

It was really exciting.

R. Which troops?

Z. All the troops we now have in Europe. If you wanted to remove them. And then you would also use it for high-speed air defense and for going after high-speed nuclear submarines.

R. Is it stable enough platform for good shooting at that stage?

Z. We've tested it to scale, and it looks like it can operate in very high-sea stage, in the larger size. Now in the aircraft business, because we had had three successive aviation CNOs, we had done an awful lot of optimization in the field of sophisticated aircraft. I personally strongly supported the F-14 as one of these. We had to have a new fighter to replace the F-4 which was designed in 1954, and which when it begins to be replaced will be 20 years old, and because it was so clearly the way to deal with the high saturation, cruise missile rage and mass bomber rage.

R. What was the problem mostly with F-4? Not up to date electronics?

Z. Not up-to-date electronics, and not enough capability. It could do very well on one-on-one but when you had a mass of airplanes coming in, it couldn't keep track of them all and fire on several simultaneously.

- R. Well, that's electronics, isn't it?
- Z. That's right. And long-range missiles, which is also electronic. And the A-6-E, the fifth variance of the highly sophisticated, all-weather bomber was in the works. The A-7, which is a cheaper kind of day bomber, was being sophisticated to make it more all-weather by going into the E-version (?) of it; the E-2-C was coming along and I decided to speed it up; the F-3 was coming along and I decided to try to speed it up and make all carriers ASW-capable. So, in the standard aviation line, in essence, my policy was able to be just like it was with regard to the 688, to not fund anything new, and to concentrate on buying what we had, and letting...
- R. I take it, you were more content with these vehicles than you were with the 688?
- Z. That's right. But I just felt that they were adequate for a plateau for a generation for a ten-year period, and that again any new R&D money ought to go more into the ASW field and the electronics warfare field, and communications field.
- R. And helicopters you approve of, too, I take it?
- Z. No, not as well. We made do with SH-2s which were not very adequate but of which we could get our hands on 90 or 100, and initially thought...

- R. These were the Marine-attack ones?
- Z. No, these were a kind of a utility helicopter. The big Marine aircraft was the CH-53s that we were going to put on for minesweeping, and then the SH-3, the carrier helicopter for rescue work, we were going to use for the sea-control ship. So, it was not necessary for us to worry about designing new aircraft, except for the end of my tour when we began to think in terms of a lower cost fighter-attack aircraft to come along to give us the numbers we might need in later years. The big battle was to keep Congress from cutting the annual procurement of the S-3 and to keep Congress from cancelling the F-14 because of their concern about the cost and governmental contractual problems.
- R. Who made F-3? Grumman, also.
- Z. No. Lockheed. So, oversimplified, the policy was to hold down Rickover, be satisfied with what we had in the aviation field, try to keep it, and go all out in the surface area which had been held back badly since Admiral Burke's day.
- R. That makes it fairly clear. Then, actually the numbers of aircraft are limited by the numbers of ships that they can carry them in any case. To get more aircraft you first have to get more aircraft-carrying vessels.

Z. In addition to that optimization between unions, our effort was to get in to these non-unionized warfare areas where not nearly enough had been done: the captor, the electronics warfare, the communications field, that and everything. So that is a fairly rational concept, isn't it?

R. Yes, it sounds real interesting. Has the development of technological development of electronics especially, over other technological developments, outstripped the training and sophistication of senior Navy officers? Are Navy officers keeping up with the technology in their own heads?

Z. I think that the good Navy officers are keeping sufficiently abreast that they know what technology can do for them, and how to take advantage of it. There are only a very few who have the technical competence to really to really talk to industry about how to develop the technology.

R. You're not among those?

Z. No. Our concept has always been this in the Navy and it's worked pretty well: that within the unrestricted line there should be a few/<sup>who</sup>sub-specialize, some in mine warfare, some in communications, some in electronics warfare, etc., and that they are the ones who were able to bring operational insight to the still-more specialized, restricted line category and that they in turn are the ones who are able to work with industry to produce the thing.

- R. But what I was wondering was, whether we had total development in this field you're talking about, the non-union field, was purely because they were non-union fields or partly because technology had moved faster than the grab (?) of the top management...
- Z. No, Robert, I think it comes from the sheer momentum of parochialism. I could sit down with my senior sachems and we would all agree that we had to put more money into electronics warfare and into anti-ship missile defense, neither of which has a union, and they would go down and tell their staff that this was the policy and they supported it. But when the commander, whose future lay with the submarine Navy, who got that assignment had to make a decision between whether to find more money to try to fund Rickover's favorite reactor for the next generation of submarines, or whether to get some money into electronics. Mysteriously and bureaucratically, it always ended up in the union shop instead of the non-union shop. It was very hard; we did get....
- R. How do you avoid that?
- Z. What you do is you arbitrarily...
- R. Do you appoint Emmet Tidd your Chief of Staff and riding herd on him?

- Z. Yes, and when we appointed a three-stars R, who was tasked to be responsible for anti-ship missile defense and electronics warfare, and he turned out to be not very effective and then we tried re-wiring it under the ASW Deputy, who had gradually come to be thought of as the sea-control deputy, and that was working better by the time I left.
- R. He was the two-star? In other words, you create a union?
- Z. No, three stars. ...and in each year's annual budget debate the CNO has to consciously air in favor of the non-union areas, knowing that one way or another half of it will dribble back to the union.
- R. That's interesting. I think that all of that is very much to the purpose. ....just the managerial part of getting Project 60 underway, the assembling the team, who did what, all of that...
- Z. I think, Bob, that I've dictated something on that but I can just repeat it here. I went to Mr. Chafee and persuaded him to let go early his Executive Assistant, then Captain Stan Turner, who had just been selected for Rear Admiral as I was headed back to Washington, to do the initial work on Project 60 because I considered him to be the best available in Washington to do the job, both by virtue of his analytical background in

Ala\_\_\_\_\_ shop, and by his national-level look at the Navy, having worked for the Secretary of the Navy.

R. This was like the end of May.

Z. That's right. He was a Rhodes Scholar and a very competent fellow, and he did the initial draft which I then reworked from and then gave to Rear Admiral Wirth Bagley, who it took me a little longer to get to town - pried loose from his destroyer flotilla and who had incidentally come to Saigon and had worked with me on the earlier scheme on this thing, even before I put Stan Turner to work, and Wirth Bagley...

R. What time are you talking about?

Z. Stan went to work in June and Wirth Bagley came in about August.

R. When you say initial draft, what are you referring to, draft of what piece of.....

Z. Draft of the project, of project de-briefings....which was considerably reworked by then Rear Admiral, now Full Admiral, Wirth Bagley and me, and it appeared in its final form, as you now have it. It was largely the work of those three, plus Charlie DeBonna, the President of Center of Naval Analysis, because between us knew everything that we needed to know

about the Navy, and had very common interests in trying to make a major change in this concept of making everything always bigger and more expensive and more sophisticated.

R. You didn't assemble a special staff to do detail work on this?

Z. They each, both Stan Turner and Wirth Bagley, pulled in people in whom they had confidence informally to do that kind of thing.

R. But there was no specially set-up great staff?

Z. No. I knew what I wanted to get done.

R. Turner and Bagley were spending full-time on this during July and August.

Z. And September.

R. That's all they did.

Z. Turner did the first half and then had to leave town to go to his new job and Bagley took over.

R. So you had the one of them - one at a time. Can you estimate how much of your own time you spent on this during that period?

Z. Yes. I would estimate that I put in an average of two hours a day on that, and an average of two hours a day on personnel changes for that same period of time, and an average of two hours a day on JCS matters, and an average of

two hours a day calling on Congressman; that took eight hours, and the other eight hours I did the regular job.

R. What were the things you did, what kinds of things, say on Project 60?

Z. As an example, I knew quite a bit about the history of the development of the SSN-688, and I had gone in fine grain through the analysis and knew how gold-plated and more costly it was than it needed to be.

R. This you had done two years before.

Z. That's right. Or stated another way, I knew how many platforms we were sacrificing in order to have the very fine ones that were coming along. So, one of the things I would do was educate Stan Turner and Wirth Bagley on that background. I was personally quite interested in the air capable ship, later the sea-control ship, concept because I had spent a lot of time talking about it, analyzing it, with kind of it's inventor, Rear Admiral Tom Davies, who in my earlier incarnation was the systems' analyst working for the Secretary of the Navy while I was the systems' analyst working for the Chief of Naval Operations. So that was another one of my personal contributions. I think all of us shared the view that, because we were all destroyer men, we had to get cheaper and smaller in order to get more numbers...

- R. You were all destroyer men. And that was no accident, either.
- Z. No accident. It was clear that the whole tilt had been in the other direction. And, then I would say that Stan Turner was the guy that got me interested in the surface-effect ship because it had come along sorta since I had left town, and Wirth Bagley was the fellow who kind of sorted it all out and probably spent more time than the rest of us worrying about those non-unionized area of warfare, although we all felt that was a badly neglected field.
- R. Now, one would suspect from looking at these papers that what happened was that every so often one of your people would come to you with options about this system or that system, instead of asking for a decision about...
- Z. In these sessions, which didn't occur every day, but which averaged two hours a day, I think, between my reading and my discussions with them, they would have to make choices, and I would give them my decision on what those choices had to be. So this was something unlike those many papers that get written for you, this was something that had me in it as it came along.
- R. Now, during the course of pulling this together, did you consult or confer anything with this division, or did you want to present them with the

finished product.

- Z. I consulted only very occasionally with Mr. Chafee because this was the direction I told him I was going in my interview, and I didn't consult with Laird himself but I kept in close touch with Bob Krisley (?) his former systems' analyst, Brigadier General in the Air Force, who was the strong advocate of the same concept for all services.
- R. Maybe that chapter ought to begin with that part of your talk with Chafee back in the early spring in which you proposed it.
- Z. Yes. That is a way to bring that in, then that can come right out of .... This chapter also, I think, has got to flash back to my systems' analysis days and my days with Nitze, somewhat. You don't like the Nitze part there, too much.
- R. I don't mind. You've got some of that on the tape. Nitze is a theme in your life, so I don't see why he shouldn't come up whenever he comes up.
- Z. Yes, he's one of the big ones.