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## October 6, 1967

2 UPTON: I am told that our film has been rethreaded 3 4 now and is ready to roll. I believe that Dr. Langham and Dr. Donaldson have suggested that we take the film next. 5 6 FREMONT-SMITH: Good. 7 UPTON: So if all is in order, let's proceed. 8 [Showing of film "Return to Bikini."] [Applause] 9 DUNHAM: Lauren, this isn't the way I heard the 10 story; There was a movie I saw a few years ago that was announced to the public by Ian Fleming with a four-page spread 11: 世名是 医内膜 医多叶 12. in the London Sunday Times which showed little fish that had 13 become disoriented, losing their way, trying to; climb trees, 14 which showed sea turtles who tried to find where to lay their 15 eggs. They laid great quantities of eggs which were sterile 16 and then couldn't find their way back to the sea. It showed 17 piles and piles of term eggs which were also sterile and very 18 few terms. Now, which is the true story, sir? 19 DONALDSON: I don't think I've ever seen these people 20 in Bikini .... If they were there, it was at some time when we 21 didn't happen to be about. But if they want to have a contest, I'll match my skin scars against theirs any day and coral cuts against theirs. 24 DUNHAM: This was supposed to be an authentic movie 25 of the aftermath of the atomic bomb in Bikini. Maybe you 26 selected different parts of the atoll. 27 DONALDSON: I think one would have to do more than 28 select in this particular case because the real problem here 29 about the fish that were supposedly displayed there is that in 30 all the years we've worked there we've never seen these par-31 ticular fish in this place because that particular kind of fish 32 can't live in an atoll; they can't live in an atoll because 33 the environment isn't right for them and I think even John

L	Wolfe with his great accomplishments in environmental control
2	couldn't built a mangrove swamp out in Bikini without an out-
3	flow of fresh water.
4	We could relate this on and on but this sort of
5	popular release is nothing but disgusting.
6	TAYLOR: Who made that particular movie, do you re-
7	member?
8	DUNHAM: It was an Italian movie. It had a lot of
9	other stuff in it. There were beautiful pictures, though. I
10	must admit there were beautiful pictures of wildlife. As
11	Lauren says, undoubtedly these ones of these mudskippers, as
12	they call them, were taken in the mangrove swamps somewhere
13	and there were lovely pictures of giant sea turtles laying eggs
14	Again they're apparently authentic pictures.
15	FREMONT-SMITH: Maybe it was the photographer that
16	was disoriented; thought he was in Bikini but wasn!t.
17	DUNHAM; That could be quite possible.
18	BUSTAD: Are there any natives now on Eniwetok and
19	Bikini or are there any residents there?
50	DONALDSON: There are no residents on Bikini. The
21	place is delightfully deserted. It's a place that one can go
2 <b>2</b>	to and become completely isolated from the outside world. The
23	native Bikini people were evacuated in the spring of 1946 and
24	moved to Rongerik. Rongerik was one of the islands downwind,
25	you recall, on the chart that Bob had on the board. We visited
26	Rongerik in the summer of 1947 and they were rather hard put
27	inasmuch as they had had a fire and burned off much of the
28	environment. They were limited in food supply because the
29	atoll they were living on was smaller than the one they had
30	left when they were evacuated. This was reported with some
31	force, as strong as we could make it, to the Trust Territory
32	it wasn't Trust Territory at that time. The Navy had responsi-
33	bility, they moved them to Kwajalein and from Kwajalein they

1	moved them to Kili, a small island south of Kwajalein and
2	there they remained.
3	Now, the people from Eniwetok, on the other hand,
ħ	were evacuated to Ujelang, another island. They're not happy
5	with Ujelang, again because it's not their ancestral home.
6	It's a smaller island than Eniwetok and they would very much
7	like to go home. Of course, going home to them would be some-
8	thing as comparable with the atoll they left. This would
9	take a great deal of doing to restore one of these atolls to
10	a living environment for the Marshallese, not the fact that
11	life can go on there but that they base their economy on
12	coconuts, which is essential to their survival, which would
13	take maybe some 10 or 12 years to replenish and get the crop
14	going. Of course, each year it's postponed that means the
15	10 or 12 years are pushed back a bit farther.
16	Now, we who have worked there have many friends
17	among these people. We know them, as Bob and others who have
18	been out there know. We hope that it will be possible to get
19	them back home again. I think this is a blight on our national
20	record that we don't do something about getting them back.
21	CONARD: We certainly are trying to, aren't we?
55	DONALDSON: I have no knowledge of it.
23	TAYLOR: One gets the impression that the ebb and
24	flow of the sea plays at least a major role in restoring the
25	island, restoring the atolls to their states. Do you want to
26	say anything about the relevance to this, to a similar situa-
27	tion on land, for example, in Nevada?
28	DONALDSON: Again you go back to the three-dimensional
29	effect we talked about before and you have a completely dif-
30	ferent ecology, a completely different set of syndromes, of
31	areas that you are talking about.

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UPTON: Maybe this is a logical point to shift them

to Dr. Langham's presentation, but we are dealing in this

32

1	case with a land problem. If there isn't further discussion
2	of the film, in order not to cut short Wright's presentation,
3	let's go ahead with that then.
4	LANGHAM: As a proper beginning I would like to
5	invite Merril: to pipe up with "incredible!" at any time he
6	feels the urge.
7	FREMONT-SMITH: Or even with "credible!"
8	BUSTAD: Are you restricting it to Merril?
9	LANGHAM: Maybe I'm intimidating Merril. I'm sure
10	I haven't the rest of you.
11	In listening to the discussions yesterday with re-
12	gard to the sociophyscological reactions among the Japanese,
13	I would just thinking about how the reporting of this in-
14	cident is so different from the things that Merril was saying.
15	That was why he was saying "incredible" because my experience
16	has been quite different from Merril's. The problem perhaps
17	we faced was not nearly as great, but I am sure that one can-
18	not help but think why the reactions of these two situations
19	was so different, and I have eliminated a few pictures that
20	deal with the details of the health physics and how we cleaned
21	up the mess and what we did in order that I can merely pre-
22	sent those things which I think have some bearing or which
23	point out some of the differences, and I'm sure that these
24	differences lie in the psychological reaction of the people.
25	Now, the question is why was the psychological re-
26	action so much different, because many of the problems were
27	quite the same. There was goof at both nations involved ad-
28	mitting there had been an accident that involved radioactive
29	material, just exactly as there was in the other case. There
30	was a serious economic problem in so far as the people in this
31	limited area were concerned.
32	FREMONT-SMITH: You mean the nations didn't admit
33	that there had been. Stafford Warren DOE/UCLA 4

1 LANCHAM: No. This was so typical. 2 FREMONT-SMITH: How long? 3 LANGHAM: It wasn't even funny. FREMONT-SMITH: How long was it? Are you going to 5 come to that? 6 LANGHAM: Yes. I think it will be brought out in 7 the discussion rather strongly. 8 FREMONT-SMITH: Physically. 9 LANGHAM: Because I think this is one of the very 10 interesting points. In other words, I had none of the problems 11 Merril had and I don't think it's that I'm that much better 15 than he is! [Laughter] Of course, I think the problem was 13 not nearly as great either. Now I would like to show just a few slides to get 14 15 this show on the road, and I don't intend to make any long speech but I want to set it up and then I want to see you 16 17 wrestle with why the problems I faced were different than the 18 ones that Merril did. [Slides] As all of you know, there was an incident 19 involving the loss of four nuclear weapons each rated in the 20 megaton class and it has attracted its share of publicity, 21 this being three examples. The Saturday Review gave it a great 22 play. There were two books written on it in this country and 23 24 an Englishman came out with a paperback within two months after the incident was over. These two books are rather good 25 26 and they're not bad accounts of the incident if you'll give. of course, the author's privilege of introducing a little 27 trauma here and there. 28 Flora Lewis! "One of Our H-Bombs Is Missing" c 29 centrated more on the sea search than the one that was 1 : . . 30 Schultz "The Bombs of Palomares" concentrated more on the 31 32 operation and went a little more deeply into the philosoand where and why than did Flora Lewis. They both relat: 33

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2	a scintillation counter an oscillation counter. It's obvious
3	that Flora Lewis didn't know anything about how hydrogen bombs
#	go off, and I read her manuscript before and when I sent in
5	my corrections to her manuscript, they were all classified
6	and she never got them! [Laughter] So if you want to know
7	how a hydrogen works, Flora is not a very good authority be-
8	cause she didn't get any help on this particular aspect. The
9	English book is absolutely abominable. It gives everything
10	wrong and it's the type of unfortunate thing that so frequent-
11	ly occurs.
12	The Reader's Digest carried a very nice article on
13	the incident.
14	I show this primarly to show where the incident
15	occurred. It occurred about 40 kilometers from Grenada, about
16	80 miles up the coast, the Mediterranean coast from Gibraltar,
17	about 70 miles west of Cartagena and it occurred in a very
18	remote area right on the Mediterraneamiahore.
19	The incident involved the refueling operation of
20	one of six B-52's as part of Operation Chrome Dome. I imagine
21	most of you know about Operation Chrome Dome.
22	FREMONT-SMITH: No.
23	LANCHAM: It's given in great detail in Flora's book
24	as well as in Ted Schultz'. But since about 1962
25	a certain percentage of the SAC B-52's have been airborne at
26	all times carrying weapons, this being part of the deterring
27	philosophy, meaning that if SAC was entirely wiped out, still
28	a certain percentage of the SAC force would be able to zero
29	in on its prescribed target. These flights were being made
30	constantly and there was elaborate pains, of course, taken to
31	see that Dr. Scream's philosophy could not predominate, that
32	some person should not take the war into his own hands, and
33	so forth.  Stafford Warren DOELUCLA
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are good books. There are mistakes, of course, like calling

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The final act of fusing the bomb was in the hands
1
2 of the President of the United States so there was no chance
3 of a mishap of that kind.
             Flying nuclear weapons of the megaton class over
5 people's heads is serious business, of course, and so these
6 bombs have built into them safeguards which if you take a
7 multiplicity of combinations, the chance of one of them giving
8 a critical yield on an accidental situation like a plane crash
 9 is probably about 10^{-7}. In other words, there is not one
10 chance in 10 million that a criticality could actually occur,
11 and this is because of combinations of interlocks, and so
12 forth, which would have to be thrown in the right sequence and
13 everything before you would have an armed weapon.
             Essentially the United States has no agreement which
15 allows it to land a nuclear-carrying aircraft in any country
16 which is armed. These aircraft must take off in United States
17 soil, fly their route and return with and land in the United
18 States. So this means refueling operations at various points
19 along the route. And we have a refueling operation agreement
20 with the Spanish Government. The 16th Air Force was in charge
21 of the refueling planes which would take off from Spanish
22 territory, meet the bomber supposedly out over the Mediterranean
23 and refuel it, as you see going on here, and the bomber would
24 continue on its way. These, of course, were always called
25 practice flights. They could, of course, be changed from a
26 practice flight into the real thing by the right combination
27 of messages, including one from the President. So this is
28 Operation Chrome Dome.
29
             As a result of the accident that occurred, Spain
30 immediately withdrew or requested that no more weapons be
31 flown over Spain, and Mr. McNamara I think has now just about
32 done away with Operation Chrome Dome. I don't think it's even
33 going on. If so, to a very limited extent at the present time.
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The other bombers reported that the accident had occurred. So

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the accident was known within a few minutes after it occurred.

Immediately contacts with the area was established by the 16th Air Force. The principal way to get there was over a very narrow bad road or fly in by helicopter.

The first thing, of course, that one should do in a situation of this kind is look for any indication of a criticality yield and, indeed, this was done. So the first group that flew in by helicopter looked to see if there had been any indication of a criticality yield and then started rounding up the injured and the dead. There were seven American Air: Force people killed and three injured. So they rounded up the bodies and the injured and got them to the hospitals and then the question, of course, came up of where are these precious weapons, primarily because they included a lot of secrets, so-called, of our weapon technology and so this we must find at all costs.

Within two or three days a base camp was organized on the shores of the Mediterranean which grew to house some 850 people before the operation was over. Almost immediately a search was started on land with these people lining up finger tip to finger tip and walking across the countryside looking for something that looked like a nuclear weapon even though, of course, nobody in the crowd had ever seen a nuclear weapon. At least they thought they would recognize an unusual object and reports. They searched 49 square miles three times by this technique and part of that 49 square miles they searched seven times trying to find the weapon. The Bureau of Mines flew out a team which even inspected all of the old mine shafts and all of the old wells just in case the weapons had decided to drop in the holes. So the search was on. Stafford Warren

It was otvious that some of the weapons could, or

one or two of them could have dropped in the sea. So the
Navy was brought in on the operation and within two or three
weeks the Navy Task Force had grown to 14 ships. They brought
in the ALVIN and the ALUMINAUT and the experimental devices
that are used for deep sea recovery and this turned out probably to be the greatest Navy exercise in deep sea salvaging
and recovery that has ever occurred.

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Notice the sandy beach, because this is part of the economic and psychological aspects of the territory. The mines having run out, this was a depressed region. It has eight miles of the most beautiful Nediterramani basch you could ever see. All you would have to do was clean up some of the slag dumps and things left by the miners and one would have a resort -possibility that could actually rival the French Riveria and the Spanish Government had actually underway a developmental program to develop this into one of the tourist resorts which is doing so much now for the economy in Spain. And so you can imagine the great concern of the Spanish Government that here was this development and if there was a hydrogen bomb lurking around somewheres just waiting to go off when you got there, you might not come. And so this would have scuttled their entire program to relieve this depressed area by making it a tourist area.

weapons were found. One was found in the dry river bed just to our right on the screen there, right where the dry river bed joins the Mediterranean. Palomares sits on the mesa about a mile from the beach. Between Palomares and the beach are the ruins of the smelters which have fallen into great decrethis actually, to show that theitem had some political processing and, pictures of these wrecked and ruined smelters were rein the Iron Curtain country newspapers as part of the after math of the American accident. And not only was that of

international political flavor but the Nuclear Disarmament 1 Conference was meeting in Geneva at the time of the accident 2 and when it became known, even though it was not announced 3 officially by either the Spanish or the United States Govern-4 ments, the Disarmament Conference, the Western blocs just 5 walked out and that was the end of the 1966 Nuclear Disarma-6 7 ment Conference. EISENBUD: The Western blocs walked out? 8 LANGHAM: The Eastern blocs. 9 EISKNBUD: How long after the accident was that? 10 LANGHAM: They walked out immediately upon hearing 11 of the accident even though it was not reported that nuclear 12 weapons were involved. The Russians walked out of the Dis-13 , armament Conference and so it was disrupted. So this had 14 15 international political trauma as well, as much as did the 16 Japanese incident. 17 When they found the second weapon, it had com-18 pletely overshot the village. I forgot to say the first 19 weapon, the one that fell in the dried river bed, one of the 20 chutes popped off, came out of the cannister, just about the 21 time it hit the ground and broke its fall and the weapon 22 sustained a dented nose and lost one fin. So this was picked up 23 by the helicopter, put on a truck bed and rolled away. 24 The second weapon complete overshot the village and 25 landed in the hills over to the left where the red spot is, 26 landed in the hills. The chute didn't deploy; it impacted 27 its full velocity in the side of the mountain. When the 28 high explosive charge in the warhead went off the plutonium 29 therein, of course, was converted to the oxide, a fine dust of 30 oxide, was thrown up with the dirt and bits and pieces of 31 bomb casing into the air, the wind was blowing down the valley 32 toward the village at about 30 knots. So the plutonium cloud drifted down towards the little village of Palomares. DOE/UCLA 33

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The third weapon to be found impacted right in the
1
       edge of the village, 100 yards from city hall. One part and
2
       wing of the D-52 fell within 80 yards of a schoolyard where
3
       there were 70 or 80 children playing. There are bits and
       pieces of airplane all over this village. It was just ab-
5
6
       solutely umbelievable that that much material could fall down
       in a populated area and somebody not got hit. But nobody did.
7
       In this case again the weapon impacted in a rock wall to a
8
       man's tomato patch and it went off, the high explosive
 9
       charge, and the plutonium was thrown into a cloud which
10
       drifted away from the village but down across their principal
11
       agricultural area. Their prime cash crop was tomatoes, and
12
13
       they get two crops a year. The last one they harvest about
14
     the middle of January. And they were just waiting to get into
15
       harvest their last crop of tomatoes and it wasn't quite time.
15
       It incidentally happened to be a holiday for a patron saint
17
       or something for this village. So religion enters into this.
       Those of you who like to think of the theological aspects,
18
       the statement was made "The hand of God was out in Palomares."
19
       So there is even a religious connotation.
20
                 FREMONT-SMITH: The hand of God protecting the
21
       village or punishing it?
22
23
                 LANCHAM: Protecting it, because this is the only
24
       village that's had over 4 megatons of weapons dropped on it
25
       and nobody got hurt. So it does look like the hand of God was
26
       out, and this was what the Spanish thought, the people that
 27
       lived in this area.
 28
                 In this case the contamination went down across their
 29
       principal cash crop, their fine ripened tomatoes, and so
 30
       economics are involved here. They have a fishing industry
 31
       also and there was a question of what about the fish? What
 32
       about the tomatoes? Exactly the same thing that Merril was
                                                     DOE/UCLA: /2
 33
       talking about.
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This is a picture of the family that was involved. 1 They are a very friendly, nice people. They like to have 2 their pictures taken. That was their principal mode of trans-3 portation. Many of the tomato fields were fertilized with soil that had been brought in in those baskets and the soil 5 has been brought in over the years to make the tomato field 6 a little better, and that was their principal mode of trans-7 portation, at least there were a few people that had carts as 8 well. 9 Another example. Here is a family and the live-10 stock always lived in the end room to the house and if the 11 12 family increased they built on another room for the livestock and then turned the other room into an increased living 13 - quarters. Plutonium counts probably of the order of two or 14 15 three thousand counts per minute per alpha probe area could be measured in the front yard and there was 500 counts or 16 so sometimes on the living room floor inside the house. 17 DUNHAM: Is that the family doctor? 18 LANGHAM: That's one of the atomic Spanish AEC 19 colleagues and they were extremely knowledgeable and extremely 20 cooperative and they said, "We'll worry about the people; 21 you worry about the tomatoes and the contaminated fields and 22 all of that. We'll take care of our people, " and they did 23 24 a beautiful job. Here was cooperation, as you see, that was unbelievable and knowledgeable. There were only three or four 25 26 of these people, but the two principals had spent a year or 27 two in this country at Rochester and at Brookhaven and so 28 they knew something about what they were dealing with and 29 some people took it quite lightly. Here you see the local barber who immediately picked aving mug, a coffee can full of water, a sponge and some scissors and moved right into the area and started to set up his barber shop. And 30 31 up his shaving mug, a coffee can full of water, a sponge and

a piece of soap and some scissors and moved right into the

mess hall area and started to set up his barber shop. And

32

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the price of a shave was 10 pesetas, the price of a haircut
1
       was 10 pesetas, the price of a shave and a haircut. was 10
2
       pesetas [laughter] and part of the humor was to get him out
3
       of the mess hall. They took some of those plywood boxes and
4
       built him a little enclosure about 100 yards away from the
5
       mess hall. He didn't like this very much because people
6
        couldn't see him practicing his trade. So he felt he desired
 7
        to write a sign on the wall. So he had written "shave, hair-
 8
        cut, everything, 10 pesetas," Some disgruntled G.I. had
 9
       written right below the sign, "Everything but girls!" [Laughter]
10
11
        So I'm sure that the barber had never had so much business in
12
        his life. Even I got a haircut, you see.
                   If one looks away from the impact point of the third
13
14
      . weapon to be found, he sees their principal agricultural area.
        You see one of the farmers in the background. He received the
15
16
        biggest settlement I think, which was something like $16,000
 17
        was the settlement with that particular one. Every home has
 18
        one of those cactus hedgerows around it and you haven't had
 19
        an experience yet unless you have tried to take contaminants
 20
        out of hedgerows! [Laughter] In fact, it's better to plow
 21
        it up and pay the man to do it himself. So this was the
 25
        situation.
 23
                   Here are their alfalfa and tomato fields. These
 24
        tomato stocks or these tomato plants are trained gently by
 25
        hand to grow up a tripod of stocks. They'll grow seven feet
 26
        high and they were just loaded with fine ripened tomatces and
 27
        in January on the European market they bring a nice price. So
 28
        this was what was going to keep them going until their next
 29
        crop.
       Here is the way their tomato patches looked in a little while because you could hold an alpha counter up to the tomato vines and set readings of 10, 15, 20,000 counts per minute. So what do you do in this case? Well, your first
 30
 31
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32

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thought is to get the stuff rigged up in a pile so that
1
       the plutonium won't blow around and if there are some of you
2
       that wonder why we worry about plutonium, it's known, of
3
       course, that enough plutonium taken into the lung or the liver
ħ.
       or bone will produce cancer. We've done this hundreds of
5
       times in animals. Plutonium, if taken in systemically is in-
       deed bad. There's no doubt about that. And some people have
7
8
       referred to it as the most toxic substance known to man. I
       think this is erroneous, but you can get that belief by look-
 9
       ing into the industrial heightening tables at the maximum
10
       tolerable levels of various things and when you get to pluton-
11
12
       ium you'll find that plutonium-239 has one-half of a micro-
       gram. That's one-half of a millionth of a gram as the maxi-
13
14
       mum permissible body weight. If you're worrying about the
15
       plutonium-238, it's 250 times over that still.
16
                 BUSTAD: I think that you should point out that
17
       ingestion as such---
18
                 LANDHAM: I would, yes. But the whole idea, as I
19
       said, is its systemic. The reason I don't think plutonium
20
       shouldn't be given this terrible reputation is that it's
21
       extremely difficult to get into your body and you can eat it
22
       and absorb only about 3/1000 of 1 per cent of what passes
23
       through the gastrointestinal tract will be absorbed in the
24
       blood. On the lung the absorption is a little bit higher
25
       perhaps.
26
                 EISENBUD:
                             I've heard a statement made many times.
27
       I don't understand the basis for it since the maximum per-
28
       missible body burden for radium is 1/10 of a microgram.
29
                 LANGHAM: If we put it on the microcurie basis,
30
       then it's 4/100 of a microcurie as compared with 1/10. 3
31
       that on that basis it's still ---
                                                     Stafford Warrer
 32
                                                       DOE/UCLA
                 EISENBUD: Yes.
 33
                 LANGHAM: These are the tomato patches in a few
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died from an atomic bomb and one was occasionally asked the
1
      question whether as a matter of fact are we going to die? And
2
      you told them no, and this satisfied them so they went away.
3
      There was usual turmoil. Naturally this was a big field. It
      was place where nothing had happened since the Romans and all
5
      of a sudden everything seems to happen. And so visitors came
6
      in from nearby villages even though there were 400 people ap-
7
8
      proximately living there. The Spanish ended up monitoring
 9
      1800 people because it became quite a tourist attraction and
10
      besides about everybody had a cousin or an uncle living in the
11
      nearby towns, so cousin or uncle came over to check on them
12
      to see if they were all right. So it was practically a tourist
13
      resort.
14
                 FREMONT-SMITH: With no restriction on local travel?
15
                 LANGHAM: Not except right in certain areas where we
16
       posted the Civil Guard and told the Civil Guard not to enter.
17
                 Here's one of those areas. This is the tomato patch.
18
       You can see the crater, the hole blown in the rock wall in the
19
       tomato patch and the gentleman who owned the tomato patch was
50
       standing in the door of his home which is the white one in the
 21
       background. The blast from the explosion blew him down into
 22
       his living room floor, tore one door off the hinge and knocked
 23
       out one of his windows and that was the closest we came to
 24
       having a Spanish casualty. Seven Americans had already died
 25
       and eight more were killed flying in supplies to Sinavia to
 26
      helf clean up the mess. So 15 Americans lost their lives. Not
 27
      a single Spanish life was lost.
                 EISENBUD: How soon after the event was it known to
 28
       the local residents that their crops would be bought?
 29
 30
                 LANGHAM: Probably 24 to 48 hours. I mean the first
 31
       thing they know of it they were restricted from going into their
                                                      Stafford Warren
                                                        DOEJUCLA /=
 32
       fields.
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33 EINENBUD: They were sure they would get a good

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price for their crop.
1
                 LANGHAM: Some of them had been overlooking in the
2
       hole and looking at that funny object down in the hole and the
3
       Frenchman claimed he got a radiation burn on his knee from
4
       looking into the hole. He got down on one knee, looked into
5
       the crater and then his knee got sore after that and he said
6
       he had a radiation burn on his knee. Of course, this is
7
       alpha activity and it got on his pants and weaknew he
8
       didn't have a radiation burn.
 9
                 Here are some of the psychological aspects of this
10
       problem. The manual says -- and I helped write it -- and it's
11
       funny that you can never write a manual that can take into
12
       consideration the actual event once it's happened. But the
13
      manual says you determine the hazardous area and you stake it
14
       off with red flags! [Laughter] So we actually did that. We
15
16
       staked off the area with red flags. Unfortunately, the guy
17
       who wrote the manual and many of us who made the decision
18
       didn't know. Red is the color of the cape with which they
19
       fight the bull and it has a far more significant meaning for
       some reason to the Spanish than it does to us. It means
20
       danger to us, but for the Spaniard the red flag has a great
21
       deal of meaning. So we quickly took down the red flags and
22
       replaced them with white flags.
23
                 FREMONT-SMITH: What kind of a meaning? Did you
24
 25
       mean a dangerous meaning?
                 LANGHAM: Yes.
 26
                 FREMONT-SMITH: Much worse than just ordinary
 27
 28
       danger?
 29
                 LANGHAM: Yes.
 30
                 FREMONT-SMITH: Practically radioactive.
 31
                 LANGHAM: They hardly knew what radioactivity was,
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you see. To us a red flag means danger, "Don't enter," but

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to them it means much more danger than it means to us, I guess.

2	all."
3	IANGHAM: Yes, "Or run the other way"; I don't know
<b>4</b>	except that the red flag created enough commotion and our
5	psychology friends can explain this, I think.
6	DUNHAM: I think Merril's point about it having
7	political significance may be important.
8	EISENBUD: The red flag is what the Loyalists
9	carried during the Spanish Revolution.
10	LANGHAM: Yes. Maybe that did. All I know is that
11	we had to get the red flags down fast for some reason or
12	another. And this was all right and you can see the beginning
13	of the clean up and scraping up the plutonium contamination
14 .	where we felt it was present even though no agreements had been
15	made with the Spanish Government with what we would do with
16	regard to cleanup. In other words, this is going on starting
17	to do something about the situation even before there's any
18	agreement.
19	FREMONT-SMITH: Yes. Starting to occupy a bit of
20	Spain, so to speak, by the soil.
21	LANGHAM: Yes. By the time we were through with the
21 22	LANGHAM: Yes. By the time we were through with the land operation, Palomares began to look like that. The houses
22	land operation, Palomares began to look like that. The houses
22 23	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been
22 23 24	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been re-whitewashed. The fields had been plowed clean with the
22 23 24 25	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been re-whitewashed. The fields had been plowed clean with the exception of the irrigation ditches which we finally got the
22 23 24 25 26	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been re-whitewashed. The fields had been plowed clean with the exception of the irrigation ditches which we finally got the Spanish to let us agree to leave because the soil is so bad
22 23 24 25 26 27	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been re-whitewashed. The fields had been plowed clean with the exception of the irrigation ditches which we finally got the Spanish to let us agree to leave because the soil is so bad that it takes 10 years to stablize an irrigation ditch and
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22 23 24 25 26 27 28 29	land operation, Palomares began to look like that. The houses had been hosed down in many places; some of them had been re-whitewashed. The fields had been plowed clean with the exception of the irrigation ditches which we finally got the Spanish to let us agree to leave because the soil is so bad that it takes 10 years to stablize an irrigation ditch and if we would have stripped the vegetation at the irrigation ditch we would have had a problem there. So the Spanish agreed to let the irrigation ditches stay, and you'll notice

FREMONT-SMITH: "Very dangerous. Don't enter at

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compensate for, and so forth.
1
                 This is my favorite story. All of this material,
2
       primarily because it shows it when you begin to get into the
3
       international area and attract other people's attention is
4
       when your headaches begin. We had accumulated up at the site
5
6
       too, as it was called back in the hills where there was no
       vegetation but a big contaminated area, a weapon that broke
7
       open there. We had accumulated this great pile of contaminated
 8
       soil and trash. The question was what do you do with it?
 9
       So we talked to the Spanish and asked them if we could bury
10
11
       it. So we started digging a trench. Well, the Spanish became
       concerned about, well, they'd better have their geologists and
12
13
       hydrologists look the situation over to see if there was any
14
      possibility that this could eventually get into the watershed.
15
       So this delayed things a week or so. We've still got this
15
       pile of contaminated trash there.
17
                 FREMONT-SMITH: Is this the pile we see?
                 LANGHAM: That's some of it. We had many piles all
18
       over the place. That's just the beginning. That's how far
19
 20
       we go on digging the trench.
                 The size of this pit would resemble something approach-
 21
 22ing the length of a football field, half the width and 40 feet
 23
       deep depending, on what kind of agreement we can get with
 24
       the Spanish as to how much we had to remove. But we started
 25
       digging anyway.
 26
                 DOBSON: Wright, may I interrupt. May I ask is that
 27
       rainwater collected in the beginning of your embryo period
 23
                 LANGHAM: No. Before you started dusting anywhere
 29
       you came in with tank trucks and sprinkled it theoretical;
 30
       to hold down the inhalation hazard of the people working to -
 31
                  UFTON: Did the people wear respirators doing this
                                                          Staffor
 32
       job?
                                                            DOELL
 33
                 LANGHAM: Some of themdid, some of them didn't.
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Most of the respirators were surgical masks, and if it did
1
       something for your psychology to wear one, you are privileged
2
       to wear one. It wouldn't do you any good in the way of pro-
3
       tection but if you felt better, we let you wear it. We ran
       into such psychological problems. The manual says you will
5
6
       dress up in coveralls, booties, cover your hair, wear a
       respirator, wear gloves. That's what the manual says. So
7
       some people tried to do this where you could find something
8
       that resembled this type of equipment and before long you
9
       found this caused consternation in the village. They said,
10
       "How come you dress up like that and you let us walk around
11
       in the village with our street clothes on?" And so even
12
       little things like that that I never even thought of before
13
       becomes a problem psychologically. Why shouldn't we be pro-
14
       tecting them if we were doing all of this protection in the
15
16
       area? So most of the time it would hardly meet the standards
       of the health physics manuals the way this operation was done,
17
18
       and I think it's fine because I think there was not anything
       wrong with this operation. I think it seems wrong with the
19
20
       manual.
                 EISENBUD: How soon after did you arrive?
21
22
                 LANGHAM: I guess I got there at about noon on the
       third day, something like that.
23
24
                 FREMONT-SMITH: Where were you when you started?
25
                 LANGHAM: I was in Washington.
26
                 FREMONT-SMITH: A good place!
27
                 WARREN:
                           Did you go home first?
28
                 LANGHAM: No, I didn't go home. They told me to
29
       proceed to Madrid and I didn't even have a passport. I was
30
       in Spain all this time without a passport and a pair of
31
       pajamas and a shaving kit. They did sent me a little gear.
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I only stayed five days and came home. I was home four days

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and they sent me back for six weeks because when I got there

1 it was obvious there was no real health problem. This was
2 not a health problem. The psychology, economics, international
3 agreement, these are things with which I claim no competence
4 whatsoever. So at the end of five days I came home only to
5 be sent back, assigned to the American Embassy. So these
6 negotiations were started.

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The Spanish wanted this pit finally lined with asphalt, so this was agreed to. Then they decided that they wanted a concrete slab put over it and a fence put around it with the United States to take a lease of it. I kiddingly asked them if they wanted the lease to run for five halflives, that would be 120,000 years. When the State Department heard that we were contemplating building, a monument to . this unfortunate incident, the explosion was much larger than the one that occurred in Palomares! [Laughter] So we were told to take this material out of Spain. So a barrel factory was leased in Naples, put on 24-hour duty and in two weeks produced 5000 steel drums which met the specifications that if filled with soil and if dropped from a height of 50 feet from a helicopter, they would not break open. So they met the specifications. We started the barreling operation; we packed up 4789 barrels of this material, hauled it down to the beach and put it on board a freighter out in the Mediterranean off shore aways and then the question came up of, "Well, you have it on a freighter. What do you do with it?" So the obvious thing to do is to haul it off a few miles into the Mediterranean and kick it overboard. Well, you'd be surprised how many people can object to this! [Laughter] Mr. De Gaulle's government just went right through the roof, as did everybody, whether they owned even remotely a shore on the Mediterranean of not. In fact people objected that had no coastline whatsoever on the Mediterranean. So the Spanish said, "Why don't you take it three or four hundred miles out into the ocean

1	off the coast of Portugal and kick it off in the ocean?"
2	[Laughter] And you'd be surprised. Even our British friends
3	objected to that, to say nothing of Portugal. So the decision
4	was made to bring it home. [Laughter] And you may think
5	our problem ends there, but the Agricultural Department heard
6	about it and said, "That's Mediterranean fruit fly country
7	and you can't bring it in!" [Laughter] I tell that partly
8	as a joke. It so happens that the Agricultural Department
9	did object and they did say that we would first have to
10	sterilize. it and they suggested ways and means of doing this
11	and then after a while they did agree that if it was brought
12	in and buried in the steel drums and buried to a depth of
13	20 feet, there would be no possibility of fruit fly larvae,
14	and so forth, getting to the surface.
15	FREMONT-SMITH: How about the Governor of the
16	receiving state?
17	LANGHAM: He didn't like it too much. So then it
18	ended up at Savannah River in the AEC's burial ground, and I
19	guess the Governor felt he couldn't protest too strongly. But
20	there were protests from that area of bringing this back into
21	the United States.
55	Some statement was made about how the State Depart-
23	ment's antiquated operation once in a while causes trouble.
24	The Ambassador, Angler Biddle Duke, who is very, very liked
25	by the Spanish people and he was a very competent person, but
26	it was just absolutely traumatic to see him try to do some-
27	thing, primarily because it just seemed that even the Ambassador
28	doesn't dare do anything, even give out a news release with-
29	out a check to Washington, and I think this thing could be
30	more simply done. I think Angier Biddle Duke could have
31	been much more of a help than he was if he had just been able
32	to. Stafford Warren

To initiate a bit of action himself. 1 LANGHAM: And so this is the story except for a lot of details and 2 3 the psychology of the news releases; the many, many things that I would much rather see or hear discussed here than have you see a few more slides. In other words, I think the inter-5 6 esting thing here was something that had all of the qualities 7 that the situation Merril was talking about did. There was 8 never a panic or anything resembling it. There were little 9 flareups. There was a little hour or so's demonstration at 10 the University in Madrid which was nice by timed. They were 11 allowed to demonstrate and then they were told to quit, and 12 when they were told to quit, they did so. And there were a 13 few days when fish were not being bought. There was a little 14 rough time when any tomatoes from the south of Spain, whether 15 it came from Palomares or not, was not being picked up by the 15 distributor, the middleman. And some of you are not going to 17 like the conclusion that comes out of some of this. 18 In the high level meeting in which the Vice Presi-19 dent of Spain participated, it was pointed out that their 20 21

In the high level meeting in which the Vice President of Spain participated, it was pointed out that their distributors were not buying the tomatoes from the south. You see, he's the middleman. He goes down and buys them and brings them to the city. Now, he was afraid to buy them for fear when he got to the city he wouldn't be able to sell them. So they were more or less not buying tomatoes from that whole area. And the hint was dropped to the Vice President, and since the government licenses these people, the government just said, "Those tomatoes are all right," which indeed they were. "You fellows get back on the job and start buying tomatoes." In three days there were more people down there buying tomatoes than you could imagine.

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Another thing that in the foul up over the release of this information tells something, too, that Miss Root is not going to like, I imagine. We had a bilateral piece of

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       paper that we actually handed to Munoz Grandes. This was
2
       something that the State Department had agreed upon and we
3
       were going to get this bilaterally released in which the
       two governments simultaneously admitted that the accident had
5
       involed nuclear weapons. Well, the old gentleman looked at
6
       the piece of paper and it was a very benign little thing. It
7
       had been completely emasculated, as you might expect, and
8
       stuck it in his pocket. Three days later unilaterally, on
9
       the second page of their leading newspaper came out a beauti-
10
       ful article written by Otera, head of the Spanish AEC, in
11
       which he told the details, what the situation was. It was
12
       absolutely just the most magnificent bit of factual reporting
13
       I've ever seen in my life and I came into the Embassy that
14
     , morning and the people were running up and down the halls and
15
       one gentleman said, "We're having a meeting. Otera has blown
16
       his top. The whole thing is out in the newspapers." And so
       we had this big meeting, you see. The cat was now out of the
17
18
       bag.
                 EISENBUD: On what day was this?
19
                 LANGHAM: This must have been the 1st of March.
20
       somewhere along in there. It had occurred the 16th of January.
21
                 SCHULL: Six weeks.
22
                 LANGHAM: Yes, something like six weeks. I don't
23
24
       know. I guess I don't have -- I'm a little bit too whimsical
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LANGHAM: Yes, something like six weeks. I don't know. I guess I don't have--I'm a little bit too whimsical maybe for this business. Part of my job with the Embassy was to read all the newspapers. I mean I could not read Spanish but I would get translations of every little article that I was to advise on whether it was technically accurate and whether it reflected in any way on the American image. And so they handed me this article. We went into this meet and they turned to me and said, "Langham, what about this article?" And I said, "Gentlemen, it's wonderful. I wish had written it myself," and you could just hear a pin draw

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weapon was dredged up from the ocean?

LANGHAM: It was about nine weeks or so. They had

a terrible time finding it. Admiral Guest drew some criticism

nobody laughed whatsoever, and I thought that was clever!

involved, people have no sense of humor whatsoever.

[Laughter] And it was a good one and I do wish I had written

it myself. But it just seems that when the American image is

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1 because of the Spaniard who said he knew right where it went 2 down and, indeed, they found it right where he told them it 3 would be. But Admiral Guest came in and started a systematic ij. sea search in which he started from the beach with the men 5 and then he went to skin divers and then he went to hard hat 6 divers as he was going out. He was making a systematic search 7 of the entire bottom. They found old cannon balls, pieces of 8 airplanes, you just name it, and they found it and brought it 9 up. They literally searched the bottom of the sea systematic-10 ally and then finally it got so deep that they had to get 11 experimental equipment like the ALVIN and the ALUMINAUT and 12 when they finally got this, they could then search the area 13 told them the bomb went down, and that's where they found it. 14 . They got hold of it, lost it, and it slid down a little 15 further and they got hold of it again and finally got the 16 thing up. Of course, the criticism of the Admiral not search-17 ing where the Spanish fisherman advised is unjust. The 18 Admiral had no capability to search at the depth where the 19 fisherman advised, and while waiting for deeper sea equipment 20 the Admiral and his staff felt it would be advisable to make 21 a systematic search of the shallower water in the event the 22 fisherman was wrong so that the shallow areas would have been 23 already searched. 24 Part of the good humor going on between the Navy 25 and the Air Force was the rule book says the person who has 26 custody of the weapon is responsible for the clean up and 27 the recovery in the event of an accident. So the question was 28 did the Navy on the first try have hold of it long enough 29 to establish custody? If so, they would have to pay the bill

FREMONT-SMITH: Did they? 31

thereafter! [Laughter]

30

LANGHAM: No. You never put one over on the Navy, 32 33

not even here! [Laughter] So I think the land operation

1	probably cost of the order of \$1,800,000 and the Navy charged
2	the Air Force \$5,200,000 for the sea search. There was x
3	number of dollars in banged-up weapons and three aircraft.
4	So the taxpayer probably inherited a bill, counting the cost
5	of the aircraft, approaching \$50 million. But not a single
6	AYRES: Thirty of 50?
7	LANGHAM: Counting the one that crashed in the
8	mountain flying in supplies.
9	FREMONT-SMITH: A little less than Vietnam for one
10	day.
11	LANGHAM: Yes. Not even that.
12	WOLFE: That Spaniard that knew, was he a fisherman
13	LANGHAM: He was a fisherman. He was the one that
14	pulled the pilot out of the sea. What happened, when the
15	plane broke up and this pilot and the bomb popped up, they
16	both popped their chutes immediately and this happened at
17	about 30,000 feet and there was a strong wind blowing. So
18	one bomb and the pilot drifted almost . five miles out to
19	sea and this fisherman swore that he saw two chutes and
20	that one of them, if it had a man on it, it was a dead man
21	and he kept trying to tell them where he saw the second chute
22	He even drew them pictures. He said the chute was different.
23	And he had a SANDIA man come out and sketched the chutes, and
24	he said, "Now, sketch several chutes. Now, which one did you
25	see?" And the guy looked at them and said, "This is close to
26	it but it's not quite correct," and he corrected the guy's
27	drawing! [Laughter]
28	BUSTAD: Another interesting part of this is that
29	he described it to them and on one day he took them out to
30	where it was and then to test them he took them out to the
31	same place.

LANGHAM: Yes. This was his fishing ground. So

they doubted his credibility. So they said, "Now, you go

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out where you said you saw the weapon." So they triangulated 1 in on him with all of their high-powered gear and got a fix 2 on him. Then the next day they would say, "We didn't get all 3 we wanted. You go out again, " and he went to the same spot 4 5 within 200 feet. 6 FREMONT-SMITH: Good enough. 7 MILLER: Why would the chutes open for two but not 8 for four? 9 LANGHAM: The chutes were not supposed to open on any of them unless it's signaled to do so, and what happened 10 11 is that the plane, evidentally, when this plane fell apart, I mean it must have been something because that plane was just 12 13 literally shredded and evidently these weapons got banged in 14 the chute cannister enough that it popped a lid off of a 15 couple of them and then it was a matter of aerodynamics 16 whether the chute was dragged out. They found the tail plate 17 off the chute cannister to the weapon that drifted out to sea. 18 They found the tail cap to the chute cannister and this is all 19 they could find anywhere. 20 DOBSON: Wright, in the early and less certain part 21 of the whole episode, when you got there was it difficult 22 to find out whether or not there was a health hazard? 23 LANGHAM: No. The monitoring team, of course, SAC 24 has a response crew. Albuquerque has a response crew. These 25 people were all arriving at about that time. There was the 26 usual meter problem. At one time we had 12 alpha meters, one 27 of which was working, and you can't do much monitoring with 28 one instrument. But the Spanish, believe it or not, had four 29 or five instruments. So the Spanish came in with their in-30 struments and by the time I got there they already had a crude 31 outline of the levels.

DOBSCN: The Spaniards had a better monitoring data

when you got there than the Americans had? Is that what

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IANGHAM: Not necessarily better but they had contributed to the fact that there was quite a bit of data of
a preliminary nature by the time I got there. They could show
crude contour plots and where the accident occurred and what
way the wind was blowing in all of this.

7 DOBSON: How did you find out whether anybody had 8 a real snootful of this stuff?

LANGHAM: Largely on intuition. I mean within an 9 hour after I was there I was completely relaxed. This was one 10 11 of these situations where the circumstances were all just 12 right. If you do this again, you're in trouble because you've 13 had all your luck on this one. The wind was blowing right, 14 the people weren't in the field and pieces of the airplane 15 fell besides people but not on them. It's just one of these 16 things where everything broke right and there are, of course, 17 the lasting effects, as you might expect. From the pyscholog1-18 cal point of view it may interest you that here was a community 19 in which there's no class distinction whatsoever and now there 20 is class distinction. The man who got compensated as opposed 21 to the man who didn't. The man who didn't is a forgotten 55 kind of a second class citizen, at least he feels that way. 23 So there's social stratification now where it didn't exist 24 before. One woman has been deathly sick ever since and. of 25 course, it's due to plutonium. This was the woman who was standing in her front yard and a burning American body fell 26 27 right at her feet and she tried to put it out by scraping ... 28 putting sand on it and she's been sick ever since and I thim. 29 if I had done that I would probably be sick, too. But, of 30 course, they think the logical thing in this is plutonium 31 making her sick because she was down in the dust scooping : 32 up and so she must be full of plutonium and she'll not re-33 to her home. In other words, even though they cleaned up

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lot of people come here, a lot of nice people." I sail,

place and got the dead bodies cutof her front yard, she will

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"Well, we've been associated with Palomares, you know, this
1
       weapons accident."
2
                 "Oh," he said, "yes, Palomares. It's somewhere down
3
       on the coast." He said, "Yes, I saw something in the paper
       like this but," he said, "we never get excited about anything
       we read in the papers!" [Laughter] So their whole attitude
       was fine. The only time you could find a head of steam was
       with the Red Duchess, who's definitely a Communist, she's
8
       three times a grandee. Franco can't even do anything with
9
       her. He threw her in jail for 24 hours once but she's a real
10
       agitator. She showed up down there with two doctors she had
11
       hired herself to give these people physical exams; went on
12
       taking blood samples on them, you see, strictly on her own,
13
14
     hand, of course, telling them that they had been mistreated,
15
       they may be sick, they may be going to die. So then there was
16
       a flare up in the community and so the Spanish officials and
17
       authorities had to go down there and quiet this down. And they
18
       quieted it down. The people will go up and down depending on
19
       how much they're agitated and if you can just keep the agita-
20
       tion low, the problem is low. And this seemed to not be the
21
       situation at least in Japan. It just seems that there is al-
22
       ways something agitating over there.
23
                 EISENBUD: There were a lot of differences, I think,
24
       that are quite apparent. But one of them, as you asked me
25
       to do, what about the press? How large a press corps did you
26
       have? Did you have the foreign press?
27
                 LANGHAM: You had the foreign press, a few wandered
28
       in and out.
29
                 EISENBUD: What was the total press corps at the
30
       height of the excitement?
31
                 LANGHAM: You never knew. They just wandered in and
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out. The people were too busy to give them any information.

So they wandered away again and then in fact much of the

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- criticism of the way this was handled has come from the 1 press. I mean we were too busy. We didn't bother with them 2 3 and they got tired and went away. Furthermore, the sea search stole the show, you see. I mean those H-bombs sitting out there just ready to go off, they stole the show. So they 5 6 really didn't bother with us so much. WOLFE: The gentleman, the fisherman who knew where 7 the bomb was, did he get a prize? 8 LANGHAM: He got money, he got a decoration. He 9 got his boat painted. Then a lawyer got a hold of him and 10 he's suing the American government for \$5 million. 11 12 MILLER: What for? 13 LANGHAM: He says the value of the weapon was at 14 least \$5 million. Well, that's inflated prices. I happen 15 to know that it didn't cost that much. Some lawyers got hold 16 of him and they're actually trying to file a suit that he 17 really saved the American government \$5 million. 18 19 20
  - BUSTAD: Another aspect of it that I heard and I wanted to check it out with you. I heard that there was a lot of discussion as to whether they should picture the weapon after they retrieved it and decided for publicity purposes to have it pictured. That might be interesting to get the background on that.

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LANGHAM: Well, of course, the international propaganda was that these stinking Americans just might sneak in a dummy bomb on you and say, "See, we found it." So the question was how would you prove that indeed you found it? So they finally decided to actually let the photographers have a crack at it and take its picture as they were bringing it up, and so forth, and so this was done.

31 WOLFE: How did this accident start? Did the two 32 planes collide during the refueling operation?

LANGHAM: Yes, evidently. I'm sure this has been

1	investigated by the military and by the Air Force at great
2	length and about the last word I think one heard was of a
3	man guiding the refueling pipe yelled at the pilot and said
4	he was approaching too fast. I don't know what happened,
5	but the plane broke in two, the bomber broke in two right in
6	the middle and there was a spilling of fuel and the tanker
7	exploded and everything exploded. I've heard that there's
8	been a real serious investigation of this accident but I think
9	the Air Force is not saying the specific details.
10	WOLFE: It's much too early for that. We won't get
11	that until 1980!
12	FREMONT-SMITH: Right.
13	UPTON: I think it's time for a break now, but Mrs.
14	Purcell, I believe has a couple of announcements.
15	[Announcements by Mrs. Purcell.]
16	UPTON: Shall we recess then for 15 minutes?
17	[After coffee break]
18	WYCKOFF: Wright, what's the name of that medal they
19	gave you for this operation?
50	LANGHAM: The name of what?
21	WYCKOFF: The medal they gave you for this operation.
22	Didn't they give you a medal?
23	LANGHAM: The Department of Defense Distinguished
24	Service Award.
25	FREMONT-SMITH: What? The Purple Heart?
26	LANGHAM: They gave me the Department of Defense
27	Distinguished Award as a decoration.
28	FREMONT-SMITH: Isn't that wonderful!
29	WARREN: Why don't you wear it with the ribbons and
30	everything! [Laughter] Starroic was an DOE/UCLA
31	FREMONT-SMITH: We are very proud.
32	WARREN: That was a very touchy assignment.
33	FREMONT-SMITH: In spite of the fact that you said

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1 you wish you had written that! [Laughter] AYRES: I think he was sorry they didn't ask him 2 3 on the swimming party. FREMONT-SMITH: Exactly. 5 LANGHAM: Are we back in business? 6 FREMONT-SMITH: Apparently we are. We've got all 7 this on the record so far! [Laughter] 8 DUNHAM: Wright, did you or did you not write Otera's 9 articles for him? 10 LANGHAM: No, but this Dr. Serlano and Romasin 11 collaborated in the writing. They didn't tell me they were 12 doing it. I was in contact with them every day. 13 DUNHAM: You couldn't understand why they kept dis-14 we cussing the same thing all the time. 15 CONARD: Where did you get all the top soil to put 16 back on the land that you scraped off the earth? 17 LANGHAM: I don't know exactly myself where it did 18 come from because I was in Madrid most of the time during 19 that phase of it. But what they were going to do was to let 20 the farmers themselves pick the area they wanted it brought in 21 from. So they picked an area that wasn't too far away. 22 FREMONT-SMITH: You mean we don't have any USA soil 23 over there? 24 LANGHAM: No, it wasn't shipped from this country. 25 It was local soil that wasn't contaminated. 26 BUSTAD: I think one of the most disturbing things 27 about this whole thing is -- and I guess it shows how naive : 28 am -- many years ago when I was with General Electric Company 29 they decentralized and I had recently joined the University 30 California and I thought they were the last people in the . -31 to decentralize and they are going through it now and I'm 32 shocked to find out that the State Department hasn't done

thing about decentralizing. This has become so evident in the

1	last few days. It's very disturbing to me.
2	FREMONT-SMITH: And they have a tremendous built-in
3	resistance to change and this would be a change.
4	AYRES: They used to be more decentralized.
5	SPEAR: One of the disturbing things about it, if
6	I read this correctly, is that apparently the suppression of
7	news, the suppression of information was a very healthful
8	factor in holding down any kind of panic reaction; that if this
9	had been a more sophisticated local population they would not
10	have been as ready to accept the simple word, that, "you're
11	going to be all right, you'll be taken care of." This I find
12	disturbing.
13	ROOT: Well, they had had a controlled press in
14	Spain for so long that even if it got decontrolled people would
15	take a long time before they would begin to read it. Newspapers
16	in Spain are very rarely read because they are government
17	handouts and have been known to be for a great many years,
18	whereas in Japan, as Dr. Schull pointed out, there's the most
19	terrible competition for news. The newspapers themselves are
20	so rich that Yomiuri, for instance, has a whole pool of auto-
21	mobiles and when a reporter was taking me out, we just went
55	into the pool and commandeereda car with a chauffer and went.
23	Period. You don't even have that in New York. And also they
24	send two or three reporters out on the same story so that
25	they can cut each other's throats and get the very best re-
26	port possible.
27	DUNHAM: The best in what sense?
28	ROOT: The best and the most detailed and the most
29	intimate pictures. They were piling in through the windows
30	in the hospital, where you're not even supposed to come in
31	without permission. They were climbing up the walls and fall-
35	ing into the windows to get pictures.  Stafford Warren DOE/UCLA
33	EISENBUD: They carry aluminum scaffolds with them. 4

They will think nothing of just rigging a scaffold up to a 1 second story building and look in a window, and nobody stops 2 them! [Laughter] 3

WARREN: With a camera, too.

5

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EISENBUD: Yes, with a camera. They use them in 6 crowds so that they can get up above the crowds and they just rig them up and take them down. Frankly, I don't see, except 7 8 that this was -- I see very few similarities between the two incidents. You have a situation in one case where nobody was 9 hurt. In the other case you have 23 sick people. You have 10 11 a relatively unsophisticated country under strong essential 12 control in one case. In the other case you've got a highly 13 sophisticated scientific corps totally disorganized and all 14 😁 seeing in the Japanese incident a first opportunity that they 15 have postwar for any kind of self-recognition, and they were 16 jockeying for power, as part of it all, of seeing who could 17 say the strongest anti-American things because this was a 18 kind of thing people wanted to hear at that particular time. 19 You had an AEC in Spain which they didn't have in Japan. You 20 had a Dr. Ramos whom we all know, who was very friendly. The 21 nearest counterpart to Ramos in Japan would be, I suppose, 22 Tsuzuki, who at least by reason of age and long accomplishment 23 was recognized as a senior person and he was fundamentally 24 anti-American for reasons which maybe Stafford Warren would 25 want to expand on. He was a former Japanese admiral who I 26 think in his later years came around for opportunistic 27 reasons to be friendly to us, but I think under it all was not. 28 You had a situation in which the barber found that business 29 was good. There must have been other people besides the 30 barbers that maybe benefited economically, whereas in Japan 31 all of a sudden the bottom dropped out of one of their major Stafford Warren 32 industries. **DOE/UCLA** 

FREMONT-SMITH: It did also in Spain because all

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the crops were lost.
1
                 EISENBUD: Within 24 hours after it was dropped.
2
       Wright said that they had agreed to buy the crop.
3
                 FREMONT-SMITH: Yes, that is true.
                 EISENBUD: Which is a good thing. The crop is sold;
5
6
       you don't have to worry about the spoiling, you don't have to
       worry about finding a market.
7
8
                 DOBSON: Isn't perhaps the most enormous difference
       the fact that perhaps the Japanese -- and again one remembers
9
       Jack's little introduction of the general social structure --
10
       felt that there was something hazardous about fish. All
11
       Japanese essentially look to fish for their sustenance.
12
                 EISENBUD: Yes.
13
14
                 DOBSON: And these so-called crops in the Palomares
15
       thing were not, even a tomato crop of a country, which I would
16
       differ a little bit. I think is not exactly unsophisticated.
17
       was not the Spanish tomato crop but it was relatively a few
18
       patches, so to speak. So there was not national threat.
19
                 EISENBUD: Yes.
20
                 DOBSON: Or imagined national threat.
21
                 WARREN: It wasn't there for a while until the
22
       word went down from headquarters that they'd better buy up the
23
       tomatoes in the south because there was nothing wrong with
24
       them. It was there for a few days or so.
25
                 LANGHAM: Yes. You saw elements.
26
                 WARREN: Of the possibilities.
27
                 LANGHAM: You saw the elements of such a development
28
       as you saw in Japan. That's the only thing I'll agree to.
29
       This was of great economic importance for the local area. I
       don't think it was of economic importance to the nation neces-
30
       sarily except for tourism a bit, which was definitely concern-
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economic hardship brought to bear on the whole area in so far 32

as that goes. So that element was the same and you could see 1 2 indications of this causing considerable trouble but it was 3 kept so localized that it never attracted any attention particularly at all compared to what the Japanese did. 5 MILLET: I think the question of the relation of 6 the populous to the leaders is a terribly important thing 7 here and I think it is, and I was very, very much struck by 8 the statement that these persons believed in their leaders 9 and what happens in the case of panic. If the leader comes 10 out whom everybody trusts before the panic gets started and 11 says, "You're going to be all right, don't worry. Now you 12 go about your business, we'll take care of the crop for you," 13 that's one kind of thing. But, on the other hand, in the Japanese instance you've got some criminals here to begin 15 with and you've got a very dubious relationship between them 16 and the governing group in Japan, to say the least. So there 17 is a lot of psychological differences here that make it quite 18 clear that there would be a different kind of reaction. I 19 think. 20 FREMONT-SMITH: How did you mean criminals? 21 MILLET: These sailors who didn't want to come home 55 because they were going to get in trouble. 23 FREMONT-SMITH: I see. You mean because they had 24 been in jail before. 25 MILLET: They had been and these were all good 26 virtuous peasants. 27 ROOT: I think another thing, too, you've got very 58 little press information until It became absorbed in the search, 29 and that was widespread andreverybody was with the drama of

it in Spain. In the Japanese incident you got no knowledge

of it at all until burned bodies came home. Then you got

worldwide reports and the whole horror part of it with no

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explanation and no preparation which I think had a lot to do 39

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1
       with the global impact of it.
2
                CASARETT: Certainly one large difference between
3
       the two incidents is the previous experience on the receiving
       end of nuclear weapons.
                ROOT: Of course.
6
                 CASARETT: I should imagine the sensitization here
7
       would be much greater in Japan.
8
                 FREMONT-SMITH: You mean if Hiroshima had been in
9
       Spain, you would have expected an entirely different response?
10
                 CASARETT: Yes.
11
                 MILLER: Jack Shaw called it "anaphylactic shock,"
12
       the Bikini experience.
13
               ROOT: Yes.
14
                WOLFE: Is there any record of anybody but the United
       States dumping radioactive material or bombs or what not on
15
16
       other nations?
17
                 LANGHAM: No.
                 WARREN: The Russian fallouts, that's all. That's
18
19
       not a weapon.
20
                WOLFE: But there's been no large incidents. If
21
       they had one we do not know about it yet. They would be slow
22
       in letting it locse.
                 LANGHAM: This was a little bit of an unusual situa-
23
24
       tion.
25
                 WOLFE: Yes. I just wondered why we're always
26
       getting in the unusual situation.
27
                 ROOT: You know, another thing in here is this wis
28
       so obviously a terrible accident. You know, the first seven
29
       pilots or seven of the crew were killed, Americans, and it
30
       an explosion in the air. There was hardly any deliberate.
31
       you know, guilt that can be pinned on a thing like that
 32
       whereas as far as the world knew the Bikini shot was a ...
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erately planned test without due regard -- this is as far ...

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1
       they knew -- because there was no build -up and there was no
2
       explanation of the circumstances. It was portrayed through-
3
       out the world as simply a careless determination of the
4
       sorcerer's apprentices and their governments to find out some-
5
       thing regards of what it cost. I'm only giving you the press
6
       repercussions and the impressions on people.
7
                 LANGHAM: Some of our friends in other countries
8
       seemed to think that it's a bit of a deliberate act to be
 9
       flying over people's heads with things of this nature and
10
       this came in for a great deal of international political
11
       harangue as you might expect.
12
                 ROOT: Yes, you would get that.
13
                 TAYLOR: "The Sword of Dampcles" talk was revived
14 .,
       for a while during the Palomares incident.
15
                 ROOT: Yes, that's true.
16
                 CONARD: Couldn't they have re-fueled over the
17
       Mediterranean more rather than over this village?
18
                 LANGHAM: Yes. And in all probability this was
 19
       their instructions, but you've done this so many times and so
 20
       you make contact a little bit closer to shore than you had
 21
       expected. But you've done this many times before. So you'll
 22
       go ahead and refuel. I think this has been a big part of the
 23
       investigation on the part of the Air Force to quite an ex-
 24
               Wasn't there actual human negligence or error on the
 25
       part of the crews? As far as I know, no action was taken.
 26
       It was just an unfortunate action, and to put two planes to-
 27
       gether at 30,000 feet is probably not something you always
 28
       do right on a set spot each time. I'm sure it has all been
 29
       hashed over very, very thoroughly by the Air Force.
 30
                 WOLFE: Does Russia maintain a Chrome Dome, or what
                                                          Stafford vva. -1
 31
       did you call it?
                                                            DOE/UCLA
 32
                 LANGHAM: Not that I know of. I think this is an
 33
       American innovation.
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levels the land would be plowed and then at the lower levels

MILLER: There is a manual as to what to do in an

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it would be sprinkled and at still lower nothing would be 1 done with it. So we set a level at which plowing should 2 occur. No one really thought about it. I mean this was our 3 agreement. So when we got into this area back in the mountains where the contaminated cloud had come down in the valley, it 5 6 was just sheer rocky mountainsides that were contaminated 7 above the level that we said that we would plow. 8 FREMONT-SMITH: You can't plow a mountain. 9 LANGHAM: So how do you plow a rocky mountain? So 10 we went to the Spanish with another problem. This was a rather big crisis and the Spanish replied, "Well, as we recall, plow-11 ing was your idea, so plow!" [Laughter] So it was finally 12 13 agreed in this case that they would elevate their standards a bit and we would resurvey the whole area and if we found 15 areas contaminated above this newly agreed limit we would 16 actually work it in with pick and shovel and stir it around, 17 the idea being to get the plutonium beneath the ground so 18 that when it blew it wouldn't become an inhalation hazard by resuspension, and some of these hillsides were pick-and-shovel-19 worked into the soil instead of being plowed. They were 50 reasonable people. 21 Now, this doesn't mean they don't drive a hard 22 bargain. They took the recommendations that were first pro-23 24 posed and essentially divided them by two and made us go to 25 one-half the level we had proposed. That's all right. You certainly, if you're writing manuals -- and I've written a few --26 27 you know, you decide on what the standards of cleanup are. 28 But it comes as a bit of a shock to find out that if it's the 29 other fellow's backyard that you have dirtied up, maybe he 30 has something to say about the standards. You don't come in 31 and tell him, "You'll clean it up according to your's; you'll

clean it up according to his," and these people drove a hard

bargain, but they were nevertheless reasonable. And I had

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Stafford Weight

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a great respect for the Spanish AEC group. I think they
1
       have some highly competent people. The only thing is the
2
       whole Spanish AEC isn't as big as the group Chuck Dunham
3
       used to have in the Division of Biology and Medicine alone.
ħ
       I mean that's their whole AEC and yet in it they have a few
5
       highly competent people.
6
                 WOLFE: Wouldn't it have been much cheaper to haul
       soil in there and cover it over than to carry it out?
8
                 LANGHAM: Of course, it was carried out and then
9
10
       fresh soil replaced on top of it. I think it's just as well.
       right around the crater areas that that was removed. I mean
11
       at least you know it's no longer there. They let us plow
12
       under, you see, a lot of it and they asked us to give them a
13
       soil followup program because we had plowed something with a
14
15
       24,000 yield half-life into their soil and I'm sure they would
16
       have objected if you had just buried it there, too. They felt
17
       happier about having it removed, and so do I, where the levels
18
       were high.
19
                 UPTON: Will there be a followup of some kind?
20
                 LANGHAM: There is a followup program and this was
21
       part of the bargain that we would set them up a followup pro-
22
       gram.
23
                 UPTON: What are the objectives in the scope of
24
       this?
25
                 LANGHAM: They've got a people's program, a soil's
26
       program, a vegetation or a produce program, an air sampling
27
       program, and they were extremely cute in the way they approached
28
       you on this. They said. "Now, we've taken your advice and
29
       we're sure that you have given us the right advice. Will you
30
       please set us up with a program and equipment so we could
       prove to our authorities we were right in following your
31
       advice." So how to you turn a man down on something like
32
                                                           Stafford Warren
       this? So they have a followup program, yes.
 33
                                                             DOE/UCLA /y/
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UPTON: Under their own auspices or do they 1 furnish advisers? 2 LANGHAM: This was very strong in their minds. They 3 wanted this to be their program with us providing the backup 4 and giving them the equipment, teaching them the techniques 5 which we've done, and occasionally advice and even let them 6 send people to this country. And I've had two or three of 7 them at Los Alamos already. 8 I think you'll find that Spain wants to get back 9 into the swing of things and they want above all to use this 10 to maintain a contact and they want contacts, and I would bet 11 that if you counted the number of friends we have now in 12 13 Spain as compared to what we had before this accident, we have . more friends there than we had before. This is an opportunity 14 15 for them to get outside contacts. FREMONT-SMITH: That's why you got your medal! 16 17 LANGHAM: Well, I never quite figured why I got a 18 medal because this is a rather sober thing within itself. 19 What you find is circumstances place you in a position that you can't get out of and you are the focal point of the effort 20 of an awful lot of people. So winning medals is just being 21 at the right place at the right time. 22 23 FREMONT-SMITH: I think making friends was the 24 crucial thing. That's why we have more friends. Anyway, I 25 think there's a very interesting comment, because I think -26 don't have more friends probably -- I'm not sure; am I right, 27 in Japan as a result of the thing there? 28 EISENBUD: I think that we had the same reaction. 29 the scientific community. There are a lot of opportuniats 30 among them. It was quite common during those first few .... 31 for the younger people to sidle up to me and ask how the. 32 could go about getting fellowships in the States or coul:

when I go back, send them some reprints and how could the

learn about a certain piece of equipment and, as Chuck will 1 recall, starting with Tsuzuki's visit to the States in May, 2 which was precipitated by this accident which had occurred 3 two months before, there was a long series of exchanges. We had that radiobiology conference in the fall. The Divison of Biology and Medicine began to support research in Japan 6 and any number of the young people began to come to this 7 country as the result of that incident. 8 FREMONT-SMITH: So it was comparable in a way. 9 EISENBUD: So I think we really have the same types 10 of ties but this I think is a form of opportunism. I gave 11 these people, presented them with the first sodium iodide 12 13 crystal that they had ever seen and they appreciated it very 14 much. But I'm sure that we could not say that the same was 15 true at the level of the people where I think there are some 16 scars. 17 There was one other difference that I should mention, and that is that at the height of the Japanese furor which 18 19 was, say, a week or two after the boat got into Japan -- I think it was the 26th of the month but I'm not sure; it might have 20 been a few days later -- the AEC resumed testing in the Pacific 21 and all through that spring until the end of May there was a 22 series of tests and each one of those, of course, precipitated 23 new rumors and new concern and all through that spring there 24 were rumors of fishing boats that had been heavily irradiated 25 apart from the question of contaminated fish. They were 26 concerned, too, about the health of their fishermen. 27 FREMONT-SMITH: I didn't mean to interrupt you. I 28 think you were right in the middle when I made my remark. 29 LANGHAM: No. I thought I had finished. 30 31

MILLER: Merril, when you went to Japan, what kind of experts do you wish you had had with you that were not available? I cannithink of two offhand that sound as if they 4,

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might have helped you. One would have been a public relations 1 man experienced in this sort of thing and another might have 2 been one who knew Japanese culture exceedingly well. 3 EISENBUD: The Embassy presumably had this. I think your Allison had a good feel for Japanese culture. As I recall, he spoke the language. As far as public relations was 6 7 concerned, this was controlled out of Washington. We held 8 an off-the-record briefing for the American press and this ...: 9 was helpful in the way the news was reported in the States. 10 But we were not permitted to meet the Japanese press: Washington 11 would not let us. And we had no formal contact, no confronta-12 tion with the Japanese press until the following November when 13 we had some very successful news; conferences in which a lot 14 of this was rehashed, and I think it did some good. But all 15 through the period that he was in Japan, neither Ambassador 16 Allison nor myself met with the press. The only direct announce-17 ments from the Americans were people that just were passing 18 through that had no relationship with the thing but felt that 19 they would like to be spokesman. All they did was muddy the 50 water. 21 MILLET: You had a very high level of camaraderie 22 between the American psychiatric and the Japanese profession, 53 too. I went over there for a short conference and brought 24 them back the next year and hosted them to go down to Mexico 25 for an international congress with the Mexicans. That's been 26 a very profitable experience for everybody. 27 EISENBUD: When it was all over, John Morton and I 28 decided to go to Eniwetok because he was interested in finding

decided to go to Eniwetok because he was interested in finding out what he could about the natives there. Me and Bob Conard and Chuck Dunham and others thought it was a secret that we were leaving. Well, we learned in retrospect there really weren't any secrets all through there, that almost every move we made was pretty well known to the Japanese. But when I

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DOE/UCLA

gottethe airport, the whole scientific corps turned out to say 1 good-bye to us. My house is decorated from one end to the 2 other with lovely presents that were given to us, and I think 3 it was quite sincere. SCHULL: I think one has to be careful in placing 5 too much emphasis upon that because courtesy in Japan is so 6 much a part of the custom. Everybody gets welcomed and sent 7 8 off, even people that you don't like. It's a reflection on 9 yourself not to do it. WARREN: Is he supposed to give presents in return? 10 SCHOLL: No, he doesn't 11 12 WARREN: Reciprocated2 13 SCHULL: No. It seems to me as we talk increasingly 14 we are groping towards the idea that if there are answers to 15 be found to situations like this or predictive stands that one 16 might take, the answers have to be sought in the culture of 17 the country that's on the receiving end of one of these events, 18 and perhaps the ten years of historical events which had pre-19 ceded the action itself -- and Japan would certainly be a marvel-20 ous illustration in this respect because it's more than just 21 the relationship of a defeated to a defeater in this particular 22 instance. Japan's image of herself has been shaken to an ex-23 24 tent that probably no contemporary country has had. This was a nation that prided itself on the fact that they had never been 25 26 invaded, they had never lost a war. Their image was strong. 27 virile, and so on, and they were still groping around for some kind of national identity. The Peace Treaty had been 28 29 signed three years earlier, not quite three years earlier but 30 almost. But for the average Japanese, he wasn't even aware of that because there were still as many foreign troops in 31 32 his country in 1954 as there had been during most of the

The second secon

occupation because it was being used as a staging area for

identity, let's say, that the Spaniard has if one accepts 5 certain generalizations and they are obviously dangerous, 3 one's image of the Spaniard is of a sort of a stoic pride and this is alleged to be one of his sins. The Japanese isn't of 6 that kind at all. If anything, it's a nation of people who seem to need constant assurance. They seek self-assurance 7 8 at times, and I think it's still visible in their foreign policy. Japan doesn't play the role in foreign policy today 9 10 that she should in view of the fact that they have 100 millions 11 of people and that they have one of the highest standards of 12 living in the Orient and are a powerful manufacturing nation. But they are still hiding behind U.S. skirts. It's a conveni-13 14 ent stance for them to take. 15 But to try to put all these things together and 16 think, well, now if this was to happen in France, what might 17 we predict about the French reaction? I don't think that there 18 was anything to be learned in Japan or possibly in the 19 Spanish situation that would be relevant except to seek the 50 answer in the culture. 21 FREMONT-SMITH: Right. Very nice statement because 22 I think this is one of the things we are weakest on, is seek-23 ing answers in cultures. 24 LANGHAM: I wholeheartedly agree with that. I am 25 convinced if had this happened not far away in France, we 26 would be on our knees in front of De Gaulle even right now. 27 So I think what is found in the culture as well as the 28 national philosophy of these places and indeed what he says 29 about the Spaniard being a person of great pride; in fact, he 30 is, and I think probably part of their failure to make the and do perhaps too much. I think you'll find that Spain is 31 32 changing and I think you're going to find Spain bidding once 33

Korea. So that he still really didn't have the kind of

3

more to become somebody in the family of nations. It's coming 1 slowly but definitely they are progressing and tourism is one 2 of their great commodities now. It's absolutely impossible 3 to get tourist accommodations during the season in the vicinity of Madrid. So they are developing this as one of 5 their commodities, so to speak. It's why Palomares was a 6 rather important factor all related to the Vice President of 7 8 the country sitting down and finding out about this and once 9 he heard that there was no real health problem, his next 10 question was, "Are you going to find that lost bomb?" 11 SCHULL: There's at least one other important dif-12 ference between the Japanese situation that I don't think has 13 been mentioned yet or if it has I've forgotten it. But it 14 has strong racial overtones in the Orient, which is not true 15 in Spain. Fortunately, both nations are Caucasians involved. 16 But there are racial problems in the Orient and this was 17 white against yellow and some of this was already I think 18 beginning to become apparent in Japan because I can remember 19 seeing the first of the bars that began to sprout in Toyko 20 with signs on the doors that they don't want anyone except 21 Japanese business and this didn't used to be. I mean they 22 still exist, many of them, but they were beginning to draw racial lines and racial distinctions that might not have teen 23 24 as obvious of the problems that exist in our own country at the moment but, nonetheless, these things were present in the 25 26 minds of some people. 27 ROOT: I think that's corroborated by the lack : 28 furor when the Chinese dropped their bomb, you know. I - 13 29 being attacked on all sides because I was being taken are are 30 by a member of the press who had come. The Overseas Press 31 Club had invited a group of Japanese science writers as 32 guests. So that when I got back I got special treatment

the press. But going around with him, I was perhaps let ...

ı	a little more to the anti-American hostility and I began to
2	get it from him and from the people in the newspaper and from
3	the professors that he took me to see. It became more and more
4	overt. And just at that time the Chinese bomb was exploded
5	and there was a kind of a concealed elation behind the expressed
6	fear of fallout and the expressed reaction. So that definitely
7	was a racial thing, I think.
8	FREMONT-SMITH: The notion that another yellow race
9	had gotten a bomb.
10	ROOT: Right. There's really great identification
11	with China as having done it.
12	MILLET: It seems to me there's a matter of nascent
13	pride in Japan. I think there's been tremendous pride in
14	the culture of Japan in the past. Think of their walking out
15	of the League of Nations meetings, for example, in the mili-
16	taristic days. It would seem to me rather that the State of
17	Germany is one where there is a lack of identification in
18	Germany at the present time completely. They are completely
19	split into two nations. They don't know how they can get
20	back into one. That's a genuine fear of loss of identity I
21	think there. I don't think there's any fear of loss of identi-
22	ty among the Japanese as far as I know.
23	SCHULL: I think you are wrong. It's of a different
24	kind than one sees in Europe. I think there's more of an
25	isolation of the young people in Japan from their elders than
26	there is even in our own country where there has been almost
27	a total rejection of the sense of value that the parents had.
58	The Children of the Sun and all that sort of business that has
29	characterized Japan in the last 15 years are things which their
30	parents are unable to cope with.
31	MILLET: Is that the same as identity? Would you

32 say that we have no identity of the Americans? We have a

33 loss of identity?

Stattord Warren

SCHULL: I would say that in this case lack of a 2 national identity because the young people really don't create the image that Japan has and they don't have much 3 identification with the older types.

MILLET: Yes.

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SCHULL: And I'm still terribly uncertain about the directions that they want to go. They pick up one fad after another. I suppose they began to have their hippies even in a sense even before we did. They didn't dress in the same way but the student movement in Japan began in the years immediately following the war which range all over the map. The Communist movement itself on the campus ranges from a main stream of Sen Don Grand down to lesser and lesser streams, some of whom find the Chinese much too liberal from their point of view and they have isolated themselves from all of the Communist currents except their own. This doesn't seem to be much of an image that they can project for themselves and though they have made tremendous progress in material things. I'm not really sure that Japan has yet taken on some of the self-assurance that she may have had. That was a strongly religious nation and they could look toward their Emporer as a figure. Sure he still exists, but the young people don't think very much of him really. They are polite but he doesn't have much pull, and the reaction is often I think terribly difficult to get through.

A year or so ago we lived on a little island known as Yawata in the western part of Kyushu and there were about 40.000 people living on this island and we were the only foreigners on it. I take that back. There was a Korean on the island also. But we were the only non-Japanese except for this Korean on the island. There weren't ten people on the island that could speak English well enough to carry on a conversation with them. But we did manage to establish some

means of communication with a few of the families and you could get some idea of the difficulties their children were having. They are torn between wanting certain material things that they see, trying to retain some sense of parent-child relationship but not really respecting some of the values 5 that their parents have. They are a confused group of kids 6 7 and you have a suicide rate, if this is any measure of uncertainty, Japan does not have to take a back seat to anyone 8 9 in terms of the number. 10 MILLET: How need to migrate is there in Japan? How much desire to live in other countries and become citizens 11 15 of other countries? 13 SCHULL: The thrust today certainly is toward the 14 big cities and there is some thrust elsewhere. It's kind of 15 a romantic idea, I think. There has been recruitment through-16 out Japan, Kyushu in particular, for people to go to Brazil, 17 Colombia and several of the countries in South America, but 18 they are usually oversubscribed. There may come in 100 19 families, let's say, from an area, and 500 will volunteer, 20 but I think some of the thing is a fantasizing that's going on. 21 The interesting thing is that the movement to the cities that's 22 taking place in Japan. Our island, for example, between 1960, 23 when it had its census, national census in 1964, when we 24 censused it again, they lost about 10 per cent of its popula-25 tion. And this was almost all at the expense of the young 26 people who were moving out. They simply could not take the 27 old form. The number of farms, for example, hadn't decreased 28 at all on the island. So that you weren't getting larger 29 farms growing out of this movement or anything like that. It 30 was just that with the mechanization that was beginning to 31 take place on Japanese farms, even though it was on a small scale variety, you didn't need the manpower, and the first . 32 inclination was to move to the city, and the movement would start 33

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1	of wave-like lines: They went from Yawata to Fukuoka , which
5	was the first city that they would encounter, and from there
3	this would be a stepping stone and the next city was Hiroshima
4	or Tokyo or some place like this.
5	It's an extremely difficult sort of situation to
6	try to, it seems, get hold of the thread, and I talked to
7	Bob Miller and some of the others. The interesting part about
8	the study of Japan in this context is not perhaps what we can
9	extrapolate but learning how one has weaved this complex cultural
10	fabric into which, if an answer lies, it is to be found, and
11	Japan may be more difficult for us to read because it is so
12	alien, than would be Spain or some other European country.
13	FREMONT-SMITH: Did you feel that the alienation of
14 .	the young people had started several years earlier in Japan
15	before it became evident over here?
16	SCHULL: Its' my impression, yes. At a time, let's
17	say, when our students at the University of Michigan were still
18	primarily interested in panty raids, the Japanese students
19	had begun to be more active politically, but then they have
20	a long tradition of political activity which doesn't exist
21	in the United States.
22	ROOT: Think of the students who made it impossible
23	for Eisenhower to take his visit over there. That was pretty
24	far back. And overturned the plane and demonstrated at the
25	airportise that it was inadvisable for the President of the
26	United States to visit Japan, which is in great contrast to
27	the classic image of the Japanese that we have.
28	BUSTAD: The Japanese are going to be really con-
29	fused, especially the youngsters, if they go on down to
30	South Africa to Capetown where they have a lot of business
31	and find out they are considered whites there and they are
32	the only oriental that is considered a white. The rest of
33	them are not considered white! [Laughter] Stafford Warren DOEJUCLA 54

MILIER: Merril, Wright has said that there was a 1 2 headman who could issue a statement and that pacified the 3 people. You said that you talked to Dr. Tsuzuki because he 4 was the headman and he wasn't head enough. In retrospect who 5 could you have talked to that might have yielded greater: 6 EISENBUD: I don't talk to Dr. Tsuzuki because I 7 thought he was the headman. He clearly wasn't. By the time 8 that I arrived there already had been constituted a committee 9 which was headed up by Kobayashi; who was, as I recall it, 10 a microbiologist and statistician from the National Institute 11 of Health. The only physician on the committee -- there were 12 two. There was the head of Toyko Hospital whose name escapes 13 me and Dr. Maki Asumi, the radiologist, and the others were geneticits and physicists and marine biologists, and it was 15 agreed between our Embassy and the Japanese Foreign Office 16 that all communications to the people would be through this 17 committee. This would have worked all right. We stuck to our 18 part of the bargain, which was made easy that even later on 19 when we wanted to hold press conferences, even the Ambassador 50 was not permitted to hold one. But while we were coming to 21 agreement as to what the facts were, the individual Japanese 22 scientists were going out on their own and vying for public 23 attention, and Tsuzuki in particular, was not a member of tre 24 committee, was using his very prestigous position in Japan 25 to get to the press and there was just no way that it come 26 be done because this was obviously something that was going 27 on which I never understood, between Tsuzuki and the rest 28 the medical community in Japan. 29 He finally left Japan and went to Geneva in . . 30 middle of the furor, for which he was critized because 31 said -- could I go off the record on this? Staller DOENCLA 32 [Off the record] 33

MILLER: But the reason for containing unjust

1	fears, or even justified fears was that there was someone
2	to reassure the people in Spain and there was no one to re-
3	assure them in Japan. So apparently the situation was out of
4	control and could not possibly have been brought under control
5	under any circumstances even in retrospect.
6	EISENBUD: There are some things that a man with
7	political sensitivity just can't say. Just like during the
8	Korean war, if Truman had tried to settle the Korean war on
9	the terms it was finally settled on, I think he would have
10	been impeached, but I think Eisenhower at that time looked
11	very good. It was a right time to say something.
12	FREMONT-SMITH: A politically right time.
13	EISENBUD: A politically right time, and I think
14	that if Kobayashi, for example, had tried to make a statement
15	at that time which was reassuring, they would have found
16	another chairman for that committee. It's as simple as that.
17	Now, who they are I don't know. It might have been the
18	Foreign Office.
19	MILLER: What I was trying to get around to is
20	what happens if there's another such incident, whether it's
21	here or there or wherever it might be? It would seem to me
22	that one rule of thumb would be to try to get to somebody
23	that can reassure the people as to what the real circumstance
24	is. Is this not right? Isn't this the big difference between
25	you?
26	EISENBUD: That's right. That's why I think it's
27	important that in the nuclear field we maintain good contacts
28	with our counterpart overseas, and there are innumerable in-
29	stances where potential difficulties have been aborted by
30	just letters or short visits either from government to govern-
31	ment or by representatives. I could enumerate half a dozen.
32	But in Japan there was no organization. Japanese science at
33	that point was a pretty amorphous structure. You didn't

Stafford Warren 54
DOE/UCLA

have an Atomic Energy Commission. Dr. Sukamoto, I don't know where he was in those days. He is now the head of the biological part of the AEC over there and if this incident came up, he would be the man they would listen to, but I don't know. There was no such person in those days.

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Also I get the feeling -- and I think that both you and Jack would have better judgment on this perhaps than I-but I get the feeling that Japanese medicine at that particular stage had not yet emerged from the somewhat feudal structure that existed prior to the war and for some time postwar. And one reason was the physicians were not welcome on the Japanese committees was that Tsuzuki was really the No. 2 man in Japanese medicine and it was amazing, an amazing thing to see what happened with Tsuzuki when his professor walked into the room, which happened a few times. I've forgotten what his name was, but this professor was the No. 1 and he was the one man that could get Tsuzuki to be quiet. This didn't occur among the geneticists or the physicists, the young men were coming to the forefront and the old fellows were going off into industry and they were becoming deans and, well, it is the normal course of human events that we have around here. So that the people we were dealing with from physics, lets say, or from genetics, were a relatively young group of people with whom we could communicate well, whereas there's a structure in medicine there that these other disciplines found it difficult to deal with.

You may or may not agree with me on that.

present should have a very good one, that the State Department should have a very detailed study of cultural anthropology of the cultures of all the different countries and make this a primary concern of the State Department, which they've done to some extent but not really and part of the difficulty has been that our cultural attaches all sover the

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world are isolated in the embassies and in the little enclaves 1 and do not move into the people, live with the people, and 2 that we don't have a suggestion that had been made at the time 3 the conference for the State Department back in 1946 and early 147, that there should be a systematic effort to put students 5 6 in cultural anthropology who are writing their theses, doing their field work, in the field in association with embassies 8 in different countries but living among the people and with a liaison both back to the State Department, both to their 9 10 university and back to the local embassy so that there would be a constant feedback of cultural understanding which would 11 flow back both to the university and to the State Department. 12 13 These students would then be good candidates for cultural 14 attaches some years later. Actually I believe the Foreign 15 Service Institute does make some effort to give some cultural 16 anthropology to the Foreign Service people but in actuality 17 the cultural attaches who are supposed to be the people to do 18 this are by and large, unless it's coming in the last few years, 19 almost completely isolated from the community in which they 20 serve. 21 So I think that in a broad sense the question you 22 raised is if we are concerned with a. variety of incidents 23 and we are going to have incidents, not all nuclear, but we 24 are going to have incidents with other countries all over the 25 world, if we're going to meet these incidents appropriately, 26 we've got to have a great deal of cultural insight with respect 27 to every other country that we can bring to the fore. How 28 do you meet this situation that has to do with Thailand and 29 their culture which is such-and-such, and it's going to be 30 quite different from meeting it in Spain? 31 MILLER: Yes. I think that, for one thing, the ad-32 viser, the expert, might be able to tell you who can influence 33 the people and might be able to tell you that no one can and Stafford Warring ? DOE/UCLA

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that you need a second line of defense and what should that
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             I don't know what he would advise.
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                 FREMONT-SMITH: But at least there should be a
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       current awareness of the cultural attitudes with respect to a
       variety of things in any country with which we have any deal-
       ings at all.
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                 EISENBUD: ... It might be worth noting that shortly
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       after that Japanese episode both the State Department and AEC
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       had a scientific liaison in the Toyko Embassy. Of course,
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       this was done in other parts of the world as well. I don't
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       know whether we have anybody over there now. I presume we
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       do as a scientific attache.
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                 FREMONT-SMITH: Yet a scientific attache is not a
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       cultural anthropologist. This is a different story. He'll be
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       an expert in physics, you see, or possibly in blochemistry
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       and in the social sciences I think they are very, very rare.
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       I think we had one in India and a couple of other places for
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       a short time and then this was caput. But the concept of
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       using social science insights and especially cultural anthro-
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       pology, which I think ought to be one of the key ones, I
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       don't think it's penetrated.
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                 WARREN: You are aware of the upset in the anthro-
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       pologists association, weren't you, about their being used
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       as tools by the CIA?
                 FREMONT-SMITH: Yes, I know, and the story that was
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       in Peru, what was it called, Camelot, which raised an awful
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       mess. But there was also not a great deal of wisdom used. I
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       would think.
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                 WARREN: No, that's right.
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                 ERUES: You mean that even the cultural anthropologists
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       can have a colonial attitude when they go somewhere?
                 AYRES: I don't think the Camelot story has been
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       very well presented. Most people are not aware of what
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       really happened.
                 FREMONT-SMITH: Yes. I'm sure I am not.
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                 WARREN: I think the anthropologists, too, have
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       calmed down about this. It wasn't quite as bad as they at
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       first thought.
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                 AYRES: No. What you had was the graduate student at
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       the American University who happened to be a Communist or was
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       very nearly a Communist sympathizer. He somehow heard about
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       it because we do have a fairly open society, and he just made
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       the thing look altogether different than what it was.
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                 FREMONT-SMITH: Yes, and it raised the dickens in
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       Congress.
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                 AYRES: Yes. He got in touch directly with the
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       foreign press.
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                 SCHULL: It's certainly interesting, though, in
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       Wright's case, where it seemed as though all circumstances
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       were contriving to get together in a very happy sort of frame
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       of reference. In Japan it was completely the opposite way.
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       The one organization that could conceivably have made a state-
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       ment, as Merril talked to you about Dr. Kobayashi. I think
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       if he had made a statement at that time and tried to make a
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       forceful one, it's questionable how well it would have been
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       received by the Japanese public because the National Institutes
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       of Health of Japan at that time were still viewed essentially
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       as an occupation-created agency and so it didn't project : se.
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       as a Japanese organization and the traditional spokesman rate
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       been in the Japanese Science Council and in the NIH so true ...
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       one contact we had used could not be used even if they had
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       prepared to make a statement.
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                 EISENBUD: The medical schools were under the
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       of Education, the hospitals were under the Ministry of
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       and they were jockeying between the politicians in thos-
                                                       Stafford .
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       groups. It was a mess.
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1	DUNHAM: Frank, you made a statement to the effect
2	that the cultural attaches were isolated. Is this by job
3	or by simply the type of people that had been appointed?
4	FREMONT-SMITH: Well, I get the impression
5	DUNHAM: I've seen this happen to science attaches.
6	FREMONT-SMITH: I get the impression that the whole
7	embassy group, the cultural attaches and the science attaches,
8	they all lived together, they all spoke English. They live
9	in special housing arrangements for them. I think this was
10	true in Germany, and they are not systematically organized
11	to live with the local people or even talk their language, and
12	this is talked about a lot, this isolation, and I'm not in a
13	position to know that it is true, but I have no reason to
14 👾	believe it isn't true, that the whole enclave of the embassy,
15	the families, the children go to American schools to a large
16	extent, that are set up especially for them. So I think that
17	there is a failure to take advantage of the opportunity, and
18	I believe that this has been pointed out in quite contrast
19	to what the Soviet Union does, where they send their people
20	over who roll up their sleeves and speak the language and
21	mix with the people and live at the level of the people. It
55	would be very difficult for us to get Americans to go over
23	there and live at the level of the community at which they
24	are supposedly working.
25	DUNHAM: On the other hand, the British charge-
26	d'affaires in Peking conducted a seminar in Washington ten
27	years ago when he came back before he went to Harvard to do
28	some special studies and he pointed out that the Russians had
29	isolated themselves from the people and they were not allowing
30	their children to associate with the Chinese children. So
31	their approach is not uniform across the board.
32	FREMONT-SMITH: That's a comfort. Stafford Warre DOE/UCLA

EISENBUD: They certainly have isolated themselves

- in New York and in Washington. 1 DUNHAM: Yes. 2 FREMONT-SMITH: Yes, but certainly the story has 3 been about that in the African nations and the Asian nations. At least in the African nations they have kind of gotten 5 6 right in with the people. EISENBUD: I would like to add that ---7 FREMONT-SMITH: I can be wrong on this. I'm talk-8 ing from hearsay. 9 DUNHAM: I think these things are uneven and a lot 10 I think affects the personality of the people involved. I 11 say that I know of a science attache, and I won't say what 12 country he was in, who almost deliberately isolated himself 13 14 from the scientific community and expected it ought to come to 15 himardifyculave a cultural attache of that type he isn't going 16 to learn anything. Even if he doesn't know the language, he 17 should be outgoing. 18 FREMONT-SMITH: But there had been a policy here at 19 the State Department with respect to this in order to encourage 50 in every possible way a relationship of these particular 21 attaches to the community. 22 DUNHAM: Yes. 23 TAYLOR: This is apropos of nuclear accidents or 24 what? 25 FREMONT-SMITH: I'm talking about apropos of inter-26 national relations of which nuclear accident is only one. We 27
  - national relations of which nuclear accident is only one. We spoke of what would we do in the future if we had an incident in France and I'm raising the issue, what would we do in the future with any kind of incident? We are bound to have a conflict as we are having many right today. We are bound to have conflicts with nations, and the way to deal with these conflicts is to at least know as much as possible about the culture and the attitude and the mood of the people and not

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to be insensible. 1 EISENBUD: We've had many incidents of many kinds, 2 mostly of considerably less severity in terms of hurt but 3 potentially of sensitivity, equal sensitivity in relation to people, and there was a period in the late 50's where there was worldwide concern about fallout and the subject would come 6 up before parliaments all over the world. I had a number of 7 opportunities to visit capitols on short notice, I don't know, 8 maybe ten or fifteen of them around the world, to meet, and 9 I found that the guidance that I was getting from the State 10 Department people was good, and I think it was good in Japan. 11 I spent, oh, I guess nine or ten weeks there and I've had 12 many opportunities over the years to just reminisce with 13 Japanese friends now about this incident and I've thought 14 about it a great deal and I really can't think of a single 15 16 bad lead that they gave me. I think that their appraisals of the people I would have to deal with were good. I think 17 18 they seemed to have a very good understanding of the Japanese culture. A number of them had been there before the war and 19 a number of them had learned the language and a number of the 20 21 senior people did live in the Japanese community. 22 SCHULL: I would like to support Merril on that 23 general statement. I think Japan has been one of the few 24 embassies to which we've tried consistently to appoint pro-25 fessionals as witness the fact that all of our ambassadors 26 to Japan speak Japanese. 27 FREMONT-SMITH: Right, yes. 28 EISENBUD: Reischauer has a Japanese wife. 29 SCHULL: Right. FREMONT-SMITH: Isn't this somewhat of an exception, 30 Stattord Weisen one of the few; right? 31 DOEJUCLA SCHULL: That's right. We even have been 32

fortunate to have science attaches. I can think of one

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in particular. Otto Leporte. But Leporte is a physicist
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       of competence. Probably one of the very few in the United
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       States who speaks Japanese well enough that he can really
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       communicate with them, and certainly at the cultural level
       we've had a steady procession of outstanding people, Herbert
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       Passim and all the others. So that the competence was there
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       on the State Department side, I think.
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                 FREMONT-SMITH: This is very good news.
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                 BUSTAD: Your criticism, Merril, isn't that when
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       you had criticism it was directed at the fact that he should
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       have been allowed to speak out?
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                 EISENBUD: I think that it he had been allowed to
       work out his arrangements with the Prime Minister then -- who
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14 incidentally told us
                                he recalled saying, "Mr. Ambassador",
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       he said -- he spoke very good English -- "Mr. Ambassador, it was
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       you folks who thought we ought to have a free press when we
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       were complaining about what the press was saying," which was
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       a very good point! [Laughter] This was their first experience
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       with a free press, at least their first decade of experience.
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       I think that Katayama and Allison could have worked out an
       agreement which would have nipped this in the bud within the
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       first few days and I think that it would literally have bought
       the good will of everybody from fishermen on to the rest.
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                 FREMONT-SMITH: But it was the State Department
       policy that prevented this?
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                 EISENBUD: I can't speak for that.
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                 FREMONT-SMITH: I assume it was.
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                 EISENBUD: But I do know that there did seem to be
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       the kind of latitude in the field that was required in order
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to work out the arrangements presumably.

BUSTAD: I vote for decentralization! [Laughter]

WOLFE: Wright, when you were in Spain and you had

to make the decisions, did you have to go to the Ambassador

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Stanters Werren

and then to Washington, and then all the way back before you 1 2 decided to plow or not plow or something like that? LANGHAM: No. In so far as those decisions to do 3 things immediately were concerned, these were made by General Wilson, head of the 16th Air Force in whose territory 5 6 this thing had occurred and in dealing with him you begin to realize why he was a general. He certainly made decisions, 7 and his way of making a decision was to get the people around 8 9 him that he thought could advise him, listen to him, and when they were through talking he made the decision. You see, that 10 11 was the experience the first week in the field. 12 Now, the second time I went back I was assigned to 13 the American Embassy. Now you found here that decisions in 14 ... which we were trying to get down to really get decisions, 15 what the final cleanup and compensation, and so forth, would 16 be, you found here that this now had to be checked all the 17 way back through Washington, and I think if there is one 18 thing that surprises me it's how dependent on Washington the 19 Embassy seems to be when it starts to make a decision, and 20 yet Duke was a highly respected man among the Spanish. Yet 21 as far as I know decisions must be stamped in Washington be-22 fore action was taken. I just got the idea that there was 23 too much centralization of opinion. In other words, does it 24 do you a great deal of good to have a fine man in the field 25 that's respected if you give him no authority to do anything' 26 And I rather sensed this. Now, I could be wrong. The remains 27 that set me off on this was when Miss Root made the remain 28 about this, and this was really just what was bothering -29 when I was there. It seemed that there was a rather come 30 some chain of command in so far as the American Embas. 31 concerned in a decision-making way and I rather gather 32 Merril, that you had said about the same thing.

EISENBUD: Yes. It was ridiculous. For ex. .

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if I wanted to send a cable to John Bugher just telling him
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       that I was going to remain another week, this was a communi-
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       cation from the Ambassador to Secretary Dulles.
                 WOLFE: You don't just send one with a carbon copy?
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                 EISENBUD: No.
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                 TAYLOR: Isn't it true that every communication to-
       day from the State Department to an overseas post is from the
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 8
       Secretary of State, signed "Rusk"?
                 EISENBUD: It was when I was there.
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                 TAYLOR: Every communication, even a transfer of a
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       clerk from one office to another.
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                 DUNHAM: And vice versa.
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                 SPEAR: You can always look down the lower left and
14 . find out who it really came from, but it's signed "Rusk."
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                 TAYLOR: Why go through this charade, or whatever
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       it was?
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                 LANGHAM: I never sent a message. All of my messages
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       were sent by Duke. So you almost find yourself, I mean, this
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       fellow is the man who sends out messages. Evidently that's
20
       his job.
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                 WARREN: I can see a certain reason for this ad-
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       ministratively. The Ambassador is playing the hand of the
 23
       President really in his international relationships. So there
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       should be appropriate consultation. But something should be
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       allowed to the Ambassador for the use of his judgment in the
 26
       situations. The trouble is that the minute it's a nuclear
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       power, a sort of paralysis goes over everybody and particular-
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       ly those who are not scientists and are politicians or people
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        in the administrative hierarchy who are unfamiliar with the
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situation, they just didn't dare move, and I imagine the

President's office called up Mr. Seaborg and he was consulted

on the question all the time and, of course, the Department

of Defense had to be consulted. So they had a small Cabinet

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Stations Wanter

5	to meet what is really an emergency situation. Now, if his
6	judgment turns out to be wrong, then he should be jerked home
7	and he does it at his own peril, but a good man knows where
8	the perils are and what the goals are. Isn't that a beauti-
9	ful thought! [Laughter] It just doesn't work out quite this
10	way.
11	CONARD: I feel like I've been sitting in a State
12	Department briefing! [Laughter] I wonder really how rele-
13	vant some of this stuff is to nuclear warfare and the long-
14	range effects? We've laid an awful lot of stress on in-
15 ~	cidents that have occurred in foreign countries and how we
16	might handle those in the future. But what about what would
17	happen in this country as an aftermath of the war and the
18	psychosocial reactions there? I think that's the real point
19	we have to get at.
20	FREMONT-SMITH: Start again nine o'clock tomorrow
21	morning.
22	MRS. PURCELL: Eight-thirty.
23	FREMONT-SMITH: Eight-thirty, excuse me. Thank you.
24	BURES: Eight-thirty in the morning. We'll meet at
25	eight-thirty in the morning.
26	Now, I have left notes for all of the regular group
27	and would like to have them remain here after five o'clock. We
58	want to have a little consultation.
29	[The session was adjourned at five o'clock.]
30	Chattard Warran
31	Stafford Warren DOE/UCLA 67
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meeting about this, and this took a long time. Not that I'm

in favor of a complete block of responsibility, I am not. I

ought to have enough sensitivity to his situation to be allowed

think there's a time and a place for it and the local man

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