

Jack P. Ruina Oral History Interview – JFK#2, 01/25/1972
Administrative Information

Creator: Jack P. Ruina

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Biographical Note

Ruina was the Director of the Advance Projects Research Agency of the Department of Defense from 1961 through 1963. In this interview Ruina discusses the background of the nuclear test ban treaty, including the research and development to improve nuclear test detection capabilities; congressional hearings on the test ban and the nuclear detection technology; different political interests in the test ban debate; and some issues in getting the test ban signed, among other issues.

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Second Oral History Interview

with

JACK P. RUINA

January 25, 1972
Cambridge, Mass.

By William W. Moss, III

For the John F. Kennedy Library

MOSS: This is an oral history interview with Dr. Jack P. Ruina. The interview takes place in Dr. Ruina's office at MIT [Massachusetts Institute of Technology] in Cambridge, Massachusetts, the date is the twenty-fifth of January, 1972.

All right, I've got this thing going. Let me start out by picking up a couple of things that we did not talk about in detail last time. And I think the first one that I want to get out of the way is probably the most important and that's the whole Project VELA and the test ban background, and so on. Could you lead into that from the beginnings

and talk about it a bit?

RUINA: Okay. I could do this, but I haven't thought through, you know, very carefully

MOSS: Good.

RUINA: When I got to ARPA [Advanced Research Project Agency], I had essentially no background at all in this whole question of the nuclear test ban. And no background at all in the Pentagon. It was a field of science and technology that I and the political issues were ones I had no personal involvement in the area *as we had done* No specific hard *reviews*. And so I *entered* into the test ban question only by having responsibility for the R and D program [Research and Development]. And ARPA has responsibility for the total U.S. R and D program which was generated to improve our capabilities in nuclear test detection.

MOSS: All right, will you hold just a second while I make sure this is picking up. Fine. Go ahead.

ARPA

RUINA: Well, I came into ^{ARPA} about January of sixty-one. And the program was moving along merrily and had all kinds of parts to it to deal with both seismic detection, detection of nuclear exploding in outer space, and ~~the~~ of techniques, the techniques for invasion, the techniques for improving target capabilities in all our bases. And all this is described, And no one could decide, I think, in these hearings . . .

MOSS: Right.

RUINA: . . . what the program could take from that. ^{It's not terrible interesting.}
The first time that I had to was some Congressional testimony on, hearings, on the state of the nation in nuclear detection. That was early in the game; it may have been sixty-one or sixty-two. They weren't intricate. They were rather perfunctory; they were routine. ^{JC meeting [Joint Chiefs]}
It was before the /, nothing very much happening. And I myself felt rather ill-prepared. They wondered if I had any strong convictions; I hadn't developed any strong convictions. In fact, those hearings aren't. . . . If you look at the record

on the whole history of the test ban, those hearings aren't that very important. The important period comes in March of 1963, I believe they were, when those hearings had been

The whole question of testing had reached public issue. ^{Ban} AND I think it was in December of 1962 that the U.S. ^{and Soviet Union couldn't} had said we should get together on the possibility of the test ban, and settle again on the question of ^{Russian / Greek on sight} inspection;

And then, the sixty-three hearings were set-up really to review the state of the art. But behind it all was a strong ^{the} political interest in it was great. And I prepared some for those hearings because by that time I did have a clear view of where I am.

MOSS: Where were the political interests lining up?

RUINA: Well, basically, there were two factors, two groups.

One that ^{thought} voted to effect a treaty, ^{it was in the best interests of the US} that's to try to get a reasonable test ban and ^{thought} that testing was a draw.

. And another side that said that you can't trust those guys over there, and so and no treaty makes any sense, and treaty technology to any further degree only causes trouble and ^{then} they found ways to show that there are indeed risks. And I think that ^{defining} finding the risks was detail and general conviction that a test ban of any kind ^{at this stage} would not be effective. ^{in our best interests.}

MOSS: Okay, now could you identify these groups?

RUINA: Oh sure.

MOSS: I mean the spokesmen for them and so on. Particularly the less well known ~~and~~ ^{but} perhaps influential ones.

RUINA: Yeah, on the ^{well} general ^{in Atomic Energy} committee the, a key man who was probably the most well informed, the most intelligent of the people who were very concerned about it, the most happy about the possibility, was Craig Hosmer,

and stuck on the committee

the representative from California. Of the others
who were there before I was just much less for it,

Senator [Wallace F.] Bennett, [Henry M.]
Jackson,

On the other hand, people like [John O.]
Pastore, who *sort of carried the* chaired the committee, *was* ~~were~~ very
much with *the administration, their interests*

. So the hearings
did survive and ~~was~~ were an excellent review of
the state of the art. There was a lot of over-
simplification about what the issues were,
technical issues. [Chet] Holifield, Representative
Holifield, who was a mild opponent there, *mildly suspicious*
of anything that would
sort of simplified concerns of the things, you
know, the big race between those who were looking
for the technology of fighting, the science of
fighting nuclear tests; and those who were
looking for means of detecting nuclear tests
and who wanted to find out, you know, where we stand
in this race. It was very hard to sort of. . . .
And he would say, "How much money are you spending

on evasion techniques or how much money are you spending on detecting techniques?" The factors of detecting techniques are also. . . . You learned about evasion techniques and examining the ^{detecting} effective techniques which were not easy to get across. And, as ^{you} ~~we~~ learned about the problems and of seismic signal generation, /detection and education, you are learning both about detection and the techniques, they are not ~~in~~ separable, they're not ^{well} separable. But that's, ^{you know,} I guess, somewhat of a subtle idea; the other one is a very keen idea. ^{I think we never did understand it.} I think, we were very often-- [Interference]--

The difficulty with people like me, of course, was ^{clearly} (including) the word ~~to~~; was the test ban in the U.S.'s best interest, and so on. I wasn't in the position, a very strong position myself. I was a technician, ^{and not really connected with} ~~to~~ this program. And my own conviction was strongly for a test ban, particularly once the Soviets

on sight inspection in ^{the test treaty} '63. I felt, I and others, have always felt that this whole business of free inspection, four and five and six years ago, ^{number 5} was absolutely devoid of any military meaning. It was purely political. It was. . . . And interesting aside ^{have} which

, is that, some time, ^{were}

I don't remember exactly what time it ^{was} in January of '63, there was a party at Jerry [Jerome B.] Weisner's house of people who came, some British scientists came over, who were involved in the test ban treaty. Teddy [Sir Edward] Bullard, one of the outstanding British nuclear physicists, and others. And everybody's. . . . The whole spirit of the things ^{was} was that we were going to have [some technical discussions and all the rest. So, we were all a little high, a few beers, and what; and we decided to have a little bet: when was the test ban going to be signed? ^{everybody} People signed a piece of paper and/put in a dollar or whatever it was. And there was one fellow, I think it was Bob [Dr. Robert.] Press

I still have that piece of paper--signed when there will be a test ban. And then, after that was done, after we all signed, somebody realized that this was a politically hot piece of paper, with the President of the Science Advisor there. ^{signed when there'd be a test ban while the President was negotiating} [Laughter]

So then somebody quickly grabbed up the piece of paper and gave it to Press, Bob Press or somebody, and said, you know, you've got to protect this paper, and don't show it signed. until the thing is/ And it ended up that I won the bet; that part , and that was sure chance. And that was why I got the piece of paper. I still have it at home somewhere, so if you want it, I .

MOSS: Yes.

RUINA: It's got all these signatures giving you dates as to when you'll have a test ban.

MOSS: Yes. That would be a fascinating thing to have. And a nice little display item fifty years hence.

RUINA: That's right. That's right. I have it somewhere;

I'm not sure I remember exactly where, but if I should find it someday when I'm going through the files and I pick it out .

MOSS: Yes. Splendid.

RUINA: And Pete , more than anybody said that the reason I won is that I said it won't be until July. And everybody said that it would be sooner. They all said ^{January} February, March one, March. . . . You know, it was just that plain. Nobody dreamt, now here are people who are rationalists, nobody dreamt that the issue beneath was the start of the fiscal year, could possibly make a difference. And yet, that was the hang-up. [Laughter] But really the hang-up was more than that.

MOSS: Yeah.

ruina: Really the hang-up was that the President [John F. Kennedy], politically and technically, it came to actually that he himself ^{fell} the difference between three, four and five tests to the extent that part of the cynicism the fact that it had a more effective degree.

MOSS: This is curious. It just occurs to me that we do become ~~more~~ wrapped up in numbers games. Numbers of missiles, megatonage, body count, polls, percentages of support, all of this kind of thing as sort of indicating a qualitative rather than just a quantitative situation. What. . . .

RUINA: The factor that something is quantitative, that numbers are meaningless, except in a very gross sense; and yet one ^{puts more to} thinks of missiles ^{count} in numbers and body counts in the extreme cases. A lot of it is just mathematics and machines.

MOSS: X You think so, now why, what's the. . . .

RUINA: Now, I'm not saying that the
on sight inspection.

MOSS: No. No. That's a very quantitative thing.

RUINA: No. Even Alan and ,
a good part of his reaction of people who were just broad general philosophers and say, "What's the effort.?" And you're going to say, "Well, I think, I was told. . . ." They won't believe that. But then it went to an extreme, where,

you know, we had to make up numbers; without numbers, you weren't workable.

MOSS: Were people actually making up numbers for it?

RUINA: Well, I have no feel for that.

MOSS: Yes, all right, all right. I'm talking about in other areas now; more in your area.

Was there some of this that was. . . .

RUINA: No it wasn't that there. . . . Because most of our stuff was quantifiable.

MOSS: Yeah.

RUINA: