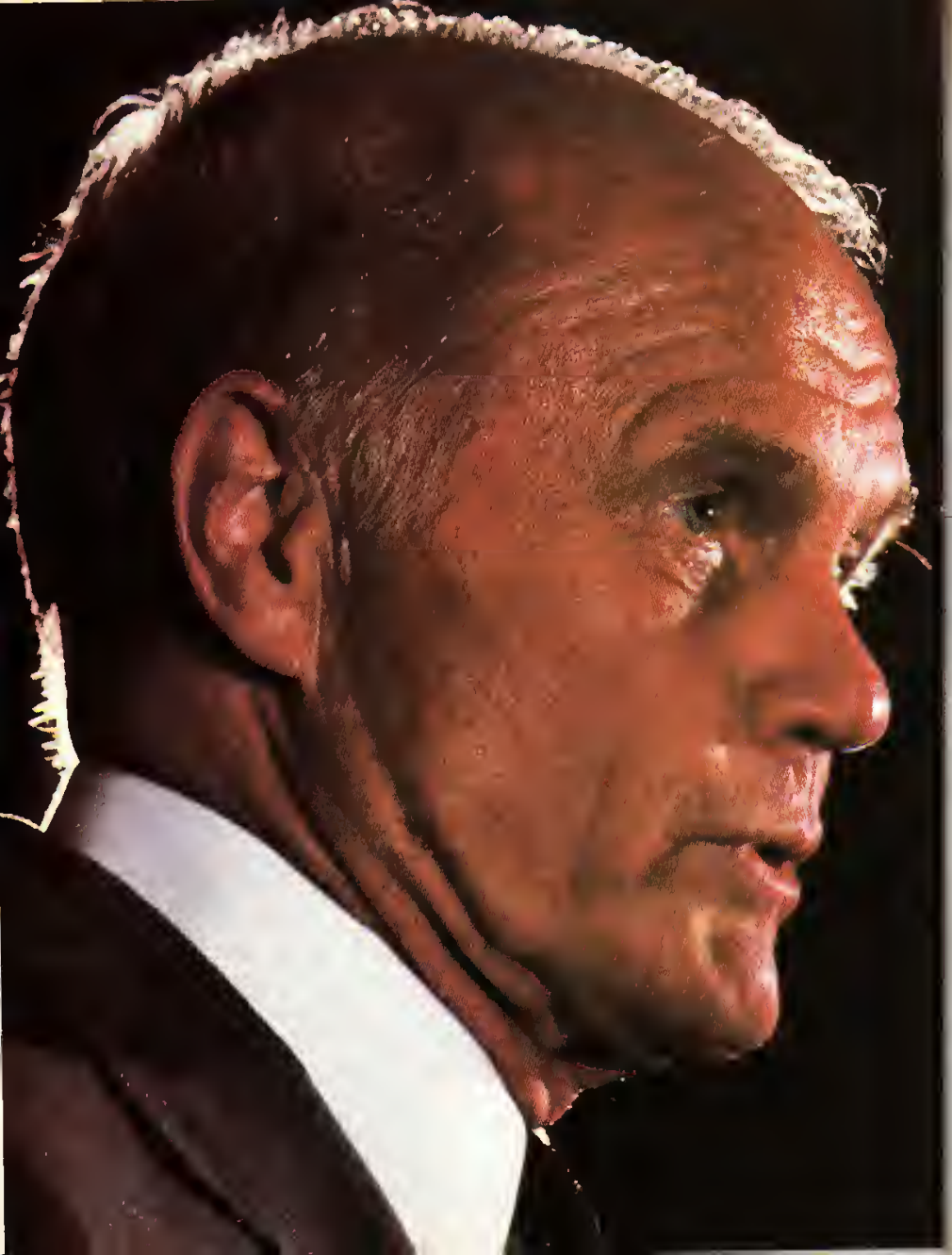

The first American astronaut to orbit the earth would like to be the first U S president to take a ride on the space shuttle

INTERVIEW

JOHN GLENN

Among John Glenn's early forays into politics was curiously enough a trip to Japan in the spring of 1963, about 15 months after he had been the first American to orbit the earth. Lieutenant Colonel Glenn, then still in the Marine Corps, had gone to Nagasaki to board a tracking ship on which he helped to guide Major Gordon Cooper in his spaceflight in May. Then the Glenn family toured Japan, partly on vacation and partly on a goodwill mission from the U S government.

That was diplomacy and by nature nonpartisan, but still an exercise in politics. By anyone's measure, John Glenn was a stunner. He learned to sign his name in a Japanese script called *katakana* and startled autograph seekers whom he accommodated by the score. He met with the political and scientific leaders of Japan, but it was the crowds of shopkeepers, clerks, and iron-workers whose hearts he won with unfailing good humor and all-American boyish charm. At the Foreign Correspondents Club, he was asked how he knew the difference between up and down in space. He drew a laugh when he said, "In space you can pick your own 'up.' " But he was grave when questioned about reports that Soviet cosmonauts had died in a space accident and was applauded when he said he fervently hoped that was not true. By the time Colonel Glenn left Japan, he could have won any election in the country, hands down. A leading Japanese newspaper commented, "Everything about him was openly candid."

A year later John Glenn was out of the space program, retired from the Marine Corps, and deep into real politics, partly at the earlier suggestion of President Kennedy, who had been killed by an assassin's bullet in November 1963, and more at the urging of the President's brother, Robert Kennedy. Since then Glenn has evolved an agenda that James Reston, the columnist for *The New*

PHOTOGRAPH BY RICK FRIEDMAN

York Times, has described as "a mixture of the old values and the new technology."

In terms of the old values Glenn is a quintessential American hero. He flew 59 combat missions as a Marine fighter pilot in World War II and another 90 missions in the Korean war winning five Distinguished Flying Crosses. He set a cross country speed record of an average of 726 miles per hour in a Navy jet in 1957 and in 1962 rode the capsule *Friendship 7* three times around the earth and into the history books.

Glenn's three orbits, which lasted 4 hours and 55 minutes on February 20, 1962 were strictly kindergarten stuff by today's standards. But coming ten months after the Soviets first manned orbital flight and five months after they orbited a man for 25 hours, it was the first tangible evidence that America's catch-up effort was on the right track. And Americans responded to Glenn with a frenzy of adulation unmatched since Charles Lindbergh's Atlantic solo and Dwight Eisenhower's return from the conquest of Nazi Germany. The onetime Marine jet jockey was even invited to address a joint session of Congress, and publicity wise politicians angled for proximity to the new spaceman.

Not only are his bravery and high-flying exploits just right for the makings of an American hero, but his origins are impeccable as well. Glenn's roots are in Small Town, USA—New Concord, Ohio—where his father ran a plumbing business. As a boy Glenn was a good student and a good athlete. Later he married his high-school sweetheart. He values his religion and once, when asked whether he sensed God in space, said, "The God I believe in, I don't expect Him to be small enough that I'd run into Him in space."

Glenn's faith in the old values apparently was shaken during the turbulent days in Vietnam. After the death of four students in a 1970 riot at Kent State in northeastern Ohio, he was glum in a conversation with a newspaper reporter. "Everyone is losing confidence in everything," he said. "our foreign policy, our universities, our electoral system—all because we haven't changed the things that needed changing, and we haven't told the people the truth."

Tom Wolfe, author of *The Right Stuff*, based his book on John Glenn and the other six original astronauts' men who stirred the nation's deepest emotions. They knew it had to do with the presence, the aura, the radiation of the right stuff, the same vital force of manhood that had made millions vibrate and resonate thirty-five years before to Lindbergh.

Glenn's switch from space to politics, however, has been filled with adversity. It has taken him more than a decade to find the right stuff there. He had to drop out of the primary race for the Ohio Democratic senatorial nomination in 1964 because he slipped in a bathroom and suffered a serious concussion. Then he lost the same nomination to Howard K. Metzenbaum in 1970, after running a badly organized, underfinanced campaign (everyone thought Glenn would be an easy winner). But he beat Metzenbaum in the primary in 1974 with a well-run effort and went on to defeat a rather colorless Republican mayor of Cleveland, Ralph J. Perk.

Glenn, however, stumbled again in 1976. At the Democratic presidential nominating convention he gave a keynote address that was uninspired in content and plodding in delivery. The response from the assembled Democrats was tepid at best, and Glenn talked himself out of whatever chance he had to be Jimmy Carter's vice-president. He returned to the Senate and gradually put together an agenda on the new technology that has emphasized education, research, the exploration of space and the control of nuclear power and arms. Politically, Glenn seemed to come into his own in 1980, when he ran for reelection and won by a record 1.8 million votes in a state that went Republican for Ronald Reagan by a margin of 450,000 votes.

> *"For me to stick around being the world's oldest, in-training, secondhand astronaut, hoping for a flight when I was fifty, would be wishful thinking."*

Glenn began expressing himself on the value of education back in his days as an astronaut. "When you get educated, you are no longer fearful," he said of his training. "You fear the least what you know the most about." Now he talks about cutting educational budgets as "eating our seed corn," and has proposed a $4 billion program to improve schools. Most of that would help disadvantaged children, but some would go to gifted students and outstanding teachers.

Among Glenn's favorite words, judging from his public utterances, is *curiosity*. He says that curiosity, the essential element of research, enhances American civilization and the standard of living. As soon as he started his ride into space, Glenn later wrote, "I began to sop up every bit of information I could and to record every impression I could. I talked constantly—to the ground stations when they were in range, into a tape recorder when they weren't—about what the instruments read, about how things appeared out the window, about colors, about what itched and where, about everything. The point," he said, was that "the researcher quite often does not really know which observations later will be of great importance."

Last year Glenn conducted a poll of 48 American winners of the Nobel Prize in science and found that 29 of them had received 90 percent of their research funds from the federal government. Another 11 had gotten half of their support from the government. He asserted that he had conducted the survey to counter "the mistaken impression that the expenditure of federal money for basic research is a ripoff of the taxpayer."

That sense of curiosity permeates Glenn's plea that Americans continue to explore space. He scorned what he called "the drag race" with the Russians to reach the moon. Instead he propounded an almost classic argument that space should be explored because it is there. "One reason why man is driven to explore the unknown, to reach for the pinnacle, to master the unfamiliar, may be that by doing so he gains better control over his future," he wrote in 1969.

Glenn, however, doesn't favor technology for technology's sake. He has been among the leaders in blocking the spread of nuclear weaponry. In the Senate, where esteem for performance is slowly acquired, Glenn has overcome the suspicion that he was a freak political beneficiary of a long-ago space hysteria. As a junior member of a subcommittee with jurisdiction over nuclear affairs, he was assigned to look into the global implications of nuclear proliferation—a subject in which politics, technology, diplomacy and economics are tightly intertwined.

A subcommittee staff member recalls that Glenn "immersed himself in the subject and mastered the details of every category. When he was through, no one knew more than he did." The outcome of his efforts was the Nuclear Non-Proliferation Act of 1978, a landmark piece of legislation for which Glenn is acknowledged as the principal architect.

"When considering the wisdom of spreading nuclear technology throughout the world," he wrote in 1976, "the benefit must be weighed against the potential tragedy. The benefit takes the form of a new abundant energy source that can help many nations substantially raise their standards of living with labor-saving devices and conveniences as well as increased food production—critical items in the years ahead. The greatest political tragedy lies in the destructive capacity of the weapons-grade material associated with nuclear production," he continued in his argument for the act. "Unless it is placed under adequate controls, this material can be converted to atomic weaponry by nations and terrorist groups alike."

For those who recall Glenn from those faraway days of space pioneering 20 years ago, it is extraordinary how little he has changed in appearance. By virtue of political accomplishment, however, he's recognized as Senator Glenn rather than ex-

astronaut Glenn. Given his political ambitions, that's just as well, since for millions of Americans under age twenty-five or so astronaut Glenn is an item from the history books and TV documentaries rather than a contemporary figure.

Apart from aerospace mementos in his office there is little about Glenn to suggest his previous incarnation. Now and then, though, he selectively employs aerospace lingo with great effect, as when at a congressional hearing, he was questioning a State Department flunky on the relaxation of nuclear proliferation safeguards. When perhaps 30 seconds had elapsed without an answer to a volley of questions, Glenn softly said to the flustered witness, "Over."

Following is a conversation between Glenn and Daniel S. Greenberg, a longtime observer of the Washington scene.

Omni: You've come a long way in politics—from ten years in the Senate to a leading candidate for the Democratic presidential nomination. Does that suggest there's a right stuff in politics, too?

Glenn: There's a right stuff in any vocation, quite apart from the space program. If there was one theme that Tom Wolfe tried to follow all the way through *The Right Stuff*, it was that the fighter pilots, test pilots, and astronauts of that particular period were sort of the last of a breed of men and their machines out against the elements. Wolfe was trying to say that things are now going to be a lot more automated, and I think there's a lot of validity to that.

Omni: Things are getting increasingly automated in many aspects of American life, including politics. Is the old American political system still workable, or is it so much in the grip of experts, pollsters, and computer analysts that it has now become an altogether new business?

Glenn: It has become a new business. But has it gone too much that way? No. I wouldn't say that it has. I think we have a lot yet to be worked out in the way of financial support for campaigns, that has become one of the most onerous parts of politics. But if you run for office, that's one of the things you accept as being a requirement of the business. Do you like having to go out and raise money? No. But it's one of the things you do in order to do the things you think are right for the country.

Omni: When you see the space shuttle going up, do you ever think that you'd like to be aboard?

Glenn: I experience pure, flat, green-eyed jealousy. I've already volunteered to go up on a flight.

Omni: Then you might be the first president to go into space?

Glenn: I volunteered in advance.

Omni: Do you feel confident that you can beat Mr. Reagan?

Glenn: I'll leave that to the people to decide, but have you seen the polls?

Omni: They look pretty encouraging for you. An ex-astronaut could do a lot of things. Why did you choose politics?

Glenn: There are a lot of days here in the Senate when I wish I were back in the space program. But let me back up a bit. I've got no regrets about leaving NASA when I did, and the progression to politics was a natural one for me. I was the first of the original group of astronauts. I was the oldest of that group. After my flight, I was coming up on forty-one, and they felt that upcoming flights on Gemini should go to those who were going to be available for the Apollo mission, which we saw coming along about a decade later. For me to stick around as the world's oldest permanent in-training secondhand astronaut, hoping for a flight when I would be fifty or beyond, was probably wishful thinking. I stuck around for several years to contribute what I could from my experience, and then I left. Government, politics, where the country's going—what role I could play—that has been a lifelong interest of mine, going back to a term paper on the U.S. Senate that I wrote when I was in high school.

> *"What were they thinking of when they tried to cut funding for Pioneer 10? That's man's farthest gadget out in space. We still get information from it."*

Omni: In many speeches you've said that we have a national crisis in science and engineering education and in our research and development. Don't you think that is laying it on a bit thick?

Glenn: Nope. I don't think it is. There are three things in the American system that made it develop the way it has. Number one would be education, number two is research, number three is our free-enterprise system. We established our country with an idea that stressed education for every person. That's been fundamental. Wherever Americans came to take root, they established the little schoolhouse and the schoolmarm and, as soon as they could be developed, the higher-education institutions. My home state of Ohio is a good example: 139 institutions of higher education. Out of all that effort repeated all across this country came an educated people and an educated workforce.

And then number two: we always plowed more of our gross national product back into research, inquisitiveness, and investigation into the unknown and into how we could do things better—not only differently but better. And much of this was sponsored by the government. Private industry did a lot of it, of course, but most of the basic research—the things that do not have a three- to five-year bottom-line payoff—became the province of government. And the government laboratories that we have in this country are literally the envy of the world.

And that brings up the third part of the system: free enterprise. It takes the knowledge produced in government and university labs and turns it into products. We now find that we're cutting back all across that knowledge-producing system.

Omni: Why is this being done?

Glenn: For shortsighted budgetary reasons. That's the only rationale there is. To me it's like eating our seed corn when we cut back on higher education or when we cut back our support for research. And this is coming at the very time that other nations have recovered from the war and now have a larger proportion of their income that's discretionary, and they're plowing it into education and research. They're beginning to outdo us in both fields in certain selected areas. I don't see us as being down the tube yet, but I think all the trends are wrong. We must keep feeding this goose that lays the golden eggs.

When I talk to David Stockman [director of the Office of Management and Budget] and other administration people about this, they say we have to cut back for budgetary reasons, and they say that if, at a later time, we're in a better economic situation, we can put more money back into this. This shows such a fundamental lack of knowledge about our research system that you want to sit down and cry. Anyone who knows the first thing about research knows that you don't just put some money in this year and get your return next year.

It may take as long as a decade to get good people to build research teams and laboratories, and to get the work moving in certain directions. It's a process that you don't pick up one year and lay down the next. What were they thinking of, for instance, when they tried to cut out funds for *Pioneer 10*? That is man's farthest gadget out in space. We got it out there. It's working perfectly. Even though it has left the solar system, we still get information from it. They were going to cut it out!

Omni: But you salvaged it.

Glenn: Salvaged now, but the original proposal was to cut it. So here we are. What are we going to learn from *Pioneer*? I haven't the foggiest idea. But to turn off man's most distant object out there to save a few dollars! I was even going to start some public subscription or something, but they finally reversed the decision. And it involved only a couple of million dollars a year to receive the information. It somebody doesn't want to analyze it for ten years, that's okay. But at least get it. It's out there. I couldn't believe that they were simply going to turn off the receivers and not even get the information.

Omni How did you go about saving the Pioneer program?

Glenn We just talked about it here and somebody over there in the administration finally decided to put the money back That was all But for that kind of money—I don t know what percent it is of the national budget but it isn t much—to turn off something like that showed a thorough lack of appreciation of all things scientific Man s curiosity about how we can do things better or differently or how we learn why things work has given us our whole standard of living our civilization control over our future better control over the forces of nature and hopes for making a better life for everyone around this world That s fundamental and to turn off that kind of research to save a few dollars doesn t make any sense

Omni You've been going around saying that s happening in education too

Glenn Because of inadequate training we re wasting human capital that is vital to the country s future Twenty-two percent of the nation s high school-math teaching positions are vacant Twenty-six percent of the positions are held by teachers who aren t certified for math In the Chicago school system they ve got one licensed physics teacher for every two high schools Figure after figure like that shows we re not doing the job that we should be doing The Japanese with half our population outproduce us in engineers seventy four thousand to our fifty-two thousand The Soviets produce three hundred thousand engineers a year Now the Soviets have never been big in liberal arts But the numbers indicate an area where we are beginning to be very deficient

Omni Where does this show up?

Glenn We see it in other countries creating the new industries that are making the jobs and we ll see more of that unless we get back into the competition

Omni Why isn t this problem of declining support for education and research more of a political issue? You re not alone in discussing it but you certainly don t have much company

Glenn I wouldn t say I m alone but I sure haven t heard any great chorus of support out there I sometimes feel like a voice in the wilderness on this It s something that because of my own background in aviation and space I have seen coming Our government is controlled largely by lawyers and people who don t have much background in the science area They expect that just because America has always been number one in these fields we ll automatically continue to be number one But preeminence is not guaranteed into the future unless we work at it

Omni Do you have a particular concern about the decline of the space program?

Glenn Yes I do I m not for giving the space program a blank check But we spent billions of dollars and two and a half decades getting the research capability we have in space and that wasn t done so that people could go up and jazz around and get a new view of the earth Space is a new laboratory For what? For energy sources and development of new materials on board the spacecraft New properties of glass new alloys and mefals—things that open whole new capabilities for new industries on Earth and Earth-resources analysis from space We re barely scratching the surface on the type of research that can be done there We ve cut back too far and unfortunately we re not realizing the research potential of the shuttle or preparing for the follow ups to shuttles

Omni What do you think should be our next big step in space?

Glenn We should go to a permanently orbiting space station and use the shuttle to transport scientists and equipment

Omni What would be the purpose?

Glenn On-board manufacture and research Who knows what the value of that research is going to be? There s a serendipity effect in all research It s rare that someone involved in basic research knows what the outcome will be That s the reason we do research And space is no different from that We have a lot of things we want to investigate Every new thing we ve learned in space seems to generate ten more questions to which we want the answers We have the ability to do that kind of research But we re not doing it at the level we should

Omni George Keyworth [presidential science adviser] has said that a space station would be enormously expensive and that we re not sure we d get anything out of it What s your reaction to that?

Glenn If he could show me any scientist who was sure of what would be the outcome of his basic research he d have to tell me that they knew the answer before they started the research

Omni But five billion to ten billion dollars is involved in a space station

Glenn But the whole space program has been quite productive Some of the figures we ve had from the past show that the civilian economy has received a return of somewhere between seven and ten times the amount spent on space We didn t foresee that at the outset To use a simple example many years ago some ordinary mold—the kind that grows in garbage—accidentally fell into a dish of bacteria in Alexander Fleming s laboratory And he noticed that the bacteria around the mold had died off Fleming could not have *possibly* foreseen that penicillin and our whole antibiotics industry would come from that commonplace mold And who could have foreseen in those days that the effect would be longevity increases for most of mankind— and Social Security problems on the floor of the U.S Senate today because of longer lives that people are living? No one ever knows the value of basic research going in but if history is any indication money spent on research has a way of paying off beyond anything we can see at the outset

Omni Where would you apply financial first aid to American research?

Glenn Across the board because it has been pretty well butchered over the last couple of years Our national lab system was cut back an average of twenty percent last year and another seventeen percent this year We ve terminated projects and laid off some of the most competent technical people in the world Most of our Nobel prizes have been won by people working in government-supported programs Are we going to give up that kind of leadership? That s what we re cutting back on Stockman and the President say that if things like this are worth doing private industry will do them That s just poppycock I ve been on boards of directors and I know how you vote there You vote for a three to five year bottom-line payoff a return It s a rare company that will take on something like a fifteen to twenty-year research project

Omni Do you share the concern that the pace of scientific discovery is going beyond our social capacity to deal with it?

Glenn We have to be concerned about the implications of scientific advances but that doesn t mean we should lessen our efforts to learn new things that might help us control our future No one now would ever say that we don t want a solution to cancer heart attacks and stroke because people living to one hundred ten would give us enormous social problems They would But that would be a problem we d like to face I m not looking at scientific advances as threats I see them as advantages

Omni You re talking about spending when the country is in an antispending mood

Glenn It would not take a lot of money to correct these problems That s important to realize And in many of these areas a little spending now could avoid huge costs later Take energy for example I spent about three years during the Carter Administration trying to get money for research in the alternative-energy and conservation fields, as an objective we set an amount equal to about one percent of what the United States was paying for imported oil In the last year of the Carter Adminis-

CONTINUED ON PAGE 190

> *"We spent billions and two and a half decades getting the research capability in space. The purpose was not for people to go up there and jazz around."*

INTERVIEW

CONTINUED FROM PAGE 132

tration the offshore-oil bill was about eighty billion dollars, and the budget for alternative energy was about seven hundred seventy-six million dollars—pretty close to the one-percent goal. The Reagan Administration came in and cut that by around sixty percent. I can't think of anything that will guarantee our dependence on foreign oil more than cutting that research.

Omni: Do you see private industry coming in as the Reagan Administration said it would to pick up activities that have been dropped by the government?

Glenn: No. Quite the contrary. If we've seen anything in this recessionary period, it's that one of the first things companies drop are their efforts in the basic-research area.

Omni: And what about your other pet project, preventing the further spreading of nuclear weapons around the world?

Glenn: When I first came to the Senate, I found very little going on in the government to control the flow of the kind of information that would lead to weaponry. I picked up the issue, and the upshot of it was that, after working on it for a couple of years, we passed the Nuclear Non-Proliferation Act in 1978. We felt we had ten to fifteen years to prevent the spread from the half dozen or so major nuclear supplier nations—those who had the capability to manufacfure the very technical equipment for reprocessing spent nuclear fuel and getting out the plutonium that could be used for a bomb, or the equipment used to enrich uranium up to bomb capability. Overall, the Non-Proliferation Act had a good impact. It hasn't worked perfectly, but it's our effort to control the spread of nuclear weapons around the world.

The Reagan Administration has been going pretty well in the other direction, trying to gut the act. They have made changes in plutonium policy that reduce the safeguards. It makes you feel like the little Dutch kid with his finger in the dike, trying to hold back some of these things around the world. I'm not overly optimistic about how much we can stanch the nuclear flow to more and more—and sometimes smaller and smaller—nations. But we have to keep trying. We're also concerned about new technological developments for nuclear weaponry. What if one of these days laser-isotope separation becomes common. If it becomes as simple and as common as some people think it will, almost any nation in the world that wanted a bomb-making capability could have it. We're not without progress in this field, but is there enough concern in the administration now? No. I don't think there is.

Omni: Can the government's handling of science and technology ever ignite into a real political issue, the way, for example, that protection of the Social Security system is a political issue?

Glenn: I would tend to doubt it for this reason. It could attract greater interest, but could it get to the point where it inflames people? No, because it's so far in the future. It's a pattern that doesn't pay off tomorrow. Social Security ignites people because a lot of them are either on Social Security now or nearing Social Security age, and everyone sees his own financial future being affected by what's being done about Social Security. But the relationship between research and the future of the country—that's indeterminate: you can't put a dollar value on it. That's the problem with research—you can't say that for each dollar spent we're going to get back two dollars fifty cents the year after next, making it a good investment. Yet it usually pays off far beyond that. But it's not definite, so you can't get people fired up about it.

Back in the early days of this country we emphasized research in agriculture. That's why today we produce maybe twice as much per acre as anybody else produces on similar land in other parts of the world. It gives us a wonderful problem: great surpluses of food. And we ship zillions of tons of it all over the world. That didn't happen overnight. It happened because we were curious about how plants work, about the chemistry of plant nutrients, about techniques for developing high-yield hybrids. All this took a lot of experimenting. And out of that eventually came the Green Revolution. If there's one good example of what research has meant to this country, it's our agricultural system.

> *"I rode the F-16 recently. It's the closest thing to a rocket I've been in lately. We made a full-burner takeoff almost straight up, at an 80° angle."*

The same thing has gone on in other areas—in communications, transportation, aeronautics. In aeronautics, the research we've done has been almost exclusively government research. All of these are examples of how we built whole new patterns of industry, trade, jobs—all these came because we learned new things and put them to use. Then other nations followed our lead. That's been our tradition, but if we break with it we take the chance of relegating ourselves not only to second-class status, but perhaps much farther down the ladder than that.

Omni: What sort of response have you been getting to this theme?

Glenn: People respond very well, because nobody else seems to be speaking along these lines. I find great attention, particularly when I tie these issues to them and their families. What are our kids going to be working at twenty years from now, and are we setting the stage for that, or are we eating our seed corn for the future by not putting sufficient support into educational areas or research?

Omni: Do you find time for reading anything other than legislative materials?

Glenn: Some, but not enough. Every time we get a legislative break, I have half-a-dozen books lined up, and I usually make it through one or two. But most of my time is taken up with things I have to read for my legislative responsibilities.

Omni: When you do have time, what do you prefer?

Glenn: It goes across the board. A lot of the things involve politics, government, philosophy—a few novels. The last one I read was a few years old, and I hadn't had a chance to get to it before, *Fields of Fire*, about the Vietnam War. I guess I was interested because of my Marine background. I haven't read many novels. Most of the books I read are on some particular subject, usually having to do with government, foreign policy, or scientific matters.

Omni: Do you ever go back and take a look at your old *Mercury* capsule in the Air and Space Museum?

Glenn: I've been back a few times with groups that wanted to go over. It's not very big, I know that.

Omni: Would you go up in it again?

Glenn: Oh, sure. You like to make every flight you possibly can. I rode the F-16 down in Forf Worth [Texas] recently. It's the closest thing to a rocket I've been in for a while. I went up with the chief test pilot for the plane. We made a full-burner fakeoff—almost straight up—climbing at about a seventy-five- to eighty-degree angle, which is virtually standing on the tailpipe. We went up to about thirty thousand feet—you can get to forty thousand in a minute and a half—leveled off, and put it through its paces as far as maneuverability and stability checks. I took it out to about 1.65 Mach. It's a nine g limited, and I pulled it up to about eight and a half. We did a lot of stuff, and then we came back and shot some landings with it. It's a very impressive airplane. It was almost like being back in the spacecraft again, with a sidearm controller which sits over on the right side of the cockpit as opposed to having a stick in the middle of the cockpit. That's the same kind of system we had in the old *Mercury*.

Omni: How much flying time do you get in?

Glenn: I average one hundred fifty to one hundred seventy hours a year. I have a Beech Baron and I have it equipped as near as you can equip a little plane like a miniairliner: radar, coupled autopilot for automatic approaches, and everything else possible. Anytime I'm going anywhere in the eastern half of the country, I fly my plane. I enjoy it. It's like therapy. **DO**


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