

My Life As A Hired Gun

A Techer's Life in Politics

by JOHN ANDELIN, BS '55, PhD '67



There was a time when I was a scientist, and I knew my field better than most other people. That is no longer true. In moving from a narrow technical discipline to a broad-based political one, I've been forced to become what I would call a "generalist" if I were flattering myself, or a "superficialist" if I were trying to denigrate myself. The time demands put upon congressional staff are so great that we are constantly wishing we had time to know something better.

Let me try to tell you about Congress. I had the chance several months ago to do that for some foreign newsmen, so I decided to start with the basics. I got a blackboard, drew a box on it, and put the word "Congress" inside. I put two boxes down below, and I wrote "House" in one and "Senate" in the other. Then I realized I was wrong. The House and Senate aren't parts of a unified body known as "Congress." They are the Congress.

The two houses have to agree exactly on a piece of legislation or it's a standoff—and a standoff means that

nothing happens. Making a positive decision by the whole Congress is frequently impossible. As a body, it does not lead: It follows, critiques, and restructures. Standoffs are the rule more often than not.

A key to understanding the Congress is the realization that it is the only body in our government that explicitly recognizes and encourages politics and special vested interests. In Congress, you are automatically a Democrat or a Republican, and you belong to this or that or some other grouping politically, and you're proud of it. You represent the district that is dominated by particular companies, or the wilderness, or logging camps, or some such combination; you will defend those parochial interests because you have been elected to defend them.

The details of the two houses are different, but I'm most familiar with the House, so I'll try to explain that. In the House there are several hundred small, independent businesses, each headed by a Congressman. Congressmen, just like shoe salesmen and many fran-

My Life As A Hired Gun

chises, have exclusive territorial rights to the district assigned to each of them. That district may go to some other Congressman in the future if he doesn't do well enough now, but nobody can speak for him as long as he is that district's elected representative.

Congressmen are very sensitive about crossing state or district lines. They represent their own constituents. One of the major functions they and their staffs perform is that of answering phones and being a pen pal. They are also ombudsmen when someone at home has a problem with an agency or a local government entity. Congressmen must either write back sympathetically to their troubled constituents, or better yet, must take some action to alleviate their problems. If, for example, a business is trying to get a grant from some department and you as a Congressman or his staff think the business is being mistreated—not on the substance of its proposal, which you don't usually judge, but on the mechanism by which the proposal is being evaluated—then without any question you interfere. You say, "Damn it all, set up an appointment with this guy. He wants to see so and so, and you're giving him the run-around. Let's get this going."

Above and beyond serving and responding to their constituents, Senators and Representatives must vote on national issues. To the extent that they have national interests or aspirations, they will serve a broader community than their own district. (A Senator always worries about his state; a Senator who wants to be President worries about the whole nation—and acts accordingly.)

Another form of small business in the Congress emerges in the committees. Obviously, with more than 500 Congressmen and Senators, there's no way to deal with a complex issue and let everyone have his say, so the Congress is broken up in little pieces called committees, many of which are, by themselves, too large. Each member serves on one or more committees, many of which schedule concurrent meetings. There's still no way to run the system with efficiency and complete responsibility.

Constituents seem to expect Congressmen to be in their offices at all times, day or night; and they also expect them to be on the floor of the House or Senate at all times, whether anything interesting is going on or not (even if it's 10 or 15 minutes just for roll call); and they are also expected to be in all committee meetings. Members actually go off to private meetings together to do much of the substantive work, but they

try to go to the full committee meetings when something important is going to happen, or when they know enough about an issue to make a significant contribution.

Every Congressman worries about all issues—veterans, old people, environment, defense, and so on—but committees deal with narrow issues only. To some extent, because the committee chairmen are so strong, the committee members are heavily influenced by the interests of the chairman. Usually there are enough pressures on these senior members so that, on the average, they do not abuse this power.

In the long run, chairmen come and go, one state gets power and then another does. Somehow, the genuine perceived interests of the nation seem to get through the system eventually. In the short run, however, aberrations occur.

The results of the action on any given bill, and possibly even the action of a single Congress on a given issue, can be heavily distorted by someone who is in a position of power, or someone who is very good at the game. The game is to know the rules of procedure on the floor and in committee. You can almost never force anything through, but if you're very good at those very complicated rules, you can almost always stop something from happening—in the short run. This works for everything from the Presidential vetoes down to, in some sense, staff vetoes.

Staff, that's me. I'm too busy to do everything, so I have to do things in some order. Whose order? Mine—until somebody complains. At that stage, I'll pull something out from the bottom of the pile and work on it, but meantime I've been a bottleneck.

I'm working in the Congress partly because I want to understand it and partly because of specific measures I'd like to see enacted—or not enacted. Just like me, anybody in the system can sometimes be a bottleneck. Part of my role is the removal or illumination of other bottlenecks. If somebody's sitting on a bill, it's usually obvious. Sometimes they only need to be reminded of that to get it moving; sometimes that's not enough. If it's an important bill, there's usually some vested interest group to push it. If I think it's responsible to do so, I find that vested interest group and encourage them to help push the bill through the system.

Neither the system nor the actors are perfect. One problem is a serious mismatch between the duration of the problems to be solved and the time allowed for their solution. Most major societal problems are measured

in decades if not generations, and the span of interest in solving them by members of our government is limited—two years for the Congressmen, four for the President, six for a Senator (unless he's running for the Presidency), and one for the Office of Management and Budget. Tell a Congressman about a problem that really isn't going to be solved in less than a couple of decades of concerted and, possibly, painful effort, and he'll have to say, "That's too bad, but won't the first steps have a negative effect on my next election?" Those members who don't consider that won't be around two years later to work on the next step of this 20-year effort.

Members of Congress are somewhat like hockey goalies in being remembered for their mistakes. Somewhere else in the books you may notice they've done a lot of good things, but constituents seem particularly sensitive to mistakes. Their dominant attitude is, "What have you done for me lately?"

The congressional system is very well designed to make decisions based on questions and problems for which there is no rational decision, and possibly not even any responsible one. People say, "The environment is dirty. Let's clean it up." So here comes a bill to clean up the environment. It does something like banning strip mining. Is that bill good or bad? There's no way in the world that we can measure the specific effect of that bill—even if everything else would stand still for the next five years. No one can guess what other changes will take place that will affect the situation one way or another. Data are not only inadequate, they really aren't very meaningful in many cases. But the bill is there because somebody wants to stop or start something. Unfortunately, the members can't walk up with their electronic voting cards and find the "I don't know yet" slot. They do the best they can, and put it in the "Yes" or "No" slot. It's done.

We go through this legislative ritual, and there's a final vote—and the losers don't go out trashing in the streets. There are no riots, no bombing. They say, "Well, the process was fair. My taxes go up, but what the hell, we'll get *them* next time." And so we routinely get decisions on tough issues, and the losers, literally, gamely walk away from it. Industries have been put out of business by federal legislation, but they don't destroy society because of it, because the process is the fairest we've been able to come up with. That's the Congress—decision-making in the face of terrible uncertainty, done by a bunch of individual business-

men and committees with parochial interests.

I fit into this process in a funny way. I now work for one of those committees, but I used to work for one of the members, Mike McCormack, Democrat from Washington State. I met him largely by accident, but it turned out that he was, at that time, the only scientifically trained Congressman and therefore we had something of a common language. We could evaluate each other fairly quickly. It didn't take long to work out mutual trust. I learned what he did and didn't do, he learned about me and accepted me, and we worked and argued together quite effectively. About a year ago I switched from the Congressman's staff to work for the Committee on Science and Technology as a science consultant and subcommittee staff director.

Working for Mike McCormack, I worried about everything in general plus what he worried about specifically because of his expertise and interest in energy policy. So I spent five years dealing with energy policy from a member's office, where I also had to be aware of what his concerns would be should something impinge on the state of Washington.

Working for a committee is very different. Instead of worrying about everything, I just worry about what falls under the jurisdiction of the Committee on Science and Technology—which includes NASA, NSF, and used to include ERDA. Now the committee worries about the Department of Energy—partly. The distinction is that ERDA was just concerned with R&D; the Department of Energy deals with R&D and regulatory and financial aspects of energy. Therefore, its charter is larger than the jurisdiction of our committee. This means that responsibility is shared with other committees. Where that line is drawn eventually will depend on how aggressive the committee chairmen are and how the Department of Energy is constructed in detail.

By and large, I guess I do two different things. First, I'm an information broker. It's pathetic how much time I spend on the phone—getting information in and turning around and getting it out. I do my best to act with integrity and to keep the members informed of whatever they're concerned about so that somehow programs move forward. It's an awkward business because we are buried in information. I get 30 pounds of mail a week, in addition to 40-50 calls a day. If I take five minutes on a phone call, that's about five hours a day, plus the mail, plus three to four hours a day of meetings.

continued on page 29

Now, you notice I haven't done anything with all this information; I've just received and disseminated it. If that's all I did, I'd be called an Amplifier or a Distributor, but I also summarize data, filter it, analyze, and validate it. I also have to sort the mail, write some letters (and occasional bills), concoct new ideas, assign things to staff, and try to keep track of what they're doing because they do the real work. (I've got three or four technical people working for me, and somehow I'm choreographing for them.) That's the information-brokerage aspect of my job.

The other thing I do is to go out and implement and expedite things. That's the "Hired Gun" approach. There's a bill lying around somewhere, for example, and a decision is made to make it go. People like me make it go. We structure the required hearings and get the hearing records put together. We try to do a balanced job, but I suspect that there may be issues that I don't balance the way someone else would. Most of us do as well as we can, but it's not simple. There are always too many people who want to talk about the issue, and you can usually look at them and know what they want to talk about. For example, someone wants to talk about his company, another has a perpetual motion machine and wants funding; this one has a sound argument, but it's exactly the same as that of someone else who's already testified.

Eventually, you get this thick volume of testimony and statements for the record. Then you take all that information, add in all the data and biases of the members who work with you on your subcommittee, and do what's called "marking up the bill." You take the bill as submitted, put in everything else that should be there, and try to put it all together in such a way that it's politically acceptable—that is, it will pass.

Out of 24,000 bills introduced in the last Congress, about 700 passed,

most of which were continuations of programs already in existence, relatively inconsequential changes in the law, or private bills. What it comes down to is that, in any given Congress, there are only a few really new and significant bills.

We've been really lucky on my committee; we've passed several of them. We have a couple of solar energy bills to our credit—the only solar legislation that exists—a geothermal bill, an electric vehicle bill, an energy extension service bill, and loan guarantee provisions for fuel supplies. I'm one of the key staff on some of those bills and the critical staff on others, but it's so much a team process I'd hate to guess whose ideas were where in the operation.

I talk all the time to administration officials, congressional staff, outside experts, international folks, citizens in general, lobbyists of all sorts, and the press. It makes no difference. My office is open; that's my ethic—and for all I know, it's the law. People are calling up all the time, and sometimes they want to come in and tell me about something. Most of the time I just say, "Thank you," and incorporate what they have to say into myself.

Even with all this input (or maybe because of it) I don't know half what I ought to know at a given time. Sometimes I'm given 15 seconds to analyze a problem and give an answer, sometimes a month or two. But in that month or two I get only a day or two to think—and even that isn't like what I used to do at Caltech. That was really thinking. Now I just try to pull together enough to be able to believe what I'm saying.

The 15-second occasion really happened very early in my career. I was asked about a bill that had to do with medicine, and I said, "Look, I'm a low-temperature physicist, and medicine is pretty far removed." The Congressman said, "Should I ask you or the elevator operator?" I said, "I've got an opinion," and I gave it to him,

and he went and voted. That man is no longer in Congress, but it was probably one of my more difficult decisions, because when he went out to vote, two or three others from his state followed his lead.

Having opinions is very easy; I always have opinions. Unfortunately, having them is very much easier than acting on them—facing up to the fact that something is about to be enacted into law that won't easily get rescinded and actually will affect the lives of real people. I'm still not considered a conservative by any means, in terms of what I think can and can't be done, but my attitude is now different than it used to be in theoretical political action discussions.

My physical presence in Washington is important. I don't mean *mine* specifically, but that of a representative of science and technology. To many members of Congress, a scientist is their family MD, and most don't distinguish my background from that of an engineer or a biologist. They also don't necessarily know whether a question is or is not technical. In fact, many times they think they're asking a technical question, and it would be easy to couch an answer in technical terms, to hide behind it. But you have to say, "No. The technology is insignificant. That's really going to take a political decision."

We don't have the answers to the CO₂ problem, for example, or the particulate one. Is the world really going to warm up if we use fossil fuels? I'll be happy to give you an answer in 20 or 30 years, but we're voting on it today. So I say, "Here's what we know; here's what we don't know. Given that, do you like coal better than nuclear, or don't you? How much do you want to shift our life styles to use something else if it's not economically competitive?"

So the physical presence of a scientist is important, which surprised me. But serving as congressional staff brings on problems—very personal

My Life As A Hired Gun . . . *continued*

ones. One is anonymity. It's hard to have to give one of your good ideas to someone else. He gets the credit if it was a good idea. You feel good because you were right, but damn it all, I was used to publishing under my own name in my previous life. Worse is when someone takes your good idea and garbles it. Then if it's accepted, it's a killer. And if it's shot down, you can never offer it again, because people think they've already heard it. You can't correct it, and that guy certainly can't, so you have to start over again.

Another difficult part of the job is that we're really shooting not only at moving targets but at shifting deadlines. On the authorization for the Department of Energy, we were ready to go to the floor for the vote in mid-May. We actually voted on it in October, but ever since mid-May we have repeatedly been told, "Next week." Throughout that period we have had to be ready with the latest amendments, opponents, proponents, and arguments pro and con. We have had statements ready so members could put the material in the Congressional Record to make plain the rest of the legislative history. (The bill isn't always enough; anytime there's ambiguity in interpreting a bill, explanations of what the bill means are looked for in accompanying reports, associated debates, and the like.) Unfortunately, three weeks later the arguments or the players change, so you do it all again. A week later, the President makes a statement; do it again. A week later, something else changes, etc. You have to keep re-adjusting as the deadlines move.

Finally, we got a deadline for the next week—but the next *day* we were on the floor. They jumped us the wrong way. This time we were ready, but if we hadn't done the work, it could have been a mess. It's a little like the difference between an undergraduate and a graduate or professional career. As an undergraduate you

may not be ready when it's final exam time, but it's very hard to convince anyone that the exam ought to be postponed for your benefit. When you're a graduate student or professional doing research, you pretty much do it at your own pace, and you don't publish until it's good, regardless of the pressures. In the Congress I don't have that freedom. I publish, so to speak, when the train comes by, when the vote is on the floor, when the speech is due, regardless of the quality. I think my record is a good one; I would defend it. But damned if it isn't unsatisfying to feel that it's just OK, rather than signed, sealed, and sent off to the publisher as the paper I *want* to publish. Nowadays I just hope I didn't put the pages in the wrong order.

You can probably guess why I do this. In spite of my complaints, I have a lot of fun, and it's very satisfying. My original reasons had to do with the broader aspects of science policy, but I think most people in the technical community do not readily understand that their financial and educational support does not come from government because science is important as an elegant, intellectual achievement of mankind. It comes because of the expectation that something good is going to come out of it when the product comes back. The only exception to that attitude that I've noticed is when we back our technological achievements for purposes of international prestige. So any administration, any Congress, supports science policy, educational funding, and basic research because they think they're getting their money's worth.

The science policy part of my job is to determine why we support science at the federal level, how we do it, and whether we do it well enough. Right now we're trying to establish a framework that shows that basic research pays off. My own support for it is not only because it pays off. I think research is important for other rea-

sons—that intellectual achievement by itself is important, as long as everybody isn't working at that and leaving nobody tilling the fields. But if I can make the payoff argument honestly, I'm not unwilling to use it.

As I mentioned, the other thing I've been up to my ears in is energy policy. I'm sorry to say that, because it's still such a mess. So it's obvious I don't have a whole lot of effect on the way the country is run. But first and foremost, energy policy is mostly a political or societal question. It's not a physical resource question. We've got, if we're willing to use it, coal for several generations; and if we're going to breeder technology, we've got lots of uranium. Of course, both those technologies are less environmentally benign than we would like, and the nuclear one has awkward aspects of being associated, through some of its technology, with nuclear weapons. This means that if we expand nuclear to use breeders and reprocessing, we have to be very careful that the institutions work right or we may also be increasing the opportunities to acquire illicit nuclear weapons.

Those two technologies alone—imperfect as they are—would sustain our society at a growing economic level at prices not much different from today's. If you don't mind nuclear wastes, weapons proliferation, CO₂, assorted carcinogens, and all of the mining damage—which are political decisions based on the desirability of various tradeoffs—we have no energy problems and won't have for centuries. In that case, there's no point worrying because, long before that time, fusion or solar technology will be economically feasible by today's standards; or because we will have learned to use energy much more efficiently, "economic feasibility" will have taken on a new meaning.

If we spent money properly (and this is *my* definition of properly), we'd spend a lot more money on solar energy than we're doing now. We'd

run a lot more risks than we do now, and a lot of experiments would be failures. But we're way behind, and we ought to go after it aggressively. The worst that would happen is that we'd just create a kind of technological job corps. If it works, it will speed things up and we'll have technologies that are more comfortable to live with than coal or nuclear.

Energy policy is what I've done for six years. We put out a task force report in 1971 that said: We need a Department of Energy, the energy problem needs to be discussed in both physical and political terms, energy conservation and environmental protection are critical, and the R&D budget is much too small. Six years later there's a Department of Energy and the R&D budget has gone from

\$400 million in 1971 to \$4 billion today, so our task force report is no longer worth much, but it feels nice to have said it. After publishing our report, we found out there was another task force report almost ten years before that said the same things, but maybe better. So we sort of re-discovered gravity, but it still felt good. And it got attention.

Most of the energy legislation passed and still in process is, in some sense, just fiddling with the details. If our institutions were put together better, we wouldn't have had the energy crisis this way. We would have been discussing options, life styles, technological complexity versus simplicity of operation, the centralized versus dispersed operation, and so on. We still aren't doing that. I have to

worry about details, but I'm really basically worried about institutions. I think they need to be changed.

A desirable long-range goal, it seems to me, is to establish a just and sustainable society, which is hard because everybody has a different definition of justice, and sustainable is a long way from coal and nuclear. But that's the sort of goal I'm working toward. I think it's an exciting and worthwhile challenge. It's certainly not the technology I grew up with, which I also think is exciting. In no way do I feel that I may not be back doing some kind of research in science at some point, but now I'm doing this other societal interaction. And I find it fun and satisfying, but a hell of a problem with a lot of frustration because nothing's going fast enough. □

image digitizing accuracy and speed with PDS.

Programmable Microdensitometry is being used to solve an increasing variety of technical and production problems. The PDS microdensitometer has been used successfully in applications ranging from film emulsions grain noise to the counting of oranges on trees. With scanning areas up to 400 square inches, we can tailor the system to specific needs with respect to speed, resolution and total area.

For more information, write or call:

PERKIN-ELMER

APPLIED OPTICS DIVISION

916 MERIDIAN AVENUE

SOUTH PASADENA, CALIFORNIA 91030

TELEPHONE: (213) 441-3174

TWX: (910) 588-3772

