constitutional considerations must be taken seriously.

All things considered, there is little doubt that advances in science and technology have served to fortify the constitutional purposes. The reach of the general welfare clause, for example, has been extended through science with immense benefits to the nation's health, economy, productivity, and industrial capacity. Technology, in turn, has done much to multiply choices, opportunities, and both humanistic and material benefits as well as dilemmas.

It would be fine if we could leave it at that. But it is also the fact that the new centrality of science and technology is imposing pressures on the politics that we practice, especially on those fundamental power equations that are built into the Constitution and that made up the main agenda of the Philadelphia conferees. If we mean to keep our republic, that agenda is as much ours as it was theirs.

Some of these power equations bear on the coequal powers of the branches of government, others on the reserved powers of Congress, and still others on the supremacy of civil authority over the military. With scientific and technical complexity suffusing the business of Congress, whose members are overwhelmingly generalists, the task of preserving the coequal status of the Legislative and Executive branches, in fact as well as in the textbooks, is no minor challenge. When the same complexity taxes the abilities of the voters to evaluate technical risk and make informed choices, government by the people is in trouble. When military power is locked into weapons poised for "launch on warning" under delegated authorities, the reservation of the war-making power to Congress is reduced to something akin to fiction, and the supremacy of the civil authority is compromised. All these difficulties require us to think again about our understanding of the equations of power that were so carefully set down by the framers of our Constitution two centuries ago and that we will celebrate in 1987.

The political dialogue of our day is concentrated not on constitutional fundamentals but on issues of immediacy, on taming the budget deficit, on prospective winners and losers under tax reform, on threats of trade wars and anarchy in the Middle East, on insurgency and the enduring enigma of Soviet intentions. What is grist for the media is what focuses our attention and thought. This, too, is a result of scientific and technical inventiveness and is further evidence of altered equations of power.

Science, once the province of philosophers, scholars, and inventors, is now a prime mover of the goals of a nation. So much power must be reconciled with the checks and balances to which we still subscribe. They are at the heart of the Philadelphia story.—WILLIAM D. CAREY