

**AN INTERVIEW WITH  
RICHARD P. PLOCHMANN**

**by**

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MAUNDER: This is Elwood Maunder speaking from the home of Dr. Richard Plochmann in the beautiful countryside south of Munich in the town of Assenhausen.

PLOCHMANN: And it is on the eastern shore of Lake Starnberg--it's about 600 meters west of us.

MAUNDER: I see. This is Elwood Maunder and this is the 15th of May 1969 and we are beginning a discussion with Dr. Richard Plochmann and David T. Mason in the home of Dr. Plochmann. I think that we might just start off this morning, Dr. Plochmann, by explaining a little bit about what we're doing here. We're seeking to engage you and other European foresters in a discussion of the history of forestry in your own various areas and to discuss with you the present condition of the profession of forestry and of the forest areas which you give immediate attention to, and to also talk a little bit about the relations of international forestry and the future of the profession. All of this with the idea that perhaps out of it will come some useful material for consideration by scholars in various disciplines, not just necessarily history alone, but forestry and political science. Also there may come out of these interviews some possibilities for articles in professional and scholarly journals. Now I think what we will do to start is ask you, first of all, to give us a little bit of personal history so that we know your origins and something of the way in which you have come to the present time and the position that you have at the University of Munich.

PLOCHMANN: Yes.

MAUNDER: Where were you born?

PLOCHMANN: I was born at Nuremburg. That's a town of about half a million people about one hundred miles north of Munich. My father was an engineer and he was on the Board of Directors of the greatest machinery works in Bavaria. MAN is the name of the firm which is most known; in this firm the first diesel engine was built.

MAUNDER: Is that so?

PLOCHMANN: And the firm is one of the great constructors and builders of diesel engines from small up to the biggest in ship diesels. So I really was, in my youth, not in any way connected with forestry. I was only connected with hunting because my father, and both of my grandparents, were hunters and it is said that my father asked after my birth: "When can this little man come along for hunting?" So since I can recall, I know of going out in the forests and roaming around and hunting. And besides there are old ties of forestry dating back to, oh, let me say, one of my ancestors was the salt master of the saline works at Bad Reichenhall, which were the largest salt mines and salt producers in the middle ages in Central Europe. And he was one of the leading foresters around 1700 and so from heritage of both lines of my parents there are foresters. When I was old enough to think of what I would do, my daddy told me "I can give you a good start in our firm," but what you will make out of it is absolutely up to you. I can give you a start but not more and you have to think it over what you like most, whether you tend more to technical, what would you say, to technical production or if you tend more to biological processes, and a profession connected closer to nature."

MAUNDER: Where did you go to school? Elementary...

PLOCHMANN: I went to school in Nuremberg, elementary school, and high school and I graduated from high school at the age of seventeen at Nuremberg. Right afterwards I was drafted into the Army, in the Alpine Troops.

MAUNDER: What year was that?

PLOCHMANN: That was 1942, so I spent the last three years of the war in the mountain troops.

MAUNDER: Were you given intensive training before you went into action or not?

PLOCHMANN: Yes, we had intensive training, even intensive training in high mountain areas, by a special elite troop, which the mountain troops were at this time.

MAUNDER: Were you considered mainly infantry or were you a....

PLOCHMANN: Mainly infantry. We weren't motorized all.

MAUNDER: You operated on skis?

PLOCHMANN: On skis and foot.

MAUNDER: And you carried relatively small arms?

PLOCHMANN: We carried small arms but the men carried about seventy to eighty pounds on his back.

MAUNDER: You had to be in top physical shape all the time.

PLOCHMANN: Yes, yes. We fought most of the time in the northern most parts of Finland {QUERY AUTHOR} frontier under very extreme climatic conditions. I was up there until '44, fourteen days before the Russians attacked and overran the German frontier up there. I was so lucky to be sent to Officer's School at Wiener Neustadt, south of Vienna.

MAUNDER: That was in what year?

PLOCHMANN: The end of '44 and beginning of '45 we were sent to the southern frontier--Italian frontier and there came the end of the war, so I was caught, captured by the Americans and brought on military truck to a prisoner camp in Germany and on a night drive I jumped off and walked home.

MAUNDER: You jumped off and walked home?

PLOCHMANN: I jumped off and walked home. Already on the 13th of May, '45, I was home already. Shortly afterwards I started my practical time at a forest district. An American major was

the commander of the region, of the county. He liked to hunt and I had to guide him quite a lot. One day he came and told me to accompany him again, and I said that I wouldn't have time. I didn't, because I needed a paper that I--what do you say--that I had been released from prisoner camp, which I didn't have because I had jumped off. He said, "Oh no, we will fix that up," so he packed me in his car and we drove to Heilbronn to this prisoner camp and he walked in and said: "I want this man, I don't know the expression, I want this man de-classified right away," so in half an hour we were gone again. At this time it was a very important matter, because you only could get your ration cards if you had such a card that you were passed through.

MAUNDER: If you had been approved for de-mobilization and de-classification as a prisoner of war.

PLOCHMANN: So beginning of 1946 I started to study forestry at Munich, and I finished this at the end of '48. That was, as you may be able to imagine, a pretty rough and hard time, because the university was bombed, and was overfilled. We didn't have any books, we had very little to eat; but we had gone through so many things that the will to work and the will to get ahead and the will to survive was tremendously strong. Yes, these people were already formed by what they had gone through, so there were no riots or no fooling around. They were working. So I finished my studies with a diploma in forestry, which you can compare to your master's degree. It followed a three-year practical training in the service and after three years one has to pass an examination which we call "The Great State Examination." Only after you pass this examination are you taken into the service. And that's the hardest and the toughest examination you have to go through. I passed my state examination in '52 and right after the state examination I went to Canada. To be able to work there, I had to be a Canadian immigrant, and so I thought that if I fail in my state examination, before I had made my doctor's degree--if I fail in the state examination I won't come home again, I stay in Canada. But there was no reason not to come again. During the winter in Canada I worked in a logging camp, in the summertime I worked as a cruiser and...

MAUNDER: That was out in western Canada?

PLOCHMANN: Alberta Province. We did cruising work in the northern part of the country. So we cruised timber during summer time north of {QUERY AUTHOR} Lesser Slave Lake and later on in Cypress Hills on the borderline between Alberta and Montana. And in the fall of these years I went at first four weeks to a planer mill at Prince George. That was the hardest work I have ever had to do, and later on I worked on Vancouver Island at Bottle Lake laying out roads for a power project which was planned by a firm, C.D. Schultz. That was an experience, too, because it rained for over weeks without ever to stop. And I think we had during this six weeks about 25 inches of precipitation.

MASON: That's a whale of a lot of rain in that length of time.

PLOCHMANN: Yes, we had. The lake started to rise till we could move between our tents only by boat, from the sleeping tent to the tent only by boat. We walked out in the morning up to our breasts through the water for about 500 yards and then we worked ten hours and walked home again. It was fun. Nobody got sick by it and everybody was happy.

After my return home I joined the university staff at Munich as an assistant and stayed there for six years. During this period I habilitated. Habilitation means to become the right to teach at the University.

MAUNDER: What was the subject of this?

PLOCHMANN: The subject of my habilitation was my experiences in the Boreal forest region of Alberta. I was working in the silvicultural institute and got quite an experience in different European forests. In 1960 I was sent a German research unification, we call it, Deutsche Forschungsgemeinschaft, with a grant around the world for a year to collect experiences on alien tree species cultivated in Germany. I went at first to the United States, visited eastern hardwood region, where we are very much interested in Red Oaks and some other species there, and then the west coast.

MAUNDER: And studied what species there?

PLOCHMANN: Especially Douglas fir, Silver Fir, *Abies grandis*. On my tour I came up to Nanaimo and Kitimat Kimino, in the northern parts of British Columbia.

MASON: That's about the northern limit.

PLOCHMANN: The northern limit of British Columbia. Out from San Francisco I flew then to Hawaii which did disappoint me very much, I must say; it was a beautiful sand coast but an awful crowd of people. From Hawaii I flew to Japan and stayed for six months there. Four months of this time I toured Japan from the northern parts of Hokkaido to the southern parts of Kyushu. I was very interested mainly in Japanese larch, which is a very important foreign species in Germany. Later I took a short tour of southern Korea, to Hong Kong, Thailand and at the end to the mountain forests of the Himalaya region in India. After my return home I switched over from the university to the practical forest service. I became at first assistant ranger of the forest district of Reit in Winkz.

MAUNDER: What would you say were the main products of the study that you made around the world? How did you see the information that you had gathered then put to use? Where was it most applicable?

PLOCHMANN: You know, by these tours, I see two profits for me and maybe for some other people, too. One is professional and the other one is just for my own personal education and experience. Professionally, I would say, for the understanding of a true species you must know its ecological conditions in its home country, natural mixtures, its natural line of developing, what should I say now, its position in a natural succession. Whether it's a climate species or...

MASON: Range in elevation.

PLOCHMANN: Yes, range in elevation and all this differentiation, genetical differentiation, and so on, that is one side, which is very important. Only if you know such conditions are you able to cultivate a species on a sound basis in the alien country. Besides the natural conditions, we want to

experience how these species are managed in their home countries, which is very important, too. Let me say for Douglas fir I am absolutely sure we made tremendous mistakes by cultivating Douglas fir in our country. At first we didn't have any idea about the most fitting side species or side races as we say. It took us about a hundred years to find out the source of the seeds, to find out that we practically only can use what we call the Green Douglas fir of the Coast Range and the lower part of the Cascades. But it's no sense at all for us to take Douglas fir, let me say, from the Central Rocky Mountains or from the east slopes of the Rocky Mountains or to take Douglas fir from the northern parts of British Columbia.

MAUNDER: Was this a revelation that came as a result of your trip?

PLOCHMANN: What came as a result of my trip, I would say, is that up to then we had a philosophy that we couldn't depend too much on alien tree species because we wouldn't know what would happen to them. Maybe in twenty, thirty or forty years after plantation there comes a new, up to now, unknown sickness, disease or new insect and they may be eradicated. So we said we won't plant them on large areas or in pure stands. We will fit them into a mixture with our own natural species so distributed that if something happens to the guest species, the complete stand won't be destroyed. So we planted Douglas fir in little groups within our Beech, Spruce or even Pine stands. What happened was that these groups of Douglas fir grew much faster than the rest of the stands and these groups of Douglas fir are standing like little towers or chimneys above the rest of the stand. Under such a condition Douglas fir, especially the Douglas fir from the West Coast, as we found out. They were just wiped out by a good storm. I think that technique was a completely wrong line of approach. Douglas fir from the West Coast, what we call Green Douglas fir, is a pioneer species which occurs by nature on large pure stands following fires. So it is a completely wrong approach to try to bring it in little groups. We learned, out of my own experience, too, to cultivate Douglas fir on large, pure stands. I am absolutely sure we will have much better results by it. Douglas fir is and will be highly important tree species in our forestry of the future because its increment is so much higher on many of our sites than that of our natural tree species. We can't pass it by.

MAUNDER: I have seen some fine examples of that in 1958.

PLOCHMANN: Yes, Yes, and we already have parts of the country, let me say, Schleswig Holstein, then Rhineland Pfaff {QUERY AUTHOR}, and Baden, where the percentage of Douglas fir on the total tree species presented comes already up to five percent. I am sure that this amount will raise very rapidly.

MAUNDER: What other foreign tree species did you find important, or make important discoveries about, in the course of this tour? What did you learn, for example, about applying to the use of the Japanese species that you spoke about?

PLOCHMANN: Under the Japanese species the only really important species for cultivation in Central Europe is Japanese larch. Interesting in Japanese larch for us was that the Japanese have troubles now with large plantations of pure Japanese larch. So with Japanese larch the problem is, as I believe, different than with Douglas fir. Japanese larch the soil gets too...

MASON: Deteriorates?

PLOCHMANN: Yes, not only deteriorates, but so many ground flora comes up and undergrowth is too heavy.

MAUNDER: Then would you say that one of the results of your discoveries in Japan may work toward the diminution of these of Japanese larch here?

PLOCHMANN: No, no, no, no. Only that we should not cultivate Japanese Larch,

MAUNDER: As the Japanese have, not as pure stands.

PLOCHMANN: Not in large pure stands but in mixture with the European hardwoods, mainly Beech.

MASON: Now would it be because the larch itself, losing its leaves once a year, needs too much light.

PLOCHMANN: Yes, that's what I mean. We need soil protection under the larch and that can only be by hardwood species. Beech is very good for it. One other thing we learned, not only out of experience in Japan, but it was confirmed there, that the Japanese larch needs soil with a very good water supply.

The Japanese Larch needs soil with very good, steady water supply over the year. The necessity reduces the area which can be planted with Japanese larch. On soils where the water supply is not steady over the year, we will have to look for some other species, maybe Douglas fir, or European Larch.

MAUNDER: That must have been a very interesting and rewarding trip, both to you personally and to your country.

PLOCHMANN: I must say it was much more for me personally than for my country.

MAUNDER: You can retain so much of it yourself but you can't put it in a book.

PLOCHMANN: Yes. Besides, the grant was given to me more for my personal development than for intensive research. They knew, too, that by sending a man for one year around the world, you can't expect him to do much research work on such a trip but they think that a young man needs the widening of his view.

MAUNDER: This, I take it, is a policy of your government which is perpetuated today?

PLOCHMANN: Yes, yes.

MAUNDER: How many such world-wide travel grants are granted each year?

PLOCHMANN: I couldn't tell you the number.

MAUNDER: And this would be in all areas of science, not just forestry?

PLOCHMANN: Yes, in all areas of science.

MASON: This is something we ought to do a great more of in the United States. I don't know, but I think there is very little of this thing being done.

MAUNDER: Well, I think we do this sort of thing through the National Science Foundation and through the Fulbright Grant.

MASON: I think we do have, but not in my opinion, as much is being done. I think Germany is getting, you might say, percentage-wise, more value out of what they are doing than what we are doing. I would guess that anyhow.

MAUNDER: One thing that keeps occurring to me as I travel around, Dave, is that, it's a reaffirmation of something I learned a long time ago in my own travels when I was a student thirty years ago, that travel abroad opens the windows of the mind and it frees you up to really see things in a fresh new light that you hadn't seen before. I don't know whether this has been your experience but I suspect from what you have said that it is.

PLOCHMANN: Quite much so. I would say very much so. Especially on a profession like forestry which has so much bond to the historical experience and to a conservative approach.

MASON: And you can't learn it out of books. You have to go see it. You have to see it where it is.

PLOCHMANN: Yes. You need some personal experience. You need some contact to the life in other countries to be able to get it through to your mind.

MAUNDER: How did you find the foresters of other countries that you visited? Did you have immediately a friendly relation or not?

PLOCHMANN: Yes, I had immediately a friendly relation, I must say practically all over.

MASON: I have found that, too.

PLOCHMANN: To give you a known experience to this point as I came in 1953 to Canada as a fresh student, you could say, and I saw what they are doing out there in the forest. I said, gosh, these people, they are ruining everything. However can you do such a job, just cut it clear and leave it up to itself afterwards. After a year I had learned that at this moment it practically was the only way to do it. I started to ask myself how would you do it if you would have the job here. I found out I would probably have to do it just the same way.



MAUNDER: Yes, I think this is a reaction common to any European foresters who come to the United States on relatively short visits. They have that same reaction that you have spoken of and think that our practices are very cavalier.

PLOCHMANN: You must learn, at first, that it's two completely different worlds and different situations before you can judge for yourself whether things are done properly or not.

MASON: And there's a great difference in the economic situation in the different countries.

PLOCHMANN: Yes, yes.

MAUNDER: You made a statement a minute or two ago that you felt a forester was by his very nature and practice in life a conservative. I wonder if you could expand a little bit about what you mean by that?

PLOCHMANN: I mean, Woody, that a profession which has to deal with forest stands managed on rotations in our country now in a range from forty years by poplars up to 320 years by Renewals (?) veneer oaks, on an average in the country today around 100 years. Our main species today in Germany are 70% soft woods, Spruce and Pine, and they are managed on rotations of 80 to 120 years about, so you can say an average rotation of the country would be around 100 years. Now when you have to handle a product which needs 100 years to be ripe for harvesting, you must have a different approach than on a product which may be produced within one season, or even a few minutes like in industry. And the knowledge that one mistake made during such a period of 100 years may ruin the results, makes you think over such decisions much more and forces you to a conservative approach. I think that if such a conservative approach would be given up it would be a danger for forestry.

MAUNDER: Could I put that same conception forward in another way? I agree with you but I would maybe like to enlarge a little bit and give a different point of view on it. It seems to me also that a forester, just as you said, has to deal with very long periods of time. He is trained to look away and before he takes a step today he thinks ahead, "What is that going to lead to?"

PLOCHMANN: Yes.

MASON: Whereas in so many fields of work, as you realize, "Well, if I make a mistake I'll correct it--I'll have a chance to correct it. And in order to get the best kind of a product like a washing machine, "we'll have to experiment more or less and we'll try this and we'll try that and whenever we find a better way we will change over to a better way." But you can't do that with forestry. You have to make the steps secure as you go along. And of course that means conservativeness.

PLOCHMANN: Yes, yes.

MAUNDER: Does this come into conflict in any way now with the changing human condition and the tremendous rapid development of human knowledge in so many areas?

PLOCHMANN: That's a problem in it. You know, as I see, the problem of the forester of our time is whether he is able to combine this conservative approach and not to be an enemy of the common weal, of the all over development and the all over change of the world we live in.

MASON: We must not oppose change.

PLOCHMANN: No.

MASON: But on the other hand we must not be stampeded, as we say, into doing something that is not well thought out and may later be regretted.

PLOCHMANN: Yes, I think it's an educational problem. That's one of the tasks of forestry to watch over the forest, to watch that these forests are not ruined by what may seem as a new development or a new desirable change. But on the other hand the forester cannot hinder it at all by his conservative approach. You know, it's difficult for me to express.

MAUNDER: How do you see the universities recognizing and dealing with this problem in particular in your schools of forestry where you are training now the young men who are going to be the forest managers of the future?

PLOCHMANN: Very little up to now. Up to now we didn't have any training programs, let me say, for recreation or for the planning of land use. Just now we are on the way to create such shares and to try to educate people for to take this share. Our universities and the foresters slept for too long a time and neglected this problem. Today we are in the danger that they are taken out of our hands by some other folks like architects.

MAUNDER: Urban and rural planners?

PLOCHMANN: Urban and rural planners which try today to take these tasks completely out of our hands because they think we are not able to handle these problems.

MAUNDER: Even the geographers?

PLOCHMANN: Even the geographers.

MAUNDER: And the political scientists?

PLOCHMANN: Yes. I mean the social sciences. What often is not recognized is the fact that foresters were the main landscape protectors for over 100 years now, at least in our country, and that the foundation of landscape architecture and of landscape protection, natural protection was given by foresters, and only by foresters in our country.

MAUNDER: Do you feel that the recognition of this problem is growing perhaps faster or slower in the German schools of forestry than in other schools of forestry in Europe?

PLOCHMANN: I cannot answer that.

MAUNDER: Well, another question along that line. You suggest that you've been recently at Corvallis and, in particular, how does that compare with your university here?

PLOCHMANN: Yeh, I think I have to give a little bit wider explanation to this. You are, in America, for my feeling, ahead of us in education because you have already a special section which we don't, and you have some different lines of forest management, forest engineering, range management, and wildlife management recreation. We have only one forestry degree in our country. I am sure that as a result of the development of more and more knowledge which has to be included and which cannot all be brought into one within a normal time of studying--which should be around four years I would say, we will have to come to a specialty section in our country, too. So that's one difference between the two countries at the moment. The other difference is that you are farther ahead on recreation. I'm not sure about protection--but for sure on recreation and I think things will have to change fast in our country if we still want to participate in this....

MAUNDER: In the decision making?

PLOCHMANN: In the decision making, yes.

MAUNDER: Do you see then that there is a great danger that the prestige of the forestry profession may be in decline?

PLOCHMANN: Yes, yes, exactly. To give an example of this, we had during the last two years very lively discussion, about the foundation of a national park on the eastern border to Czechoslovakia in the so called Bavarian Forests. That's a very beautiful forest area in a hilly country where there are perfect stands of fir, spruce and beech. It is part of our country on which the German wonder passed by. Creating a national park shall help to start a tourist industry. Forestry, or our Forest Service, said "No, we don't want that," so the other side founded a club which reminds me very often of your Sierra Club. A few weeks from now our Parliament will pass a bill creating this national park and its a high danger that it will take the administration of this park out of our hands.

MAUNDER: Out of the hands of foresters?

PLOCHMANN: Of foresters. And will give, comparative to your country, will create a park service, too, in which foresters may be employed but...

MAUNDER: Not as principal officers.

PLOCHMANN: Exactly. And if this example is once given, there would be no end to it.

MAUNDER: What do you think the prospects of this legislation are? What do you expect may happen?

PLOCHMANN: I hope it will not happen, what I told. But the danger for it is to grab with the hands.

MAUNDER: What evidences of public interest in the discussion are there in the press and radio and television?

PLOCHMANN: You know the other side, this club has a lot of money available for public work. On television, on daily papers, on the radio and so on, and they make very clever use of it. They have the public on their side, even with arguments which very often are fallacious and which are sometimes absolutely wrong, too. But the other side is not heard, because the State Forest Service cannot make use of radio, paper and television.

MAUNDER: Is this the fact then, that foresters have not developed in Germany any very large information and education capacity of their own, that is, have not developed as in our U.S. Forest Service. There is a section that is given over entirely to education and information to spread the word of what the Forest Service is doing to the general public. It has been doing this for forty or fifty years or more. Is there anything comparable to this in your own Forest Service?

PLOCHMANN: None at all. One really can say that the Forest Service is probably the line of public administrations which is most opposed to public work and to public information. To give you more detail on this would be a long story. It would have to go back to historical development.

MAUNDER: One of the things that we hear American foresters now saying quite often in their meetings is this: we foresters have not done as good a job of articulating our story to the general public as we should. We tend to meet in great conventions year after year but we're only talking to ourselves. We're not really reaching the great masses of people and we are consequently therefore not having as large an impact on the political events that are taking place all around us as we should. I take that from what you have said that this is perhaps even more extremely the condition in Europe.

PLOCHMANN: Yes, much, much more. I know out of my own experience that you do a much, much better job in this way in your country than we do.

MASON: Could I make a comment there? The United States Forest Service, from its beginning in 1905, has had this Information and Education division within the administrative branch of the Service and that has been handled with great strength and success over the years in meeting the problems of economic relations with the grazing industry, the lumber industry, and the public in general on the economic aspects of tree raising. But now we have a new problem, which is that of recreation in its various forms, which is being met by the multiple use idea, but the trouble is, in a sense, that the general public isn't interested in the economics side of it, but is much interested in the recreational side, so really the forestry people are tremendously handicapped in the United States as perhaps they may be here also because of the overpowering public interest in recreation, in favor of National Parks and things of that kind. And we just have to do the best we can but I think we can get the greatest success probably in not trying to prevent National Parks and such things but to try to see that they don't get too big and also to have the public recognize that they can get very fine recreation in a forest which is under economic management or timber production.

PLOCHMANN: Yes, Dave, now, you touched a problem of which we have a very much different idea from the majority in your country, that your idea of multiple use means in many ways a separation of uses; and means grazing here, wood producing there, and recreation on a third place. You can do that because your country is so tremendously big and there are still parts which are untouched. We cannot do that in Germany; on the first hand, we don't have one acre of virgin timber left at all. You can say every thread of the country was already cut at least a few times. And besides, every foot of the country has to be cultivated and used today to make the number of people able to live in this very little space we have. So for us, the idea of multiple use can only be the idea of combined multiple use in the same area. If I talked before of the creation of a national park, it did not mean that this national park would not be managed as a productive forest anymore. That's no question in our country. There are very small areas of a few acres, or hectares, which are left untouched, but that cannot be thousands of acres. So that's a large difference between our countries and it's very difficult for us in many ways to understand your policy of national parks and even more of wilderness areas because you set apart millions of acres as wilderness acres for a very, very few which are able to enjoy them. But they hinder a normal development and a normal cultivation of such areas. And I wonder how long you will be able to go on with such a policy.

MASON: Well, I'd like to comment on that. These wilderness areas that are being created are already largely within national forests. They're high elevation areas much of which are not forested at all. So that there isn't such a great loss of deficiency in wood production by going into them, but the problem is really on the one hand the Sierra Club, to which you referred and who are people that take a rather extreme idea. They want to make these wilderness areas real large; on the other hand, the foresters and the forest industry want to keep them as small as possible. In other words, to have as little as practicable of wood producing forests going into the wilderness areas or into national parks, either. So that there is that contest and also I could go on and say there isn't left in the United States now too much area that is available for the kind of wilderness areas that are being or have already been set up or are in the process of being set up. So, I think that contest will perhaps fade out excepting that probably the Sierra Club will continue to want to enlarge the wilderness areas and the forest industry and the foresters will continue to want to put the boundaries back higher up in elevation. But that will perhaps more or less stabilize after while.

PLOCHMANN: In our country the problem here is a little bit different. Our public is quite satisfied with the jobs the foresters did managing the forests as wood producing areas. And they accept that by this job the forests were protected against changing and so on and they say it was a good job that was done. What the public cannot understand and it begins now to fight is the impression that the foresters don't seem to see that producing of timber is a matter which is declining in the usage of forests in Germany today and recreation and protection are matters which are rapidly rising in...

MAUNDER: In economic value?

PLOCHMANN: In economic value, too, yes. we say, socio-economic value as a social economic combination.

MAUNDER: Can I ask you a question on that? Forestry is a rather old profession here.

PLOCHMANN: Yes.

MAUNDER: Going back many hundreds of years now. In that long history foresters have, for the most part, enjoyed a position of rather great social and to some extent political prestige. Is that long tradition got anything to do with the slowness of the profession to make adjustments now in the rapidly changing human condition that we have with the new problems and the new ideas that are forcing themselves upon foresters? I would like to hear what you have to say about that.

PLOCHMANN: Yes, I am sure about that, and it may be difficult for me to explain it, but I will try. First of all, in our country, for hundreds of years forests were closed to a large extent to the public. This was true on private land and even on state land, out of purposes for hunting. And hunting and forestry was in our country always combined. The forester was always at the same time the wildlife manager, too. And our hunting system was set up what we call the Revere System {QUERY AUTHOR}, a man has to own or to rent a hunting area and only he by himself or his invited friends are allowed to hunt there.

MAUNDER: This is a privilege that could be enjoyed by a relatively few wealthy individuals, I take it?

PLOCHMANN: One hundred and fifty years ago it was a feudal right; today it is a right of..

MAUNDER: Of wealth?

PLOCHMANN: What is left over of feudal families which are still wealthy and what came up of new wealthy families out of industry, trade, banking and so on. And this system is even valid for state forests. Even the state forests are managed as hunting districts.

MAUNDER: And leased out.

PLOCHMANN: And some of them leased out, too. Now it is an old tradition in our country, too, that hunting should not be disturbed by the public. So, for many years foresters didn't like to see people, recreationists, in the forests. They were just chased out. "Get out of here as fast as you can--you don't have to do anything here." And these ideas are still in the heads of many foresters in a completely changing world. Our new Bavarian Constitution contends now the right of the public to use the forests for their recreation. Besides, Bavaria is the only state in the Federal Republic of Germany which passed this article in its Constitution. In the other states the private owners of the forests still can close a man out of his property.

MAUNDER: How recently was this made, this change made in Bavaria?

PLOCHMANN: In 1948. But the constitution did not change the minds so quickly. Let me explain it by an example. We build forest roads--quite a lot of forest roads, but we right away close the roads for public traffic. We have a good reason for it because these roads were not built for public traffic. They are only built for our forest traffic, log transportation and so on. They don't meet the security conditions which are set for public roads. Besides, we don't want anybody in there.

MASON: I'd like to comment that to show the contrast in the United States I'm sure you are familiar with it also, but it might be put in here just so there's a balance of the thing, that particularly in western United States, the custom grew up from the very earliest days of the explorers, the pioneers, the settler, and the developers of the country. We have the National Forests, most of which were created within three or four years of 1905. There has been very little new national forests created in the western United States since about 1907, and the national forests occupy roughly about 150,000,000 acres in the western United States. From the very beginning they've been open as they were before they were created, to hunters and fishermen and the foresters managing the national forests have always expected and tolerated it. They felt that way about it. They knew they had to let the public in and there has never been any opposition on the national forests excepting in times of extreme fire danger, and similarly the privately owned forest land has been from the beginning subject to the same kind of treatment. There may have been and are sometimes private owners that would like to keep them out, but the custom is so strong that the private owners in general feel that they cannot afford, as a public relations matter, cannot afford to resist the wish of the general public to come in and hunt and fish, so that our foresters have, I would say, never had much opposition in public use of a forest, public or private. That is different there.

PLOCHMANN: That's absolutely different. You see, I would say, it was an unnamed policy of our service not to do anything for or to open up our forests for the public. We drove yesterday afternoon coming out of Munich through this large forest areas on the Munich gravel plane right out of the door of Munich and you will understand that this is an ideal recreational area for this large city. You wouldn't believe, we don't have the money to set up one wastebasket, one paper wastebasket. It dates not more than five years back that we started to build the first parking lot for parking cars. We don't have one penny up to date to collect paper waste or anything like that. Not because our Parliament wouldn't give it to us, but because we didn't ask for it. We always have to be pushed and we always try to shrug it off and say, "Oh, no, we don't want, we don't need, that's not necessary, and that's dangerous, and that could start a fire, and that could do things bad." And now the pressure from the public is just to start to overwhelm us. They always say these foresters are the steady negators, you know what I mean, they always say only no.

MAUNDER: They're a drag.

PLOCHMANN: Yeh. And we will go on a few years more like this until tasks will be taken out of our hands and we will really be restricted to only grow timber and to produce timber. But growing timber is, I wouldn't say a sinking ship, but at least a task which is declining.

MAUNDER: Is there no recognition and movement to action on the part of the profession here now to deal with this more intelligently?

PLOCHMANN: Yes, it's starting.

MAUNDER: Do you think it's too little and too late?

PLOCHMANN: You see we told our Service these problems already ten years ago, even fifteen years ago. Our service told us, "Oh, you young men, you young revolutionary men."

MAUNDER: You want to turn everything upside down.

PLOCHMANN: Yes. You want to turn everything upside down. And now I'm afraid we may be too late. The problem by itself is recognized now and things are changing fast, maybe in some ways, too fast, now. Always if you are not able to make things on an evolution, they come by revolution, and I'm afraid we might be too late by now. For sure I hope we are not.

MASON: Could I make another comment, expanding a little on what I said? We have our national forests which occupy quite large areas in the west, where most of them are; and the managers of the parks have the business of entertaining the public, but they do it with a good many rules. Now our Forest Service with the national forests are competing with them by saying, well we are furnishing recreation for the public and the public can come into national forests with a lot less formality and with a lot less rules and we will give them just as good a chance at the kind of recreation they want, so actually we've got two sets of foresters. The foresters that manage the national parks are more formal about their entertainment and charges for it, but there are other foresters that manage the Forest Service recreation services. These two groups are competing with each other to get the public's attention. So I would say our foresters in general have no feeling that they want to keep the public out, excepting in those places where it really is dangerous or in periods of high fire hazard.

PLOCHMANN: Yes.

MAUNDER: I make quite a good deal of use of both national parks and national forests in my vacation periods and in the last several years it has been my observation that the Forest Service is now doing a superior job to the Park Service in this regard. Its camping grounds and its facilities in these campgrounds, its attention to the needs and education of the people who come there is, I think, superior in a lot of ways to that which is done on the national parks in the country. They are doing a much better job of keeping up the quality of the experience, you know what I mean; they're not allowing the areas which are used to degenerate to the same extent as the Park Service has let some of their areas degenerate as at Yosemite and at Yellowstone. It has to be said, of course, that these areas have been just terribly overrun with people and they will have to enforce some kind of control on admission sooner or later if they are going to be seriously ruined.

MASON: Yosemite, you've visited it yourself, is a small valley and a superb piece of scenery and there are millions of people that tramp around in there.

PLOCHMANN: You know, that's the problem you run into by separating multiple use into different areas. On the other hand you must believe and you will understand that after seeing your way of doing and handling this problem and coming back here and knowing that we will go into a very similar development here that it was just frustrating not to be able to get new ideas through to men who are willing to take them up. Just imagine that our Service has today not one penny for recreational purposes--not one penny--not because it wouldn't get it but because it doesn't ask for it. That's just too much to understand.



MAUNDER: This is just professional stodginess?

MASON: Tradition, I'd say.

MAUNDER: Tunnel vision.

PLOCHMANN: Yes, exactly. Yes.

MASON: Well, the thing we are trying to do real hard is to get the general public to see that they don't need to set aside the special areas and prevent any timber management and timber use. Because with the public going to these private forests for a lot of its recreation, the public is getting what it wants, and the forest owners are also using the land to grow trees, cut the trees, and grow more trees. In that kind of situation, to my way of thinking, excepting right where the operation is going on, you might say that 80% or 90% of the area is just growing. There isn't any reproduction problem--that's already been solved--and there isn't any logging problem because that's still along way in the future.

MAUNDER: Let me ask you a question. Has any effort been made on the part of this National Research Bureau of yours to send young men around the world to see what the experience of other countries has been in dealing with this particular problem of recreation?

PLOCHMANN: Not that I know of and I am sure not for foresters, maybe for landscape architects.

MAUNDER: Why doesn't the profession of forestry seek to get some of its own people recognized to do that job?

PLOCHMANN: Because they slept up until now. That's the problem. and it will change, I'm sure. I see it as one of my main tasks in my new position to change this.

MAUNDER: Because it has to happen, certainly in the universities.

PLOCHMANN: Yes.

MAUNDER: Because if it doesn't happen there it isn't very likely to happen somewhere else.

MASON: Seems to me this is a great opportunity for you.

PLOCHMANN: I hope so.

MASON: And we wish you well.

PLOCHMANN: Thank you.

MAUNDER: Do your colleagues on the faculty hear you out with any degree of sympathy in regards to these matters?

PLOCHMANN: Yes.

MAUNDER: So you are beginning to feel that there is some unity within the ranks of the faculty for dealing in a different way with this problem?

PLOCHMANN: Yes, yes. Besides, I am now the youngest man on the faculty and the faculty will change within the next five years completely so it will be the problem to find the young men which are able follow on this line.

MAUNDER: What is happening to students' interest and enrollment in forestry in your university and in other universities? Is it increasing or decreasing?

PLOCHMANN: At the moment it is decreasing. You know we in Bavaria, we need about fifteen professional men per year, fifteen or twenty; and for all of Germany the need will be maybe 100 men in all, and we have three faculties where forestry is taught.

MAUNDER: These are at Munich, at Freiburg and Goettingen. What is the enrollment of students at each of these universities?

PLOCHMANN: Oh, around one hundred.

MAUNDER: In each one?

PLOCHMANN: In each one, between 80 -120, I think in my lectures at Corvallis I gave the figure, I don't have it now, that we had about one professional man in Germany today for every two thousand or three thousand acres of forests. So that's a tremendous density and we don't know whether we will be able to keep it, so I believe myself that we will have to change our system, our organization system, and that probably would even mean a decline in numbers of men. You see we have in Bavaria a total forest area today of about five million acres and we have a total number of about 700 active professional men. That's a very high density.

MAUNDER: Let me ask you this. Is there much professional dialogue with your colleagues and contemporaries in the surrounding neighborhood of nations in Europe?

PLOCHMANN: Yes, there is. We are very closely connected with our Austrian colleagues and with our Swiss colleagues.

MAUNDER: Could I go back a little bit and ask what is the total area of Bavaria so that we can get the percentage of forest?

PLOCHMANN: Bavaria in total area is about fifteen million acres and we have a percentage of forest of 33%, exactly one third.

MAUNDER: The reason I asked you that question is because in America today there is great discussion and anticipation, hopes for the development of more important world forestry

community; that is, foresters of all nations will become more in communication with one another through their professional societies and other groups. I wonder how you see this developing over here. Is it going on apace and are you satisfied with the way in which it is developing or not?

PLOCHMANN: I wonder whether such closer contact can be done by organizations, whether it's more a matter, of you know, of organizing things. Don't you believe, Woody, that much more depends on personal contact, individual personal contact?

MASON: Like this today?

PLOCHMANN: Yes, like this today. And I believe that really intensive dialogue and a really intensive understanding and contact cannot come from organizations but only from individuals, individuals which know one another in their life conditions and working conditions by witnessing them.

MAUNDER: And not in just a superficial one or two day visit when you see only the surface of things.

PLOCHMANN: Not by congresses.

MASON: Where you just read papers and such.

MAUNDER: This is not the solution to just have an organization with a meeting annually and reading of papers.

MASON: Elwood, I hope we aren't going to pass up the latter part of Dick's personal experience. I think that ought to be completed, don't you?

MAUNDER: Oh, yes. The discussion of ideas is sometimes probably even more important than the chronology or the recitation of all the events in your life, what you think about the forces and factors that are coming to bear on these events.

PLOCHMANN: I can say out of my own experience I gain most by my personal visits and personal contact with friends in foreign countries and I believe that this was mostly the case with the people which came over here, too. It was not only a one-way visit, but a two way visit, even after the distances of years and years.

MAUNDER: I think the wisest thing that we might put in our new concept of higher education is that it would become almost mandatory for every student to have the experience of one full year of travel abroad.

MAUNDER: That in the distance is your district? Is that Murnau?

PLOCHMANN: That is the Murnau District, yes.

MAUNDER: How long ago was that, that you were managing it?

PLOCHMANN: I was managing it from 1944 until September, 1968.

MAUNDER: Did that include teaching work at the same time?

PLOCHMANN: Yes. Teaching was a side job. I taught about two hours a week. That means I was about one day a week at the University.

MAUNDER: What were you teaching?

PLOCHMANN: I was then teaching silviculture mainly.

MAUNDER: I think that's an ideal way for a person who is actually practicing forest management.

PLOCHMANN: I think so. A man without practical experience is always in danger to lose the contact to practical work. If he had never had his own experience he might be on the way to become what we call "A Specialist Idiot" or a "Specialized Idiot."

MAUNDER: He has learned everything secondhand.

PLOCHMANN: Yes.

MASON: Could I ask a question going back to Douglas fir?

PLOCHMANN: Please.

MASON: It evidently is a very good species here in Germany when properly handled. What do you think of the wood itself as compared with your home woods, as far as utility?

PLOCHMANN: It's no doubt and we know exactly that Douglas fir is superior to our Spruce timber, but, and this is a problem for us at the moment, we are not paid for it. The saw mills which buy Douglas fir pay us only the price of Spruce and the problem is that we don't have a market.

MAUNDER: Not enough of it yet.

PLOCHMANN: Yes. You see we are not yet able to produce so high amounts of Douglas fir timber, that we would have our own market of Douglas fir. So Douglas fir goes always along with Spruce. But I am sure twenty years from now we will have a market for Douglas fir. And we will be paid for it.

MAUNDER: What do you find is the condition of the market for your wood today as compared with, let's say, years going back in time in this century to your knowledge. Is there any substantial amount of competition with this wood market from sources outside of Germany? Are importers

able to beat you on the price, let's say, with their imports of round wood or lumber or anything like that?

PLOCHMANN: Well, you see, at first you have to know that Germany produces itself only about half of its own consumption. We have a wood consumption of about 50 million cubic meters per year and we produce ourselves about 25 to 28 million cubic meters, just about the half. Besides, we have completely liberalized the market so we have not any restrictions on importing timber. That means our inland price is formed by the world market prices. Now we are competing with countries, especially with Scandinavian and Russia, which produce in the Boreal Region under completely different conditions than we do. These regions are very little populated. Forestry is therefore able to use a much higher grade of mechanization than we can do in Germany on account of our dense population and high industrialization. Therefore they can beat us on the price in spite of the much longer transportation needed, particularly on high grade timber.

MAUNDER: And also on pulp.

PLOCHMANN: Yes, also on pulp..

MAUNDER: One thing that I notice as we drive through forests here and in Austria is the great density of the forests, the tremendous number of stems per acre. Could you explain how you develop these plantations in such dense stands? What is your policy in regard to thinning them?

PLOCHMANN: Excuse me if I have to try to get in a broader picture.

MAUNDER: Right.

PLOCHMANN: We started with planting about 200 or 250 years ago and before we used seeding-I told you yesterday already that the first known seeding occurred 1368. We started with dense plantations because they compared to natural regeneration with their high numbers. The idea was to come as close as possible to the conditions of natural regeneration. And therefore they started out with very high numbers of plantings. The idea was, too, that the soil covered as fast as possible and no competition by undergrowth. Now that was the start of it. Then came our research on increments and yield. Our forestry was and is set up on the goal of the highest amount of yield. We know that the yield starts to drop rapidly as soon as you drop under certain percentage of a natural basal area. You take an untouched stand of virgin timber and measure the basal area, and you will find that this basal area brings you to a certain amount of square feet or square meters per acre or hectare. And we know today that as soon as you come lower than about 90% or 80 % of the natural basal area you start to lose increment. You take a Spruce stand of, let me say, 60 years and we know that the natural basal area should be, in such a stand, about 45 square meters per hectare. As this basal area of the stand sinks below 80% of the natural basal area, we start to lose increment and then, you know, it's not a steady decline compared to the basal area but 75% of the natural basal area meets already only 60% of increment, and so on. The curve opens more and more. So our policy is, on account of the highest possible increment or the highest possible yield, to keep up dense stands. We know that the number of plantings was too high and that loss indicates that we can get along with a much lower number of seedlings. You see when I started out in practical work in 1950, we still used 10,000 Spruce per hectare, that means 4,000 per acre.

Today we are down to half of that and I'm sure we will still go a little bit lower in number. We know too that we can even get along with about 2,000 per hectare or, about 800 per acre; we could get along with 800 per acre in the case of Spruce without losing increment but we would lose quality.

MAUNDER: You would lose quality?

PLOCHMANN: Yes. Because the branchiness would be much higher. Now today we think about 1,500 to 2,000 per acre would be a compromise for quality, highest yield, and cost. So that's our policy today. And for tending we know that you can thin heavier in the younger stages of a stand than in the older ones. So we have the tendency to thin heavy half of the rotation period. Let me say you have a rotation of 100 years, so we try to think heavy between 30-50 years and thin very carefully and very slowly between 50-100 years.

MAUNDER: Do you have the budget and the manpower to do the adequate thinning job that you see is necessary in the younger stands?

PLOCHMANN: You know by our policy we have costs of recultivation. To the recultivation costs do not only belong planting and protection, but the tending during the first twenty years, too. That is all in our meaning recultivation costs, reforestation cost. After that period thinning has to pay its own way. That means we start to thin only if it pays.

MAUNDER: Now when you say "we", Dick do you mean foresters in general?

PLOCHMANN: The policy of our Service. And that's in general.

MAUNDER: All through Germany?

PLOCHMANN: Yes, all through Germany.

MASON: Let me comment on that a little bit. In Sweden I saw a few years ago some areas that had not had the pre-commercial thinning and the foresters explained at that time some of their operations. They said, "We have the money all appropriated to do that work but we cannot get the labor to do it." Then the other day we saw some similar areas over in Austria where they said, "Well, those forests have needed that work but our higher-ups won't give us the money to do it with."

PLOCHMANN: I can tell you up to now we had the money and the labor here. I don't know how it will be in the future but up to now, as long as I was in the practical service, we had the money and we had the labor to do these tending jobs.

MAUNDER: Is there any serious migration of your labor force for this work to the cities?

PLOCHMANN: Yes, it is, but still we have today more labor than we need, at least in the centers of cities and so on; let me say, a forest district like Munich may have labor problems but here we

can solve this problem by lending some laborers from districts farther away and they will be sent here for a few months.

MAUNDER: I see.

MASON: I would like to comment a little more on this. On the Hill property in Linn County which is near Corvallis, we are making pre-commercial thinnings in natural reproductions or some of it's reproduction from seed and there also we're having difficulty in getting enough labor. But I personally feel that that's one of the most important things that we can do in managing our forests is to do adequate pre-commercial thinning.

PLOCHMANN: Yes, you see, because we believe and we know that our pre-commercial thinning depends on a large extent the quality of the harvesting stand. Yes, and I don't believe that the labor problem is a problem of labor. It's a problem of pay. As soon as you pay people enough to be competitive to other jobs, you will have labor. As long as you don't pay enough, you won't get it. And in Europe there has been a tendency to believe that labor in agriculture and forestry could be paid much lower than labor in industry, it is easy to understand why people ran away. I would myself. It's an old fashioned idea.

MASON: It is the same way in Japan. They are having a very difficult time getting enough labor to keep their farms and forests operating because industry will pay them better.

MAUNDER: I have here in my hand a bag which I got in a shop where you and I went to buy film and tape for this recording. It's made out of plastic. Since I've been in Europe I have found that going into stores I almost invariably am served with a plastic bag rather than with a craft paper bag. Isn't this becoming an intrusion of some real significance on the situation as far as the demand for forest products is concerned?

PLOCHMANN: Not that I would say.

MAUNDER: Not that you would say.

PLOCHMANN: No, because as I told you, we are the biggest wood importing country.

MAUNDER: This doesn't influence you at all.

PLOCHMANN: No.

MAUNDER: The challenge of substitute material is not, in your condition here, the same problem that it is in the United States?

PLOCHMANN: Not from the point of producing cord wood.

MAUNDER: Producing the wood in the forest.

PLOCHMANN: Not from this point. As a forester it starts to become a problem on the saw wood market, not at the moment but for the future, which is already to be seen ahead. But not on the cord wood market, the small wood market, which is used for particle boards or for paper.

MAUNDER: Dave, I think you had some other questions that you had in mind. Would you like to ask them before we close off?

MAUNDER: I asked my one on Douglas fir and it was nicely answered and I wonder if Dick has yet told us all he would like to tell us and we would like to hear, too, of course, of your personal experiences that go along with what you have already told us? Your personal history?

PLOCHMANN: I think I ended up telling you that I came into the practical service and I started as assistant ranger of the forest district of Ratim Winkl {Query Author}, which is a small mountain village close to the Austrian border, I would say about 30 miles west of Salzburg. And I was stationed there for about three years. Afterwards I took over my own district as ranger at Murnau which is about 25 miles south of here; it is a district right on the northernmost range of the Alps. I was there for four years until I got this call to take over the chair for Forest Policy and Forest History at the University of Munich, which was a darned hard decision to make, I must say. I was very happy on my practical job and I enjoyed it very much to be able to run out into the forest at least four days in a week and I was really happy organizing and managing and marking timber, trying to find out new ways of logging, building roads, and dealing with our farmers and their problems and so on. You have to give up quite a lot when you are a professor and or as we say a "green desk forester." So I really didn't know myself what I should do, after a while I thought that maybe, or for sure, I would have had an easier and nicer life in the district.

MAUNDER: What motivated you to make the change?

PLOCHMANN: That you have a better chance to use your head. It's very simple.

MASON: I might comment that I myself found the kind of work you were doing with your forest the most pleasant work that I have ever had in my life.

PLOCHMANN: Yes.

MASON: I enjoyed it tremendously, but there were other things that came along and I felt that I had to go ahead.

MAUNDER: Could you explain that a little bit more fully? What do you mean you had a better chance to use your head?

PLOCHMANN: The work of a forest ranger is restricted to a relatively small area and to a given task but he always has to follow the orders in the lines, the policy of his own department or service. And I felt that I could get tired of it after a while. I had done what I could do as a ranger: building the roads, bring up some new methods of logging, and so on. But then I would have no chance as a ranger to try to push ahead things on a larger scale and that I had no chance as a ranger to make my own ideas of the future of our forestry, to bring them to effectiveness or to get them through.



MAUNDER: How generally do you feel this is felt by your own contemporaries, men of your own age who are in similar work?

PLOCHMANN: That depends on the man.

MAUNDER: Is there any considerable feeling expressed by many of them?

PLOCHMANN: Yes, yes.

MAUNDER: Are many of them moving out of ranger's jobs into other jobs?

PLOCHMANN: Yes. The number of men who feel like this will always be restricted, I believe.

MAUNDER: This is a matter of the individual quality of the spirit and the intelligence of the man?

PLOCHMANN: Yes. Absolutely so. You see, I felt that I wouldn't have the right of criticism anymore if I turned down a chance given to me and stayed as a ranger out on a job only because I would have a nicer life there and turn down the chance to be a professor at the University of Munich. Then I felt I wouldn't have the right to criticize because people could always say to me, "You had the chance, it was given to you, you could have taken over this job at the University, you turned it down, now shut up." And I wanted to criticize, you see, and therefore, I thought I should take over this territory.

MAUNDER: And have you found the university chair does give you that right to criticize?

PLOCHMANN: Yes, it does. Yes, because a professor in our country cannot be compared with a professor in your country. See a professor in your country depends to a much higher degree on his dean and on his president than in our country. In my country the dean can tell me, "You have to give, let me say, six hours of lectures a week." But he can't tell me at all what I tell there and if he would try, I would say to him, "Sir, that's not your matter, that's mine. Get out of here."

MAUNDER: A professor is more autonomous in the teaching field here than in America?

PLOCHMANN: A professor in a German university is bound only to a certain amount of lectures he has to give but nobody can give him any instructions or any orders what he has to tell or what he has been teaching or what he has to do in research. It is absolutely up to himself.

MAUNDER: Do you think that there is, there are more strictures on the American professor in this regard?

PLOCHMANN: Yes, absolutely, yes.

MAUNDER: You do. Where does the pressure come from in your eyes, in America?

PLOCHMANN: From the deans. The dean can tell (I may be wrong, you know), but from my observation in America, a dean can tell a professor, "you are 100% on teaching, you are 50 % on teaching and 50% on research, you are 100 % on research, you do now this and you do now that and if you don't do it as I like it, I'll fire you." Just as it is up to the dean to hire the men.

MAUNDER: Well, but in the American system, professors get what we call tenure, and at that point in time they are no longer subject to being dismissed by the deans or by the president, except as they may commit some terrible error that...

MASON: But even with tenure they can have lots of pressure in other ways, as promotional assignments and so on.

MAUNDER: Here your promotion does not in any way depend on how well you please your dean?

PLOCHMANN: No.

MAUNDER: How does promotion develop?

PLOCHMANN: The dean in our faculties is an administrator for one year and after a year the professors elect a new dean. So the dean is just an administrator and not more, and in your faculty, the dean is the boss who runs the faculty.

MAUNDER: And he is there for a long period of time.

MASON: He is there for years and selects the new faculty.

PLOCHMANN: Yes, yes, it's mainly his work and his assignment to select the members of his faculty.

MASON: Probably from the point of view from your own forest management in these areas, have you found any competition from outside which was disturbing, so to speak?

PLOCHMANN: As I told you before, prices of our timber are formed by the world market prices. So on let me say, pulpwood, it's not a question of negotiating a price between the buyer and the seller, between me and a buyer, but it was a given price. I only had the chance to ask, "Can I meet this price or not?" and it was because we had what we call our "fixed costs." As I said it's no difference, our fixed costs will be so high whether I make pulpwood or not, it was only a question of logging prices. If the logging prices met, or were lower as the prices I could get, I cut this pulpwood, and if not, I left it. So for a ranger on a district, this is the situation, you know. However, the forest policy of a country like Germany is for sure a completely different question, a question which is, as I can see it, very very difficult to solve. We could solve the problem by, let me say, closing our market for imports or by asking customs for import taxes. We could raise our prices, income taxes, very easily.

MAUNDER: Duty?

PLOCHMANN: Duty. But by this we would ruin our industries because our pulp and paper industries in Germany have to compete on the world market, the European Economy Market. Germany is not free in its customs policy. We depend on the union and as you know in the union we have not taxes and no customs between the union countries, its custom free, and to countries not belonging to it, we have given custom rates. So by this we would probably only ruin our own industry. It is a very complicated situation in which we are, on the one side, we foresters cannot compete with the timber prices of Scandinavia, North America and Russia on account of our higher producing costs which stem from the functions our forests have in this densely populated and heavily industrialized country and which do not allow us to run our forestry on such a high mechanized level as countries in the Boreal Zone can do, and on the other hand if we would by any means, raise our prices, we would ruin our industry.

MASON: Well, I thought it would be interesting to follow somewhat further this matter of import and export. Going back a ways there was a long period in the earlier part of the century, when we had such a surplus of timber in the United States that we were constantly having overproduction of lumber with the result that the sale price of lumber was quite low and that kept the sale price of standing trees very low. But our owners of standing trees wanted to sell them and were, in effect, forcing them on the market. That condition, I would say, continued up to until after the Second World War, that is until 1946 about, in our country, although it might have been said from a practical point of view to end by the beginning of the Second World War. Thus, up to the beginning of the Second World War there was a constant pressure, particularly in the western United States to cut trees faster than the market wanted the product. And I would suppose that during that period this might have had an impact, in fact, on the value of your timber because of the imports from the United States fixing more or less the level of price here. I think you may have found that factor at work.

PLOCHMANN: You know up to now the prices of the world market were lower than our own production costs. We believe that the prices of the world market will raise. They will raise because your lumber prices raise, they will raise because in the tropical regions, the exploitation goes farther and farther inland and therefore their costs will be higher, because their rising living standard will bring higher costs with them, too. Just the same with the Scandinavian and even with the Russians, but on the other hand, our production costs are rising too. We calculate that our prices of labor will rise probably at a rate of 6% during the next two decades. That's what we calculate on, and our gross national product is planned at a rise rate of four percent per year. Now industries which can use a very high grade of mechanization or automation can cut down their labor costs very much and that's our problem in our central European forestry that we will not be allowed by the public to use the fullest, from the point of technique, possible rate of mechanization because we would need such large areas and we would have to use clear-cuts that out of the idea of multiple use our public would hinder us.

MASON: Well, could I make this comment?

PLOCHMANN: Please.

MASON: I think even if your public paid no attention you would still find it a serious problem because your age classes are generally not very large, I think, and so that mostly you would have to deal with quite small areas.

PLOCHMANN: Right.

MASON This makes it much more difficult to apply labor saving machinery and furthermore much of your topography is quite steep and there again we haven't yet found suitable labor saving machinery on that. In our southern pine region in the United States we have an almost complete mechanization of the forest operations, not only the harvesting, but the formation of the soil in beds and the planting and all the way through, you might say, with it so that to make the change here, it seems to me you would almost have to throw away a lot of what you've already got and it would be a very difficult change to make.

PLOCHMANN: Yes, now you see what I wanted to say, we cannot allow such change from a public point of view but that would mean that even if the world market prices rose, our cost price too would probably rise at least the same or even higher rate than the rise of the world market price.

MAUNDER: So you would be more disadvantaged rather than advantaged?

PLOCHMANN: Yes. Yes.

MAUNDER: How does this situation differ between what is the case here in Germany and what is the case across the border in Austria? Is it purely a matter of the fact that Germany is a very prosperous country with a very favorable balance of trade and Austria is relatively a poor country with a poor balance of trade? The pressures seem to be building up at a fantastic rate in Austria to exploit the forest resource at a faster rate.

PLOCHMANN: The situation, in my point of view, is practically the same in Austria as in Germany. The economic situation is practically the same too with slight differences. Where I see the difference at the moment between Germany and Austria is that we in Germany discuss today already the problem that welfare effects of the forests have to be paid for by the public, that we need some way of payment for the welfare effects by the public. And in Austria they have the feeling that they can find the solution, not by a payment of the welfare effects by the public, but in mechanization of their forestry. I have the feeling that our forestry can only be mechanized levels to certain levels or limits.

MASON: I would agree. I think you're right.

PLOCHMANN: And past this limited degree we cannot go and we cannot allow to go.

MASON: And furthermore, I think in Austria the pressure from up high, in effect, says, "you have a certain allowable cut which you foresters have figured out, well, let's not be bound by that, let's produce more."

PLOCHMANN: I think in Austria--this is a personal point of view gained from talking to foresters there--that the people at the very top are not foresters and they don't understand the problems of forestry. All they say, in effect, is "well, you fellows aren't producing it."

PLOCHMANN: Yes. They say, "You are behind the times. You have to get up to the standards of today and as soon as you do you will produce." It's no question today that Germany could make a profit on its forests. We produce about twice as much as the Boreal Zone. We produce per area unit about twice as much as Scandinavia. We produce probably just about as much as you do on the West Coast, maybe a little bit less, and it would be no problem for us to set up large enough areas and to use exploitation methods with now known mechanization degrees and possible mechanization degrees. No problem. Not the techniques, not even by the age class distribution, not even by the ownership patterns. That could be combined, encompassed.

MAUNDER: The same yield units?

PLOCHMANN: Yes, the same yield units. A solution for these problems could be found, I'm sure, but its a problem that by such a forestry all the other functions, besides producing timber, could not be met anymore. And this our public would not allow.

MAUNDER: Will the public allow it in Austria.

PLOCHMANN: No, I'm sure not. After she knows what happens, she would not allow it. No, because just imagine, Austria does not live, or not live to a large degree on forestry.

MAUNDER: It lives on tourism.

PLOCHMANN: It lives on tourism, right. And now wait what would happen if they ruined their forests.

MAUNDER: They would be cutting off their noses to spite their face if they did that.

PLOCHMANN: Yes, exactly. That's not a problem of forestry itself. If it would be only a problem of production it would be very easy.

MAUNDER: Very short sighted.

PLOCHMANN: Yes.

MAUNDER: Why, you say that this point of view comes to the floor because the people who are projecting it are not foresters but are lawyers? Is that right?

PLOCHMANN: Yes, that was a point of Dave's.

MAUNDER: Do you think in your view that perhaps we are becoming a little bit too dominated by lawyers in our world?

PLOCHMANN: It easily could be, you know.

MAUNDER: Are you willing to go on the record as saying that it is?

PLOCHMANN: In politics in our country I would say, yes, but not in forestry.

MASON: I think, Dick, you would be interested in this. I was in the Philippines a while ago and there from the time the American occupation began about the beginning of the century for about 60 years they had six chief foresters. The first three were Americans and the next three were Philipinos. And then in the next three years again they had six chief foresters.

PLOCHMANN: And they were lawyers?

MAUNDER: Well, politicians anyway. They were politicians, but what does that do to the forest service?

MAUNDER: We are now recording on the afternoon of May 15, 1969 at the home of Dr. Richard Plochmann and we have had a very delightful lunch down at the Starmberger see, it was most enjoyable. Now we are back again at your home and resuming the interview. DAVE, you wanted to go on.

MASON: Yes, I wanted to talk a little bit more about international trade and we've had a peculiar thing happening lately, particularly in the western United States which you have probably read something about, and that is the increased value of timber and timber products in the past two weeks. This has several causes. Primarily we have had a considerable increase in market demand for lumber and plywood; also an increased demand from Japan for round logs; we've also had a very bad winter which delayed and stopped logging operations in some places so that the log supply at the mill has been short; also a car shortage on the railroads to some extent. All of those things have conspired to make a very great difference in the prices of the product. The buyers have bid up a great deal and that in turn has had an influence on the value of the standing trees. To illustrate this, a property which our firm is managing, about three years ago we were receiving for standing Douglas trees about 1,250 marks per cubic meter. That was already a very good price but recently we have been getting prices about three times that much. Fantastic. Its a temporary situation but its the most violent change in timber values that I have ever seen and I was wondering whether that had had an impact on the value of standing timber here or on lumber prices?

PLOCHMANN: None at all, Dave. We had, on the contrary, very sharp recess situation on our market. You may have read in your papers that since in Fall and Winter'66--Germany came into a restriction period. All of our economy fell back because it was stopped by our government the economy, overheating, inflating too fast. The counteraction of our government lead into recession and as normal this had a very hard impact on forestry and lumber prices because we depend on sawlogs to a very high degree on construction and construction is very much influenced by, responds very fast to changes in the general economy. So, our market was on a decreasing rate at this time and now we have, you may have read or heard of, this tremendous--storm catastrophes of February, March, 1967.

MAUNDER: Oh, I didn't know about that.

PLOCHMANN: This which fell about thirty million cubic meters in central Europe. Over thirteen million in Southern Germany in Wittenburg and Bavaria. And that ruined our market situation completely and our timber prices dropped pretty near half.

MAUNDER: That's all?

PLOCHMANN: Yes. And we are just now recovering from this very sharp fall but we've not yet reached the prices before this storm catastrophe, in spite of the fact that our industry and our economy is now booming again. We are now in a high boom again. So we make the just completely opposite experience as you had in your country.

MASON: Well, it's very interesting. I think there must be an effect internationally when there's enough time elapsed.

PLOCHMANN: I think on the long run such a development will have an effect on our market, too.

MAUNDER: You said earlier that your prices and your whole production was geared entirely to the world market and yet this trend in North America doesn't seem to have had any impact at all on it?

PLOCHMANN: It has no impact on our market because for us on sawlogs, the price leader is Scandinavia and Russia. And their prices are not influenced by your boom at all and now, let me say, if somebody wants to import Douglas boards, he has to pay your prices.

MASON: Oh sure, yes.

PLOCHMANN: But the demand of imported Douglas lumber in our country is very little because instead of American Douglas fir, it takes Scandinavian Pine or Scandinavian Spruce.

MASON: And when we charge too much you just don't buy it.

PLOCHMANN: We just don't buy it. We switch over to some other species.

MASON: Yes, yes. But this is one of the amazing things that has only happened once to any such extent that I have ever heard of.

PLOCHMANN: You know Rex Wakefield at Corvallis?

MASON: Yes, yes.

PLOCHMANN: And he is managing now the forests of a man, can't remember his name, he has a mill at Philomath, he has really beautiful timber especially on the coast range and Rex Wakefield showed it to me and he told me the man is considering to sell. He doesn't have any kids and he is already 65 or 70 years old.

MASON: I know the man and I can't think of his last name. His first name is Rex. Not Rex Wakefield but Rex somebody else. (It was Rex Clemmons.)

PLOCHMANN: Yes, Rex somebody else. And I can't remember the name--I knew it too. So he told me he wanted to sell out and leave, and I think a few months ago, I think around Christmas, I got a letter from Rex Wakefield that the man didn't sell and it would be good that he didn't sell because in the meanwhile his property would have just doubled or tripled in value.

MASON: That's right.

PLOCHMANN: But in our country it was cut in half. So you see how different things can develop. But you have to say in our country it was a catastrophe. That overstocked the market for a while but it would be leveled out again. What do you think the rise in prices in your country will probably not for the long run?

MASON: Oh, no, I'm sure it's not. It's a temporary thing, temporary on account of all these several different things that happened. In fact, before I left home the prices had already started down. But they came up to a peak and then started down. There was some land sold last October that I knew all about, it was bought about 22 years ago for 40 marks, \$10 per hectare, it was cutover land with only then about fifteen years following the cutting. So the young trees were pretty small, entirely natural. There was a little less than two thousand acres of this land. Then after it was bought there was what we call re-logging, which returned to the buyer all of the investment plus some more so practically you might say investment had already been wiped out so that there's very little on the books. Well that land sold last October on competitive bidding for a little over \$700 an acre.

PLOCHMANN: Seven hundred dollars an acre!

MASON: And the timber, the young trees, were only about 30 years old and the land was not fully stocked.

PLOCHMANN: And is this is still forest land? There is no interest in construction or anything?

MASON: No, it's still pure forest land.

PLOCHMANN: You know I could give you some similar examples for our country, especially if you take into account that we had two completed deflations within the last fifty years.

MASON: Yes.

PLOCHMANN: But at the moment our prices for timberland are declining.

MAUNDER: They are? Is that so?

PLOCHMANN: Yes, yes, because its no profit anymore.



MAUNDER: Well, ours inflated and this sale last October happened to catch right at the top.

PLOCHMANN: Yes.

MASON: And there are those ups and downs.

PLOCHMANN: I think it should be an important part of the state policy to buy timber if the ownership on this land is given up by private persons. If the forest doesn't pay the rent for the owner anymore, in this case, it has to be taken over by the state, by the government. The problem in our country is that at the moment the government says, "I don't have any money to buy," and so this land is partly left over to itself which is, in many ways, kind of dangerous to the general welfare.

MAUNDER: Are there other people who are interested in buying it and moving in on it? There is hardly any area in the United States where it seems people are not interested in buying land if they can get it.

PLOCHMANN: Yes, you see up to now it had a very high social effect to own land in our country.

MASON: High prestige.

PLOCHMANN: High prestige, yes. And owning timber and buying timber was in many cases, done on account of this prestige determined by a possible rate of interest, only by the calculation of these people that the ownership gives them a high social respect and prestige. And on the other hand, as they say and many still think too, that it doesn't depend on the rate of interest you get back from a land but on the value increase on a longer term. The rate of interest in German forestry was low during the past anyway. Around the turn of the century we calculated an interest of two to three percent in forestry. Today you have to be happy to be on an interest rate of one-half percent to one-fourth percent.

PLOCHMANN: Yes, yes. We calculate today that 60% of our forest land in the total of Germany, today is managed in the red figures.

MASON: Is that so?

PLOCHMANN: We calculate about 60%, but on the other hand the value increment of forest land during the last sixty years was tremendous.

MASON: Yes. Now here's the thing that I happened to remember. You knew Dr. Carl Schench Lindenfels. I knew him quite well, too, and visited his home one time. Well, he at one time was in the United States and in effect, was, at that time, saying that forest land was practically worthless because it could only earn two or three percent and the Americans wouldn't be satisfied with such a low interest rate, therefore, there would be no demand for it. Well, the reply to that was, "Well, if it would earn only two, three or four percent, and I agreed with him on that, then that low rate of interest would determine its value and there are Americans that the value so determined would be willing to buy. But it was one of those things where the low interest rate that the forest could earn,

at that time and again, even now can only earn a low interest because it just doesn't grow fast enough, but low interest rate based on high prices. But I'll get back to that point, I don't want to take all the time.

PLOCHMANN: You see I want to say one thing more for this point because its very important for us at the moment. What we said now, buying timber, under such conditions, can only be done by a man who won so much money that he doesn't depend on the interest rate paid by such property. As soon as he depends on such a profit he can't do it anymore because, now there comes the next point, our forest owners are by law, forced to reforest. If he does not reforest within two or three years he will be forced to do it by the government and if he doesn't do it, government does it on his cost for him. Besides the ways of management are restricted by law, too. We have protection areas where he is not allowed to do any clear cutting either on account of the neighboring stands, or on account of the steepness of the slope, or on account of the water resource area. Then we have a law which forbids to cut stands below an age of fifty years. We have the law which allows him to cut only a certain amount of his property per year. So all these restrictions cost the man money. As long as the man has something to depend on and to make his living on besides forests he is probably well off in the long run. This is because the value increment on the forest land will be, in my feeling, given for the future, too, because soil, land is the only thing which you cannot produce.

MASON: That's right. There's only so much. And the more they put in parks the more demand for the rest of it.

PLOCHMANN: And the more the need for infrastructural installments and settlements and power lines and factories and so on the less land there is and the higher the price will be. But that doesn't help a man who had to live on it.

MASON: That's right.

PLOCHMANN: He can't get a cent out of it, but he is still forced to pay for it, taxes and reforestations and so on. And by this many of our forest owners, especially the small forest owners, are forced today to sell and that's a very bad policy.

MAUNDER: What is happening, then, to the pattern of land ownership in Germany? Statistically over the years, how have the percentages changed?

PLOCHMANN: Now you see it's a very new situation for us because until about five years ago, the forest paid its own way in Germany and paid it, not at a high rate of interest, but anyway a man could make a decent living out of it. But during the last five years, the situation changed critically. Today our department gets just heaps of letters in which people want to sell forest land.

MAUNDER: Is that so?

PLOCHMANN: Before we didn't have market. It was a very tight market, the estate market on forest land. Now the market opened wide and at the moment nobody is willing to buy.

MASON: Is that so? It's still unbought? But the owners want to sell?

MAUNDER: The people won't even buy it for country homes, second homes?

PLOCHMANN: They are not allowed to do that. If they would be allowed to build their houses out there, they would do it. But they are absolutely not allowed to.

MAUNDER: It can only be sold then to a new owner who is willing to keep it in the same business?

PLOCHMANN: In the same business. Yes.

MAUNDER: In other words, the land is frozen in its use.

PLOCHMANN: Yes, Yes. Strictly frozen in its use. We cannot change it. Every change in the usage of the soil has to be approved by the administration. And the administration is very tight on approving such changes.

MASON: You may remember that in Oregon also we have a law requiring the private owner who cuts his timber to provide for a new growth, but the law is not in great detail; it's just a generality and the owner that doesn't want to do very much, if he does a little, that gets by, so to speak, and it's too restrictive. There is one thing I want to speak of a little bit first. These very high prices of timber, and I'm not speaking now of that land that was sold for \$700 an acre because that is land that isn't as yet merchantable, but I'm speaking of these very high prices for standing trees. Those prices are paid for trees that are going to be cut immediately, within a year or so, so the man that buys them, he's buying them because he's got a sawmill or plywood plant that is short of timber, so he has to buy. The large owners aren't buying land at those fancy prices.

PLOCHMANN: You see, I wanted to tie this discussion in now with what we talked before lunch. We talked about Austria and about the Austrian approach of heavy mechanization which stems from exactly the same problem. They cannot make money anymore on the way they do things now and they believe the solution would lay in a mechanization, in a higher mechanization, and in cutting down labor and saving on labor costs. And we talked already before that I believe that this is for us and for Austria a way which cannot be followed. And now the problem seems to be for us at the moment, very difficult to solve. We don't want to socialize our privately owned forests, socialize either on a cold or on a hot way, as we say. The cold way would be to just take it away without to pay anything for it and the hot way would be to buy it by the government. If we don't want to do this and the percentage of private-owned forests in Germany is over 50% of the total forest area, in Bavaria it's even 54%, its higher than the average of the Federal Republic, then we must allow the owner to make some amount of money with his ownership. At least in my feeling it is unthinkable that the government forces the owner, by law, to spend money on an ownership on which he cannot get a rent. I think that's completely out of any reason and out of any discussion. Now we come into the problem of paying for the welfare effects given by forests to the public. You see, these welfare effects we say today, are a whole series: protection of the land against erosion, against high water, against avalanches, against stones coming down. Those are the protection functions, as we say. On the other side are what we call the social function that's

recreation, water resources, filtering of water keeping water clear, the effect of filtering out air pollution, of the filtering out by forests of polluted air, and it is the effect of noise dampening?

MAUNDER: Yes, killing the sound, absorbing it.

PLOCHMANN: Absorbing the sound waves and all these effects, they are given by the forests ever since they were.

MASON: Yes. One more. The tourists love to see the forests.

PLOCHMANN: Yes.

MASON: Tourism is a very great resource.

PLOCHMANN: It belongs to the field of recreation.

MAUNDER: Yes.

PLOCHMANN: Now all these welfare effects were given by the forests since ever and they never got paid for. You can say on the other hand they were paid by the lumber, by the buyer of the lumber, he had to pay for some too; they were a side product; the main product was lumber and it paid for the side product of welfare effects. That was possible as long as the lumber business was going at a high rate, paying its way. But now today we are in competition with countries where they don't have to pay respect for the welfare effects, or at least they don't have to pay as high respects to the welfare effects as we do. So this cannot be paid anymore by our lumber buyers because if they do, they can't compete on the world market anymore. And that seems to be one of our main problems. Can we make our public pay for the welfare effects they get? And that's a problem of the evaluation of the welfare effects; it is a very tricky problem. How do you evaluate one hour of recreation in the forests, now tell me?

MAUNDER: Well, how do you evaluate the cleaning of the air?

PLOCHMANN: Yes, how do you evaluate it? It's very easy to say it can only be done by a forest. There is no other vegetation or no other technical invention which can do this the same way as it can be done by a forest.

MAUNDER: But that evaluation is going to have to be done.

PLOCHMANN: Yes, yes. there are two major questions which, in my feeling, must be asked in such an evaluation. On the one hand a forest must be evaluated in all it produces. Only if you are able to evaluate all these effects or functions for uses, you can compare it to other uses of the land. Let me say, there comes a man and says, "I want to build a settlement here--I want to build a house here and I pay so and so much for the ground and that gives a rent of so and so much." And the foresters step aside and say we are in the red figures. So forestry must be able to make up a clear picture of what it really produces and earns to be able to compete, because there is a tremendous competition for the land by industries, roads, airports, settlements and whatever else may come.

And for planning, not only for forestry, but for planning how you use your given area, you must be able to evaluate its benefit for the public, its total value for the public. That's the one hand and on the other hand it's a question of how do you have to pay the owner of such a land for this effects the forests have. I'm sure you cannot pay him on the same rate as we said before but my line of thought is this, the government forces a man to keep a land in forests. He has to reforest it, he has to keep certain standards of management. If he does this he must be able to make a rent, to make a profit out of this business. Now there would be no problem, as I said before, to run a profitable forestry if we would not be restricted by the welfare effects. And therefore, I say we should calculate how high our costs would be if we would run our forestry on the highest possible mechanization level, possible today with the available technical means. And then, let me say, we would find out on an area like around here the total costs would be \$5 per cubic meter. And then we have to calculate the costs of such a management under the restriction which have to be kept on account of the public welfare effects, today here on account of the public. You may find out that it would cost \$10 per cubic meter, now I believe this \$5 between the highest possible mechanization level and an allowable mechanization this difference has to be paid by the public as their fair share for the welfare effects they get. That would give us possibly to set different standards of mechanization levels. We could say around close to a large city like Munich where the forests have high recreation value and recreational use we set higher standards. And way out in the country, where only few live and seldom anybody comes, we could come out with a level very close to your standards or Scandinavian standards. So that's my idea.

MAUNDER: Have you set this down in an article or articles?

PLOCHMANN: No, you see, I will have to give a speech this September for the twentieth anniversary of our foresters' association (Bayenischer Forstoerein)

MASON: Great.

PLOCHMANN: What I just told you, that will be the main content of this speech of mine.

MAUNDER: It hasn't been put in writing anywhere?

PLOCHMANN: Not that I would know of. What our public or our foresters will say to such an idea, I don't know either, but at the moment, it seems to me, the only fair and practical and practicable way of dealing with this problem.

MASON: Well it does seem as though something of that kind is needed because it wouldn't be fair to seize the land with no compensation. And it isn't fair to say to the owner, "Now then you must do these things at your expense although you can't get a profit by doing it."

PLOCHMANN: And besides, on the other hand, our Constitution protects the ownership, so socialization of this ownership, in my feeling, cannot be in any way agreed. Besides, where should our government get the money from to buy these lands?

MAUNDER: Given the present political climate in Germany, what do you think the chances are for success of such an idea?

PLOCHMANN: I think on a period of five to ten years it has a fair chance. We will have to do something about it. We will have to make up our minds what we want--either the socialization of our privately-owned forests or we have to give a free way to do as they are now trying in Austria.

MAUNDER: Tape number three in the interview with Dr. Richard Plochmann including Mr. Davis T. Mason and Elwood R. Maunder, May 15, 1969. Dave, you had a question?

MASON: Well, I would say that what we have just been speaking of off the record really ought to go on the record.

MAUNDER: Alright, fine.

MASON: Yes, I've forgotten where we quit on the record but I want to make my remark after that has been put on record.

PLOCHMANN: I think, as far as I can remember where we left off on the record, was my idea that this seems to be the most pressing solution that central European forestry will have to find during the next three years. The solution tried in Austria as you told me today and as I know it from the literature is not acceptable for my own feeling. I think it would be a great mistake to follow this line or it would hurt to a deep degree the functional achievements of forestry.

MAUNDER: Is there any schism whatsoever within the ranks of foresters over these matters. Do you have a job within your own ranks of consolidating opinions and behind the idea that...

PLOCHMANN: You see I have told you that these ideas that I articulated before have not been published. Up to now the discussion did not go beyond a discussion of our difficult situation at the moment. The given situation at the moment is that the functions of forestry changing, that the social functions will be the main functions of the future and that these functions have to be paid for by the public if privately owned forestry is to have a chance to survive. This is how far our discussions have gone up to now. The ideas I gave you before, I will articulate in a speech given in September on the twentieth anniversary meeting of our Bavarian forestry association and that as far as I know will be the first try to propose a practical way of handling the problem. What will come out of this I don't know yet. At least I want to try to start discussions about it and about practical ways...

MASON: Right. And you have to start with something definite--something definite to propose and discussion may modify that...

PLOCHMANN: May modify it? Discussion may turn it around completely, but I am absolutely sure what I can propose won't be a perfect...

MAUNDER: But you will start the ball rolling and you have a feeling right now that the ball is hung up on dead center and it's not moving in any direction or if anything it's rolling backwards.

PLOCHMANN: Exactly. Right. Now you had a question?

MAUNDER: Let us assume that the discussions that will be launched as a result of your giving this speech, do indeed result in that kind of formulation of a specific solution, that solution will have to be pressed through political channels to be realized? To what extent are you foresters in Germany prepared to carry your ideas effectively through the political channels? How do you see forestry's preparation for this?

PLOCHMANN: Yes. Forestry preparation is very very small as we discussed this morning already. Really, we are not prepared for it and we probably don't know how to do it or to handle it.

MAUNDER: Do you have, for example in the school, anyone who is in anyway an expert in dealing directly with government?

PLOCHMANN: No, we don't have.

MAUNDER: Do you have any such corps of people in your provincial forestry administration or your national forestry administration who have a capacity to deal with legislatures by experience?

PLOCHMANN: Yes we have. We have a different line of approach. We have our high bureaucracy, our department chiefs and so on and they are changing too, little by little. Sometimes we even get a young one with new ideas. Now, besides, we have forest owners associations which have, oh, you may call it an influence on politicians, kind of a lobby, you know, and then we have what we call the German Forestry Advisors Council. That's a council which advises our government and our federal parliament on the way forestry policy should go and this council is composed of members of the Federal Forestry Department, of the State Forestry Department, of the Private Owners Association, the Union, the Foresters Association, the communal forest association and the Association of the Communal Forest Owners.

MAUNDER: All of which are a part of what might be called The Forest Related Community?

PLOCHMANN: Yes.

MAUNDER: Do you have any natural allies in other sectors of the community? What about the bankers?

PLOCHMANN: No, I do not think we would have any allies. We may have an ally in our agricultural group because of the 54% of privately owned forest land in Bavaria, 40% are to a large degree from forests. And these farmers are our allies for sure.

MAUNDER: And do they carry any very large political muscle in things political?

PLOCHMANN Yes. Well, you see, power is declining too because their number is declining rapidly, but on the other hand I must say that I can't imagine that a parliament could be more friendly and more open to new ideas concerning forestry than our parliament in Germany at the moment. Our population and our politicians are extremely fond of forests and forestry and they will do what they can to help forestry--to me this is no question.

MAUNDER: But they have to be asked?

PLOCHMANN: They have to be asked--they have to be convinced of the necessity of such a deal and it is never easy to free a few hundred million marks per year. Now let me say I would estimate in my mind, and please I would say don't publish such a figure--it's just a rough estimate--but this costs would be, as I told you before, in the range of five to ten marks per cubic meter. That would mean in the range of twenty-five to forty or fifty marks per hectare in a year. So for Germany that would be about 125,000,000 to 250,000,0000 marks per year.

MAUNDER: So to get that kind of public support of payment in recognition of these other values and products that the forest produce, you must go through a certain prescribed channel of communication to reach the ultimate aim. In your government you have a ministry of agriculture and forestry which obviously would have to be favorable to this and to take a leading role in carrying it on to the next step, and the next step would be what? Would it be this National Council of Economic Advisors?

PLOCHMANN: No, it would be before. That would be before. It goes straight to the Parliament. There's a State and a Federal Parliament.

MAUNDER: What about getting your executive head of the government to put it into his program which he presents to the Parliament?

PLOCHMANN: That would be a way, too. That is now theoretical what we are discussing now because we don't even have...

MAUNDER: A viable proposal?

PLOCHMANN: Yes. May I give you one idea more? I told you five to ten marks per cubic meter. That would be about one-tenth to one-fifth of the commercial value of our timber today. At this moment our federal government is paying four billion marks per year subsidizing agriculture. And our agriculture has about twice the area, land area, as forestry, just to give you again a comparison of sums.

MASON: Now I think it might possibly give you some ideas if I told you of a similar situation that we had in the United States. It is comparable in size with what you have outlined, and that is the way in which the federal government applies the income tax to the profits made from the conversion of timber and of products and the sales of the products. It's a thing that relates to the welfare of private forest land owners just exactly as yours does. We had a situation in 1943 that really developed out of war. In 1943 we found that war inflation, so to speak, primarily, had increased the value of standing trees. That increase in value we would call a capital gain. The tax



laws as they then existed took almost exactly one-half of that capital gain as a tax and it was such a heavy tax that for practical purposes it was confiscating certain properties, it was making it impossible on certain forest properties to practice sustained yield. They couldn't pay the taxes and practice sustained yield. So, in effect, we said that tax law must be changed. It's a real long winded story and I'll try to telescope it some. That tax law must be changed so that we no longer have the government tax confiscating so much of the value of the capital gain. Now already in the United States a person could sell his property outright and get capital gains treatment and the capital gains tax was one-half as much as the ordinary income tax. It was like this: If you owned a piece of forest land and wanted to sell and did sell and the value of the property had doubled recently, you could do that and have capital gains tax treatment at about one-quarter of the increased value. But if instead of doing that you cut the trees, made them into lumber and made a profit on the lumber, that profit consisting largely in the increase in capital value, you had to pay fifty percent. So it was creating a condition where people who owned timber, instead of cutting their own trees, would say, "I can't afford to do that, I must sell my property." And two manufacturers, each owning a property nearby each other, one would buy the property of the other and the other would buy his property and each get the capital gains treatment. Well, that wasn't right. That was an uneconomic thing. So we had a group that worked to bring about that change in the tax law. They worked at it about a year or a little longer and the work consisted first of all in someone familiar with federal taxation, doing the work of analyzing and formulating a bill. I was the one selected to do that. That was my job in the picture. Then the next job after we had the bill, the proposed law, was to get it introduced into Congress and get it through Congress and there the Industrial Association of Lumbermen and many foresters and other influential people were brought together to back up the proposal and to lobby it, so to speak, through Congress. That was accomplished in early 1944 and since that time it has certainly meant several billions of dollars saved to the forest land owners and that has greatly stimulated the practice and application of forestry on private lands in the United States so that the general public has secured better forestry product as a result and it seems to me that what you have here is quite a similar situation.

PLOCHMANN: I am quite sure.

MASON: And I think that is a problem.

PLOCHMANN: The way we have to go will have to be similar here, too.

MASON: Yes, that's right. Part of the job is to determine what you ought to do, put it into language and the next step is to get the lobbying forces that will get it through.

PLOCHMANN: But now I am afraid I have to interrupt. Frau said tea is ready--come and get it.

MAUNDER: Well, we have had a very nice afternoon sitting out on the patio and now we are all ready to go again. It's quarter after five and first of all, did you have any further statements to make or questions to ask in regard to the line what we were following when we went off the air here, before tea? I have something to follow up with.

MASON: I think I have gotten in about all I wanted to say about that capital gains tax. It was the same kind of a problem and it took two things: one was a suitable language for a bill and the other was lots of political pressure built up the best we could.

PLOCHMANN: I personally don't have any experience how to handle such problems but I am afraid I will get it during the next two years. That's the way to look at it, Mason.

MAUNDER: Yes, there is nothing like standing up and saying your piece and then being asked, "Well, now, you've said it, what are you going to do about it?" What do you see, Dr. Plochmann, as the future of forestry in the next twenty five, thirty years? How do you feel about its potential, are you optimistic, are you pessimistic, how do you think it's likely to develop? Here I call upon you to use your prophetic vision.

PLOCHMANN: Yes, I would say. I am not pessimistic at all because I have the feeling that forests will be used in the future even more heavily than in the past and it will need the care of foresters. It is only for me a question how the weight within forestry will be distributed in the future. In the past the heavy weight was primarily on producing and harvesting and selling timber. That I am sure will change and will have to change. We discussed it today already. You told about the Austrian approach with mechanization. I think that's the wrong way to the future. There is a group of people in our country that says timber reproducing has gone, is gone forever, is out and over. Our forests have only to serve as areas for protection and social aspects, recreation and so on; if there comes some lumber out of it, too, maybe we will harvest and use it but wood producing as the main function of forestry is out and over. I'm positive that this approach is as wrong as the other one. Germany has a huge wood industry, forest products industry, and this industry depends on our timber. You can estimate that investment made in these timber industries ranges around eight to ten billion marks and the value of their yearly production in this range, too. This cannot be given up.

MASON: All the jobs that go with it.

PLOCHMANN: All the jobs that go with them and besides, I am absolutely sure that no country can make itself absolutely dependent on imports of such a basic raw material as lumber is today and still will be in the future, too. I am convinced about that. So I believe we will have to find a compromise between these two extremes and we will have to find a line somewhere in the middle. We will have to produce timber in the future and we will have to produce welfare effects much more than we did up to now. Timber producing will not be the main function anymore, but it will be one of the functions.

MAUNDER: Let me ask you another question. What about the character of the wood using industries themselves? Is this character changing as it is in other countries? Particularly in my own? Or is it remaining very stable and like it has in the past?

PLOCHMANN: No, it is changing and it is changing rapidly.

MAUNDER: Would you describe how it is changing?

PLOCHMANN: You know, up to now we had two main consumers of raw timber. On the one hand it was all the industries which use sawlogs and on the other hand it was the pulp and paper industry. Between the two came the new factor, the particle board industry which just skyrocketed during the last ten years and which will for the first time in our history this year use more timber than the pulp and paper industries. It will come this year to over ten million cubic meters of timber.

MAUNDER: Is this new particle board industry being created separate and distinct from the traditional older forest product industries or is it an expansion of companies that have been in the older lines?

PLOCHMANN: Mostly. Mostly companies which were in the timber business already, which added it to sawmills, to plywood factories.

MAUNDER: Is there a tendency toward greater and greater consolidation of companies into larger but fewer?

PLOCHMANN: Up to now it's a slow process but I am positive that it will accelerate quite quickly in the future. You know, the particle board industries skyrocketed; the pulp and paper industries expanded at a fast rate, too, and only our sawmills dropped about half in number during the last twenty years and kept their level of production. They didn't lose but they didn't gain. They were just about stable. Now I am sure that these sawmills will lose in future because I am pretty sure that the board as the main wooden product will more or less be substituted during the next twenty to twenty five years, either by plastics or particle boards with a plastic cover which gives them the elasticity and strength of normal boards as soon as this problem is technically solved, on which they work hard, this new product will be way higher in quality than the board, because it is absolutely equal. You know? It doesn't have any irregularities, you know, and that will be the end of the normal board.

MAUNDER: Where is the research of this kind being done?

PLOCHMANN: By the particle board industry.

MAUNDER: Do you have any forest products laboratory in the government that works on these problems?

PLOCHMANN: Yes, two, but the industry gives the money for such research to them, too. So I believe that we have a future for a mass product of timber which will be afterwards ground, cooked, split-up, anyway chemically processed, worked out, and this part will enlarge by far. Today its amount will be just around 40% of our production. I am sure it will enlarge by far. It will enlarge at the cost of sawlogs and for sawlogs. Besides I see a future in high quality timber which can be used for flooring, paneling, siding and veneer.

MAUNDER: Yes, and you can use the lower grade stuff to go into the particle.

PLOCHMANN: Yes, and I see a market for laminated wood construction in the future and we may end up by a percentage of seventy to thirty or somewhere around there.

MAUNDER: What is this going to do, do you suspect, to the utilization factor in the forests? Are you going to be able to make higher use of the wood you have on the stump?

PLOCHMANN: That's hard to...I'm...

MAUNDER: It's a particle board, isn't it?

PLOCHMANN: I thought about this quite a lot and I am not sure about how I think it will come. It could easily be, if the board is substituted by a particle board with some chemical or plastic covering, that this would bring a tremendous widening of our market and would bring new market for this product which now don't exist or which were lost to some other substitutes. This could mean, and I would hope so, that by this widening of the market, our prices could come up again, too. Let me say, the price for our industrial timber is forty to fifty marks per cubic meter to a price of sixty to eighty marks for the sawlogs. This could mean, you know, that the price for industrial timber could go up close to a price which we now get for sawlogs. It could go a different way, too. It could be that we are not able to find a solution to our price problems, to our problems of profit. This would not mean that our forest industries would go out of business, but would try to substitute timber and go into production of other materials like plastics, make paper out of plastic, which is generally industrially solved already. The Japanese work on this problem just as our industries do. It would be no problem, technically, to make a plastic board, shortly, ten years from now, I am sure. So that could be the other way things could go. If we cannot compete with the prices of Scandinavian, Russian and American forestry, our industry could make up their mind and say "Our raw materials supply is not secured, the price for this raw material supply is so high that we cannot compete on the world market anymore, let's get out of this market." Which happened, let me say, already in the railway ties where they switched from timber to concrete, and that could happen in pulp and paper and that could happen in particle boards, too, and this would mean that we really could go out of producing timber. Let's hope that it won't come, but the possibility has to be kept in mind, if we want that it doesn't come into existence.

MAUNDER: Are some of the companies that are now producing these wood products already hedging their backs by going into production of materials, substitute materials?

PLOCHMANN: Yes. It's done by the particle board industry, it's done by the railway tie industry, it's done by the pole industry, it's done by the pulp and paper industry. All of them are in close connection with the chemical industry. Pulp and paper, as well as particle board and the chemical industry will only win by such a process that's for sure, so such process as we outline is in the interest of the chemical industry; and about the strengths, the economic strengths of your or our chemical industry, I don't think I have to tell you.

MAUNDER: Very polished.

PLOCHMANN: About their strength and power.

MAUNDER: That's the shape of the future.

PLOCHMANN: The shape of the future as I see it, these are possibilities I can see at the moment.

MAUNDER: Well, let's say some good angel will descend from the blue and give to you a fabulous sum of money that you could put to work in the next five years to accomplish good in the field of German forestry. How would you think it best perhaps to use that money? Where would you spend it? How would you make use of it?

PLOCHMANN: I would believe, from my point of view, what we would need most at the moment is a better contact to our public and a better public information and public relation work, than we have now. Now only making people understand what we are doing, what we want to do, what we are staying for, but at the same time, what is the word? Too, let me say, advertise, yes, advertise for our product, especially for our product, publicly.

MAUNDER: Trade promotion? Is that what you are talking about?

PLOCHMANN: Trade promotion, yes, marketing--all of these problems.

MAUNDER: In other words you need knowledgeable people who know how to do that kind of work. Where would you get such people if you had the funds?

PLOCHMANN: I don't know.

MAUNDER: Well, don't you have within the framework of the German University, people who work in other disciplines who are expert in this area?

PLOCHMANN: Probably not. MAYbe we have some public relations firms.

MAUNDER: Communications experts?

PLOCHMANN: Yes, communication experts.

MASON: I wouldn't think you would find them so much in the industry or the university as firms that are already in that business on behalf of other kinds of products. That is what has happened in the United States for the trade promotion work of the lumber industry . I made such a research myself on behalf of Western Timber Producers Association and at that time we went to a number of the leading public relations people, advertising people. They are experts in their field, although they at that time didn't know much about lumber, but they weren't expected to. They were to furnish the know-how in the public relations field, assisted by people who knew about lumber and forest products, and I imagine that is the same situation that might exist right here in Germany.

PLOCHMANN: I think so, too.

MAUNDER: Do you see any merits in going to people in political science, in journalism, and in some of these other fields to take counsel with them regarding these matters of higher importance

to you and your profession and testing their thoughts and seeking their counsel, perhaps even engaging them in some mutually agreed upon interdisciplinary studies within the university which would begin to grapple with some of these things and perhaps produce some new ideas or insights.

PLOCHMANN: I have to tell you, we just started two weeks ago on such a program. I told you about our research union which sent me around the world a few years ago and the president of this research union in Germany is a forester. It is Professor Speer. You may have heard his name. He was the last president of IUFRO which is now Jemison and he is the president of the German Research Union now and this research union sets up what we call in German Schuerpunkt {query author} program.

MAUNDER: Studies in depth?

PLOCHMANN: Yes. And one of these new studies we tried to set up at the moment will have the title or approximately the title, "The Functions of Forests Twenty to Thirty Years from Now." How can they be qualified, how can they be quantified? And we set up three working groups, one working group on soil, one working group on hydrology and meteorology and one working group consisting of forest policy; also economic, geography, social science and political science. I will try to work with this group.

MASON: Do you have in Germany business schools like the Harvard Business School?

PLOCHMANN: I don't think so.

MASON: I think that business school was one of the very first of that kind like it and has been copied, you might say more or less, by quite a considerable number of additional business schools and universities. And the idea of that kind of a school is to prepare men to become executives in business and also to study the kind of problems that executives have. One of the problems, of course, is this one of trade promotion and they have a division of that kind. You might keep that in mind in the program you are working on right now.

PLOCHMANN: Yes. I am not absolutely sure yet how this team work can be brought into practice but anyway we found amazing goodwill on the side of the economic geographers, of the social science and of the political science men. So I hope that we will get some results.

MAUNDER: Well, years ago, the people who owned or administered the forests found that it was necessary to seek the aid of experts, scholars in the natural science field and they did this with great benefit to themselves. We are now seeing a much larger improvement towards enlisting the aid of scholars in other areas, areas which are particularly well equipped to deal more specifically with some of these social problems which we are up against and I think the problem always within a profession is to overcome some of its old professional antagonisms toward some of these other areas of academic concern and interest. There has always been this kind of war between the natural scientists and the social scientists but in today's world, that kind of nonsense is just, it just cannot exist anymore. We have got to have the kind of rapport, we have to get to be able to reach across the borderlines of our disciplines and grasp each other's hands and become able to learn from each

other and work in concert with each other for the accomplishment of worthwhile things. That is, I think, what you are aiming for and I am glad to hear this.

PLOCHMANN: You see, there will always be these questions which can only be solved by the natural science but, on the other hand, in the center will always be the human beings. We do not do forest protection for trees or for a stream nor do we do any other thing just for its own sake, for its own best or good, we do it for human beings in the center. It has always to be the welfare of human beings and we call it the optimization of benefits for human beings. And that's a social problem.

MAUNDER: It was stated very well, I think, in your youth, Dave, by Gifford Pinchot, "the greatest good for the greatest number."

PLOCHMANN: Yes. That expresses it absolutely. So this natural science, what I wanted to say, has always to be brought into contact with social problems because of the center of the social problems, and I am absolutely sure that all of these problems given here today cannot be solved by foresters themselves anymore. That time is over.

MAUNDER: I suppose here as elsewhere in the intellectual world there is great discussion of the revolution in the field of biology and the very rapid rise of the biologists and not the old natural biology, the orthodox type, but the new biology. The biology that is saying, we will remake the world in whatever form and image we want because we now know, we are learning the secrets of life itself and we may, within a very short time, be able to grow precisely the kind of vegetation we want, we may be able to create exactly the kind of human being we want. We know from our experiments with artificial insemination with animals what remarkable things can be done and there is a rather rampant optimism and aggressiveness in this area of scientific investigation which is gaining prestige and notice in the intellectual world. How does this begin to focus or come to bear on your own field and do you get much of a discussion of these matters in and among yourselves and your colleagues and students at the University of Munich?

PLOCHMANN: I wouldn't say that it is much discussed but it is to some extent talked about and I have the feeling, and it is my personal feeling, too, that I would say we hope they are wrong and what they say will never come true.

MAUNDER: It's very frightening.

PLOCHMANN: Quite frightening, yes. And I can see no good coming out of it.

MAUNDER: Well, they might make the kind of creatures we don't want. They might look better on the outside and be worse on the inside.

MAUNDER: That is inherent in a lot of the work that is being done in forest genetics. It's just a matter of transferring it to other areas of life.

MASON: Elwood, we haven't been willing to permit that to be done to humans.

{Query Author}

MAUNDER: The problem it seems here is that when you take, for example, the revolution that has taken place in recent months in the area of transplanting human organs from one individual to another. They are getting now to the point where this may become more and more possible to do and the question is "Will the public really have a reaction against this sort of thing in the long run?". Especially when there is put to them that Uncle Louis's heart can be replaced and we can save Uncle Louis. Uncle Louis is going to want to have his heart replaced. He is going to want to submit, perhaps, to this kind of tinkering with life, in a sense. Do you see what I mean? People, I think, are more and more inclined to put their faith in the expert, in this case, the surgeon, the specialist, because he can do something for them which they don't understand completely but they have faith in his ability to do it. This is, I think, part of the dilemma of the human race which is not realized or understood fully but which is coming on a pace and which these new scientists are thrusting forward. I don't know that I make by statement very clear here, I am sure it is kind of muddied; I feel that it is muddied myself, but I think that there is an idea here that we've got to take into consideration.

MASON: It is a very foggy feeling to begin with; that is, the kind of thing that is going on in many different area, and without too much understanding by one area what's going on in another. It's bound to be experimentation and personally I don't regard it as much more than experimentation and I don't believe in other words that man is going to make himself so smart that he has infinite knowledge and can give himself infinite life and that kind of thing. I don't expect that that's going to happen.

MAUNDER: Well, ten years ago, Dave, we would have never thought it would be possible to transplant an organ from one person into another and yet in ten years time this has come to pass and now they are already talking in terms of not depending upon the organs of another person but upon simple, very highly sophisticated mechanical devices that will do the job.

MASON: There is always speculation about what might become and there are possibilities... You see some of it...is it worthwhile to go all this trouble with humans; for example, we have a tremendous range of humans on earth from people who are still aborigines up to the highest degree of intellectual ability.

PLOCHMANN: Now you see you get into philosophical rounds and here my English pretty near ends. But I will try to add a few thoughts if I am able to express myself. The first, I can't imagine that we will be able to solve these problems you talked about. It seems to me that we are not able and it is rather doubtful that we will be able to control ourselves. The chance that we can explode ourselves today by using atom bombs and starting atomic war seems to me a much, much greater danger than the question whether we will be able ten years from now to invent an artificial heart. I am sure we will be able to invent an artificial heart but the much greater question for human beings is whether we will be able to control ourselves so far that we won't render ourselves extinct and there I have deep doubts. That's the one thing the second thing I would say is that we may be able to invent, let me say, hearts. We may be able to grow absolutely straight and branchless trees. I just doubt that by this nature could be changed to a very deep extent. You know the balance of foresters, especially you take our climate and atmosphere and so on, they are so tremendous and I



believe, thus not for us to control in the long run. I believe that these forces working there are much, much bigger and greater than we really are able to handle. I don't know whether I got my point through.

MAUNDER: Yes, I think you have.

PLOCHMANN: So what it really ends up, what will it help if we extend life to two hundred years, what will it help, if we grow perfect trees which after a while cannot be seen anymore and not be looked at and not be enjoyed and...

MAUNDER: It goes back to the old Biblical injunction, "What good would it do to gain the whole world if you lose your own soul?"

PLOCHMANN: Yes, exactly.

MAUNDER: And this can be stated for the race of man in general as well as for the individual.

PLOCHMANN: Yes. Yes.

MAUNDER: I think this has been a most wonderful meeting that we have had today.

PLOCHMANN: And now we can end it with our whiskey, eh?

MAUNDER: I think maybe that would be a good idea.

MAUNDER: Now this is Sunday, May 18, 1969, Elwood R. Maunder speaking from the home of Dr. Richard Plochmann in Assenhausen in West Germany. Mr. David F. Mason is here also and we are going to continue now the interview that was begun two days ago. Dick, I called you, you remember, yesterday about some questions that I wanted to ask you in this last session we have. Perhaps we can begin by my asking you what you see as being the condition of forest history research and writing in Germany today?

PLOCHMANN: You see, Woody first let me state that I am pretty fresh in the business as you know so the picture I can give you is incomplete, has to be, open spots, or uncovered spots, but I would say there is forest historical research in three places in Germany: at Freiburg at the Institute of Professor Mantel, at Hannoversch-Munden and that means pretty soon at Gottingen at the Institute of Professor Hasse and at my institute at Munich. There is not a very large amount of forest historical work done at the moment but there is off and on again people who like to work on historical problems and questions and turn out or come up with some work. So let me say I had a year ago a young man who wrote a dissertation about a historical question which seems of high interest to me, especially of high interest for our planning work today. He tried to find out what was planned, what was really done and what results came out during the last one hundred and fifty years of forestry in our Bavarian alpine region. You can follow this up pretty well because we have our inventory works or management plans from 1830 on and which are repeated every twenty

years and we have the maps, the age-class maps, for all these steps. So you can really follow up because the inventory plan consists of planning, management planning. You find the results still today in the forests and you find what was written about the experiences of the time; so I think that was very valuable.

MAUNDER: Each forester's headquarters office would have a great deal of the early documentation or would this be in the state archives in Munich?

PLOCHMANN: No, the management plans for each forest district, as well as for the regional forest and are at the regional forest and at the headquarters of the department, not at the archives.

MAUNDER: Even though it would go back more than one hundred years, it would still be in the hands of the foresters themselves.

PLOCHMANN: Yes. Quite a lot of them were lost during the war but here for our Alpine Region they were all preserved.

PLOCHMANN: Dr. Meister. This dissertation is now published in the "Forestwissen Schaftliches Zentralblatt." 1969 NRs, 293--Title: "Ziele u Ergebniyse forstlecher Planung in Oberbagrinchen Hochgebirge" {Query Author} Goals and Results of forest planning in the upper Bavarian mountains.

MAUNDER: All right. Now give us a translation of that in English. can you?

PLOCHMANN: The translation would be that this dissertation is at the moment published in the "Forstwissenschaftliche Zentraleblatt," Number 2, 1969 under a title which means, "Aims and Results of Forest Management Planning in the upper Bavarian Mountain Zone." And the man's name is George Meister.

MAUNDER: Where is George Meister now?

PLOCHMANN: He is at a forest district. He is assistant ranger of a forest district in the Alpine Zone.

MAUNDER: Yes, you were telling me about this thesis that was done under your guidance or was this done before you came?

PLOCHMANN: No, this was done under my guidance. So every few years or every year again there is a man who is interested in historical questions and will take them up, but there is no large or wide scale research program set up in the Federal Republic on forest historical questions and as there is a very loose connection between the different institutes of Freiburg, Hannoverch-Munden and Munchen.

MAUNDER: Who would you say are the leading writers in this field if there are any?

PLOCHMANN: The leading writers are at the moment in Germany Mr. Mantel and Mr. Hasel.

MAUNDER: How do you define forest history, Dick?

PLOCHMANN: Forest history in my understanding is a field which has to support or to get general ideas to forestry education and which is for many questions a basis of understanding which cannot be eliminated. Only when you know the historical background, you will be able to fully understand what we find today and only then will be able to determine a future which can be foreseen or which can be outlined. And for this understanding, I believe, that forest history has to play a very important part in forestry in general, but especially for management planning and for the planning of forest policies. Also, it is a very, as I pointed out already, it is a very important basis for understanding the current, given conditions of forestry in our country.

MAUNDER: This would seem presupposed that forest history includes that which has happened in the past. The immediate past as well as the distant past? Is that your view of forest history?

PLOCHMANN: That is exactly right. That is my view. And I think that especially the history of the last one hundred and fifty years is of the most, of the highest importance.

MAUNDER: I have the impression from my reading of international literature on this subject that some of your colleagues here in Germany don't take quite the same view of history as you do.

PLOCHMANN: That's right.

MAUNDER: How would you define their point of view?

PLOCHMANN: For their point of view, forest history ends about with our revolution in the year of 1848 and they believe that from then on the historical questions should be taken up by the different fields. Let me say from then on the silviculturist should teach the history of his field and the forest politician of his field and the yield man on his field, and so on, but I think that's a view which I cannot hold because besides the history of each field which has to be taken up by the man who teaches the field, you need a forest history which tries to set the profession or the happenings within forestry, to try to get it into connection with, now help me....

MAUNDER: The mainstream of your national history?

PLOCHMANN: National history, and that cannot be done by the man in the special field. That has to be done by, you may say, a historian.

MAUNDER: Are there any historians in Germany who take a special interest in natural resource history including forestry?

PLOCHMANN: There always will be some connection with let me say economy history and forestry history but besides, this, there is no real interest of historians in forest history. I think forest history has to be carried on and carried out in research and teaching by foresters, by professional men.

MAUNDER: Would you say the same thing would be true of, well let's say any other professional history like medical history or engineering history?

PLOCHMANN: Yes, I think so.

MAUNDER: In other words the historians have to be found within the profession themselves rather than outside in the discipline of history?

PLOCHMANN: You know I believe it would be ideal if, let me say, a historian who wants to work in medical history should have an education in history and in medicine, but that will be found rather seldom and that's for sure a lack of historians in their own profession. They know their profession but they often lack the tools of a trained man, of a professional historian.

MAUNDER: Well, if that were true what history would be written? I mean all historians are trained as historians and they are not trained as politicians or clergy or foresters or medical men or journalists, they are trained as historians, and yet they write history which deals with all of these areas. Now they can't obviously be knowledgeable as each professional man is knowledgeable in his field but they can be a great deal more knowledgeable with some research of their own than most professionals realize. I think most people in the professions take a very narrow view in this regard. They say only a forester trained man could possibly write forest history because without that training in forestry he has not the tools as you said to really adequately do the job.

PLOCHMANN: No, you got me wrong.

MAUNDER: Did I?

PLOCHMANN: No, I said the man in the profession doing history research, like me, I miss the tools of a real historian because I didn't learn it, so that's my disadvantage. On the other hand a historian has a disadvantage of not knowing, let me say, technical methods of silviculture which are of high importance to judge about any development.

MAUNDER: I think that the historian can learn the elementary information perhaps in some of these special areas of forestry so that he can do a creditable job of writing its history. Just as you as a forester could learn the techniques of historical research rather quickly and apply these in writing history.

PLOCHMANN: That's right.

MAUNDER: The problem it seems to me is that there has not been up to this time any really very considerable number of professional historians who have looked upon the forest as a resource and said, "It has a history that should be researched and written." And there have been altogether few foresters who have had any historical sense, that is, any sense of history, and therefore a recognition that the history of their profession or the forest is a subject of such importance that it merits their profession investment of time. That I think is the problem we are up against. Now I think we are getting to a stage where the influx of students into the universities has reached such a high peak that now it becomes necessary for many of these to widen the field of engagement and

now we begin to get more people who are willing to delve into these very special, almost esoteric fields, you see, like forest history and we are getting some very competent historians, geographers and political scientists and even foresters, too, who have an historical bent and who are doing research of this kind and I'm just wondering to what extent that may be also happening here in Europe?

PLOCHMANN: I think our situation is different, Woody, because our number of men in the profession is decreasing and not increasing and therefore I am afraid it will be more and more difficult to find men who are inclined to dig down on historical problems and there are very few professional historians in our country who are interested in our forest history, so I have a rather dark view of our future in this field.

MAUNDER: You wouldn't say then that there is anywhere near as much use of the resource of the human experience in this field of forestry, as there might be? I might say that the resource of human experience I'm talking about history because that is what history is, it is a resource, a written record of what we know has been done, carefully documented.

PLOCHMANN: In any way there would be many very interesting questions which could be taken up but which are not taken up because we have no people for it. I wouldn't say money for it--we could get the money--it's not a monetary question--it's a question of people who are willing to do the work and you see it is the same with me. I have these two fields I have to work in, forest policy and forest history. Now as you may know out of our discussions during the last days there are so many pressing problems today in forest policy and there will be such critical decisions to be made during the next years for the future of our whole profession that I doubt very much that I can find enough time to do really intensive work in forest history, so for me forest history will be, there's no doubt about it, a second choice in spite of the fact that I would be very much inclined to do such work.

MAUNDER: Would you say that this is a similar position that other men in other chairs of forest history are put in other universities?

PLOCHMANN: That's just the same all over. That's the same as Mr. Mantel is the man for forest policy at Freiburg. It's the same for Mr. Hasel, too. That is always combined. We don't have a separate chair for forest history in all of Germany.

MAUNDER: And what they write about forest history usually predates 1848, I think you said, right?

PLOCHMANN: Mainly, yes. Not totally but mainly.

MAUNDER: And how do they look upon those who seek and do write on the last one hundred and fifty years, do they look upon this as rather... Well, I'll let you answer it. How would they look upon anyone who came out of their midst here in Germany or came in from outside to write something based on records and documentation of the last fifty or one hundred years? Would they consider this...

PLOCHMANN: I hesitate to judge on this question. For myself there would be no question. I think it at the moment very important work. You see as I told you already once I have the feeling that not only each country has to make it's own experiences in forestry and doesn't seem to be able to learn from the experiences of his neighboring countries or a country farther away, but already in the profession we start, it seems to me, all over again. You know, we make today just the same mistakes, repeat the same mistakes that we did one hundred years ago in spite of...If we only would read the results already published ten or one hundred years ago we could easily avoid some. To give you an example, the large forest of Spruce outside of Munich, they were stricken a huge insect catastrophe in the years of 1890 to 1900. There were, I think, about 50,000-60,000 acres eaten up by a moth called Nonna {query author}. Now they started to reforest these areas and they found out that reforestations were successful if the reforestation was done right after the cut before heavy ground competition of weeds or grass could build up and that it was most helpful to make reforestations together with Alder or Birch as a kind of protection against late frost and that the result of reforestation dropped steadily and then would get more and more difficult and more and more costly as a longer time period elapsed between the catastrophe and the reforestation. So the area that was reforested five or six years after it occurred, were complete failures already. Sometimes for thirty or forty years they were unable to establish a forest anymore. Now about this catastrophe and the results of the reforestation there was a voluminous dissertation written in 1920 and that was published and available for everybody. Between 1945 and 1948 after the war the next catastrophe of the same insect occurred and exactly the same mistakes were repeated, you know. In spite of the fact that not even 30 years had elapsed since publication, so you see what I mean. For me, that is very important history because it is history and it seems that on account of underestimation of history neighboring countries and the profession itself repeats their own mistakes all over again and I wonder how this could be changed.

MAUNDER: Well, perhaps we need better bibliographies and better computer systems into which we can file such information so that there may be quick and easy retrieval of basic sources when these catastrophes or when major problems develop in any area and we can then rather quickly review what has been learned from the past and discard that which is of no interest or value but pluck from these materials that which will be useful as certainly would be the case here. Any man of any sense who would have been confronted with this as evidence would have pursued a different course. Right?

PLOCHMANN: True. I agree with you.

MAUNDER: I don't mean to suggest here that history is a panacea for our troubles; it's not, because conditions change and the same problem has to face different circumstances in every age perhaps, but one derives a great many insights from the knowledge of the history of any given problem and that's what I think is the main value of history. I am not interested in history as just saving the old stuff for the sentimental sake of it and I am not an antiquarian in my interest in histories, it's what can history teach us that is useful for today and planning tomorrow.

PLOCHMANN: Well, you see I believe that, I would differentiate history dating back over one hundred or one hundred and fifty years is knowledge, a basic knowledge, to understand your profession and has to be taught. But on the other hand the history from now to two hundred to two

hundred and fifty years back, that is a working tool which you need for every day of your professional decision you have to make.

MAUNDER: Well, I think it's also significant that every profession must have a sense and understanding of its own heritage if it is to articulate clearly and effectively with the public. Knowledge of one's self, where you came from, gives you confidence, gives you prestige that you need to reach out and gather in public support for that which you are trying to do at the moment and which you are seeking support to do in the future. So your history is something that gives you a momentum, a pressure, a prestige for achieving what is currently important to you. And this, I think, is a factor which too many professional men, not just foresters but in every field, are...(end of tape)

MAUNDER: I'm director of the Forest History Society and somehow or other, these words we use have got to have some kind of meaning that we can agree upon somehow or other. This is how we get to a definition of terms that have meaning to both of us. Well, I take it from what you have said that there is really nothing in Europe in any way comparable to the Forest History Society in the United States or Canada, that is, there is no organization that makes a systematic effort to collect sources of forest history and to try to engage the interest of scholars in a wide range of disciplines in the study of these materials, so that there may begin to develop a much larger literature in the field of forest history.

PLOCHMANN: No, there is not, Woody. There are a few, no, quite a series of associations of historians, societies of historians, but not of forest history.

MAUNDER: Alright, I think that for the sake of brevity, we'd better go on then to another subject rather than linger. We could talk about forest history per se for hours, I could anyway, but I don't want to tie us up too long. What I would like you to do, Dick, is define the major areas of forest history in your country as you now define them in the lecture courses that you give. You did this for Mr. Mason and for me the other day when we were not on tape and I wish you would spin that out very quickly now, if you would.

PLOCHMANN: Well, you see I would divide a course in Forest History in four periods. The first period would be the natural development of our forest after the past glacial period till the moment of heavier influence of human beings in this forest. This is what we call natural history of "Wald"; you may read in our books the term "Wald" and the term "Forst." "Wald" is a natural form of vegetation and "Forst" is a natural form of vegetation formed and influenced by human beings. So this first period of a natural history showing the different successions of free species under the influence of climatic change over a length of time of about ten thousand years. The second period I would call a period of the human fight against forest; the fight to clear the land for settlements and the fight to clear the land for their fields, grazing grounds, agricultural needs. You can say this period would start, in our country, at about 500 years after Christ. That was the time of settlement by different Germanic tribes and the first period of starting to clear the land on a larger scale. You know that we had earlier the influence of the Celts and the influence of the Romans, but I would say that wasn't really heavy on larger pieces of land, you know, that was only centralized to a few

little places. So I would start this time around 500 after Christ and it ends at the moment the forests needed to be protected...

MAUNDER: The moment they recognized the need to protect forests.

PLOCHMANN: The need to protect the forest to ensure the future wood supply, for any reasons; it must not be only wood supply, it can be other supplies of the forest too like game, water, like fruit, grazing, honey or whatever it may have been. Anyway at the same moment they were setting up regulations to protect the forest and you can say pretty accurately this was around the year 1400. So you see the first period was about ten thousand years roughly, the second period was about 900 years and now came the third period which was a period in which they tried to protect the forest for some reasons which we just determined, where they made regulations in many different ways. A man, if he cut a tree, he had to replant three others and so on and on; he was only allowed to cut so many trees at that and that time of the year and he had to act in this or that way, so all these different "Forstordnungen"--forest regulations which were put out by the different rules of the areas between 1400 and 1800, but there was no planned forestry or forestry managed by the idea of sustained yield.

MAUNDER: There was none of that.

PLOCHMANN: No, none of that. It was a period under which there were already some protections to forests or at least they tried to protect the forest in some way and it was the first period in which wood was consumed for industrial purposes like salt mines producing salt, like glassware works, or mines, used partly on a large scale. That was a time in which trade developed. I told you about this driving and rafting of timber which went on on all of our rivers and which went down right to the sea, to the Atlantic Coast on the Rhine and on the Mein River, which came out from our regions down to the Danube way down to Hungary, Budapest and so on, already at that time. So I would define this period from 1400 to 1800 reaching over a period of about 400 years. In spite of the fact that at this time one tried to protect the forest, the conditions of the forest continually declined because they didn't operate on any sustained yield and there occurred all the different wars, the Thirty-Year War and so on and so on. This was a time of absolutism, when the rulers, the absolute rulers just used their forests to make money and so on. So at the end of the period there arose a great fear that the wood supply would not be sufficient anymore.

MAUNDER: Fear of what, a timber famine?

PLOCHMANN: Of a timber famine. A timber famine and you can only understand it clearly if you recognize that at this time the wood was one of the most important goods for living: fuel, construction, tools, everything practically was made out of wood or wood was a basic material for it. So this fear was, I would say, something comparable today to an atomic war, for this time.

MAUNDER: Fear of the loss of wood was comparable...

PLOCHMANN: To the fear of an atomic war today; for these people, at least I believe so, this fear was the reason for the development of the true forestry, as a period of forestry under the idea of



sustained yield. And this idea was born, as you know, around the year of 1750-1800 right in this area, and was articulated--written, published and that was a reason, too, why we...

MAUNDER: Who do you associate with the initiating of that idea?

PLOCHMANN: There are a few men associated with it. Men like Beckman, like Georg Ludwig Hartig, like Oeltelt, {Query Author}, Heyer, and a few others. They developed this inventory method and they articulated that the living generation should not have more profit out of the forest than the next generations can get. So that's really the content of the idea of sustained yield.

Now, I would say this period of true forestry starts about the year of 1800 in this period we still live, and this period I would draw now up to the year of 1950. I would define it as the period of forestry under the idea of sustained yield with the main aim of producing timber. I would say about 1950 started a fifth period on whose beginning we stay now and which will be a period of new tasks for forests, in our world today and in our society today, tasks in which the one of producing timber will be an important part but not any longer the most important part. I believe that the social effects, the welfare effects of forests, the function of protection and the function of recreation will be very important parts of these forests of the future. Does this cover what you...

MAUNDER: Is that as you teach the subject and explain it in your lectures to the students?

PLOCHMANN: Yes. For these different periods I always try to give them an idea of the common picture of the time....

MAUNDER: Tie in what is happening in the forest with what is happening in the larger world.

PLOCHMANN: Tie in the happenings in the forest and the situation of the forest with the political situation in general. There are always a few main problems you have to deal with--what are the ownership conditions? What was the forest used for? How was it looked at? Which techniques were applied? How did it tie in to the economy of its time? So for my feelings, these are the major subjects that have to be taught in every period.

MAUNDER: Have you created anything in the way of a textbook or syllabus?

PLOCHMANN: Not yet. I may do so.

MAUNDER: Are you working on one at all?

PLOCHMANN: I, you know, I started half a year ago and I even didn't give a lecture up to now because I started out with courses of forest policy and I will have my first lectures on forest history this winter term, so I'm, so full of ideas, not yet formed, not yet thought out to any concepts.

MAUNDER: How do you see the professor of forest history in the present firmament of the academic community of forestry educators? Does he have a position of equal status or less status than the others?

PLOCHMANN: You see, we don't have a professor of forest history at all; we have a professor of forest policy and forest history in all of our three schools. So I would say the professor of forest policy and forest history has, among our crews, a high standard because forest policy is a central field and an important part. Forest history is, I'm sorry to say, so always, would you say, a tail?

MAUNDER: Of second priority.

PLOCHMANN: Of second priority up to now. So I can't really answer this question because we don't have any examples to {query author}, but I could say one thing, he would have the equal rank and bite if he is an able man; it depends on his ability and on his personality and ability.

MAUNDER: Alright, let me ask you another question, that is somewhat related to this but not quite the same. How do you see the condition of forestry education in Germany today? Is it any better off or is it worse off in your view than the professional forestry educational program in the field, that is, out in the woods. How does it stack up in its relation to...

PLOCHMANN: I think now you approach these questions from your American point of view. I think it's pretty hard to do it for our German conditions. There is practically no education on the field out of the university.

MAUNDER: I'm sorry. I think I confused you with my question, posed as it was. Let me try again. First of all, what is the condition of forestry education in Germany today? Is it in a strong position or...

PLOCHMANN: No, it is in a weak position, I would say. It is in a weak position because of decreasing numbers of students and it's in a weak position because it doesn't have many male students out of foreign countries anymore, because we became too narrow minded, I believe. You know, German forestry had during the last hundred years a very high standard around the world. We were observed, let me say, like the fathers of forestry; and I have the feeling if you don't please take it in the wrong, as we say get it in the wrong line, we are today the grandfathers of forestry. We started to rest on our laurels and we became very, very conservative and we did not look over the fence anymore; but we thought what we develop here, this is the Walhalla of forestry. That's a temple and everybody has to come to us and sit here and pray to us and say: "Oh, gosh are you good!" You know, "Are you perfect!" and I think we became provincial, we became second rate. Now I overemphasize this, maybe I over pointed it, but I wanted to do it to make my point clear, my feeling clear. Because we have a decreasing number of students and because we have not very many foreign students anymore in our country, I say our condition is weak. You know I was asked as I gave my courses at Oregon State, students asked me; "where would you go if you would be an American student in this school and you would have the money or you would have a grant to go to Europe to study for a year. Where would you go to?" And I told them that if I would be interested in biological matters like silviculture, vegetation geography and such things, I would go to Zurich, and if I would be interested in more technical problems, go to Stockholm. "You wouldn't go to Germany?" and I said "No." And the boys said, "We wouldn't either." And that was absolutely impressive for me, you know, that impressed me.

MAUNDER: How well, do you think, is that same point of view recognized by your colleagues in forestry education in Germany? Is there any...

PLOCHMANN: In the young generation this feeling is not, I would say, singular anymore. That's right, "singular anymore."

MAUNDER: It's not unusual anymore.

PLOCHMANN: No, it's not unusual anymore. More and more see it and feel like I do but change takes place slowly.

MAUNDER: Changes in education are slow.

PLOCHMANN: Yes, and it has to take place slowly, because I think for education there is nothing that can do more harm than always changing again and always trying new things. Do you agree, Dave?

MASON: Well, you've asked me a question I am glad to have the opportunity trying to comment on, particularly what you said about where would a man go coming from the United States. Well, I have been a number of times to Europe and visited the forests and visited the foresters of all the countries you've mentioned and actually, I think the finest examples of the practice of silviculture that I could remember, not necessarily so much the individual examples, but the general effectiveness, that Germany is the place to see rather fine silviculture. I feel that very strongly; I've never had that question come up before, I think maybe I said this earlier in our visit together that my first time I came to Europe, I was particularly looking at the practice of forestry. I did not come to Germany, I went to Sweden. That was for a special reason, and the reason was that I went to see something that was more like the American states, that is, that hadn't progressed as far. I know that Sweden was well ahead of the United States in the practice of forestry but there were numerous similarities. First of all, I'll speak of Germany as I understood it at that time. The trees would be felled and taken to a quite nearby mill and made into lumber because Germany not only used a lot of lumber locally but didn't have enough so it had to import and therefore I had the idea that after the manufacture of the lumber at these small mills, the lumber didn't have to move very far to market. Well, now in the United States, at least in the Western United States where I was working, the logs had to, on the average, travel from the stump, maybe 40 or 50 miles to the mill, but then after the lumber was manufactured most of the lumber was moved away, out of the area, out of the state and might move an average of 2,000 miles to the market. Well, a similar thing existed in Sweden; the principal mills were, there were not too many of them, but were fairly large mills, near the mouths of the river as at {Query Author} and places like that. And the timber was cut upriver and then moved down the river driving maybe an average of 50, 60, 70 miles to the mill. After the lumber was manufactured, it moved out of the country, that is, some was retained in the country for local use, but roughly on a guess, two thirds to three fourths would be shipped away to other countries, some to Germany, some to England, some to South America, pretty long distances. There existed those special problems and I really didn't go to see the silviculture, went more to see how a country operating under similar conditions, what they were doing, expecting that their utilization probably wouldn't be as close as in Germany. And that their silviculture probably wouldn't be as intensive as in Germany, because it mostly began later and they were gradually

moving up towards the Arctic Circle with their production, they had maybe one virgin forest still. Well, anyway, I did go to Sweden for that special reason, but later, of course, I was interested in silviculture, as well as the other features and was not disappointed when I came to Germany to see, what I consider, a more intensive silviculture and a more intensive use of the products. That is, using a generally smaller diameter, and using the fittings for that purpose. In Sweden they have come in recent years to use smaller diameters than they used to. I think that you here in Germany are maybe not so closely {Query Author} as earlier. And I would feel today, if somebody asked me, some student, would say, "Well, now I'm studying forestry in America and I want to go and study at some European country," well, I think I'd say to him, "What are you particularly interested in?" If he said silviculture, I think I'd say, "Well, I think you would be wise to go to Germany." I would like to also speak of something else that I have spoken of a good many times to other people when talking about the practice of forestry. I did see something of French forestry, particularly during the first World War when I was supposedly in Southwest France. It seems to me the French forestry then was practiced by a man on the ground making a plan and sending it to Paris for approval and somebody in Paris would perhaps revise it to suit himself and the facts, so that the man on the ground wasn't really getting a chance to apply forestry as he saw it on the ground. It was different, I think, in that there wasn't as I understood it, any central place where a man making a plan would send his plan for approval, but there was great respect for the old masters who had developed silviculture, very intensively and there was a following of their principles applied. Then I thought I saw a somewhat different silviculture in Switzerland where the man in the forest was not sending away his plan to Zurich and he might not be following the old masters but he was applying it more or less to suit himself individually, based on his own studies of forestry and of his local conditions and so on. Now this is kind of a long winded comment, but I don't think you should feel that German forestry has become second rate by any means. I'm talking about silviculture.

PLOCHMANN: Dave, maybe I was not able to express myself clearly. I didn't want to talk about German forestry and German forestry research, but about education. Here I believe we are, today, second rate.

MASON: Well, I was really speaking about the application.

MAUNDER: Would you explain, Dick, why you feel there is this sag in forestry education. Is it a loss of prestige for the man going into it and the diminution of the talent of the field, or what is it?

PLOCHMANN: I believe it's a lack of changing the educational methods to the development and the time. We apply today a system which was brought into existence about 80 years ago and the world changed in the meanwhile quite a lot and the volume of knowledge expanded tremendously, and is expanding at a tremendous rate and we still try to educate an all-round forester under the educational methods 80 years old, under a university idea about 150 years old and what we create is an all over, all around forester who doesn't know anything quite right.

MAUNDER: What is the students' reaction to this? Are the students aware? Are they articulate about this failure?

PLOCHMANN: Yes, they are starting to be articulate.

MAUNDER: What are they saying and doing to give you...

PLOCHMANN: I think I articulate the feelings of the students in this case, I believe to get up to date again we have to come on the one hand to a system, to lead to a system you apply in our country, where there is basic educational forestry and specialization on top of it. And I would say three or four lines we would need in Germany. We would need a biological line, we would need an economic line, we would need a technical line. That would be the three main lines I would see for our country and maybe we would need a kind of special training for the problems of landscape planning, landscape shaping and area usage, or what do you call it; I don't have your technical terms. You know, planning of...

MAUNDER: Urban, rural development?

PLOCHMANN: Rural development. And maybe, those would be the main lines, I think. And on the other hand, I think we have to give up some of our ideas about students' freedom and have to go more to a strict system, a more strict system of teaching. I wouldn't go as far as you do in your system which is a "schooling". Each man has to attend classes, each man has to write his tests every term, and if he fails for one or if he fails for two terms, he is fired, so that doesn't leave, by my feeling, enough freedom for free development for a young personality, but as you go into one extreme, pulling and leading a man on a very short and direct line, so we rather just let him gallop free around and that is the other extreme and I feel we should find a compromise out of these two extremes existing in your and my country and that would be my aim; shortening of time of education, we've now 7 and one half years as specialized training, six months a year for apprenticeship, at least four years of university and three of practical training, not on the job, but in the service. So that brings you up to seven and one half years; it's just too long a time, you know. Our kids get out of school normally at an age of 19 to 20, then they have one and one half years service in the army and then they have seven and one half years training for the job, and then they are 28 years till they get out and till they earn their first money. It's too long. So I would say the training shouldn't be longer than, let me say, five or highest, six years. And I believe we will have to come to some kind of physical training and some kind of specialization. Maybe we will come to a system that we skip our nonprofessional men who are now on subdistricts. That would mean we come to a system like you. A man gets a degree after three years of training at a university or a forestry school. Only the best out of the group will be led on to a specialization, like your master or PhD degrees. We begin to discuss these problems intensively in our faculties, with members of the services, with professional men, with nonprofessional men and I'm quite sure we will have a tremendous change in our educational system in the next decade.

MAUNDER: Do you think this will apply to all professions...

PLOCHMANN: It will be applied to quite many professions because we are discussing these problems not only for forestry but for all government services and for all government employees. And we tend more and more to an American system of education.

MAUNDER: What are the students saying about this? Are you urging this kind of...

PLOCHMANN: Do you believe, I put a question back to you. Do you believe the students really have already access to judge such problems by themselves. I believe at first you need some clear inside view in the matters before you.

MAUNDER: What I'm saying is the student looks at his life and says, "I'm going to have to give a year and a half of my life now after I'm out of the high school, gymnasium, to military service and then I'm going to have to give under the present circumstances another five to seven or eight years of my life to getting an education." A lot of students are getting more and more sophisticated at a younger age, and they're beginning to make their voices heard and at a much younger age than you and I did when we were at that point in our lives.

PLOCHMANN: I agree with you, yes.

MAUNDER: This is what we are hearing about in very large part from students everywhere. There is a criticism of the university as an institution and the criticism is being brought to bear upon us as faculty members because they say, why the devil don't you do something about these things. Now, do you get any of this from your students at Munich?

PLOCHMANN: We get some discussions of it, I told you before, that is not very far from the views of the students. So I would say that we are pretty close together.

MAUNDER: See, this is one of the problems.

PLOCHMANN: Especially, I would say of the young generation, not only the students, let me say the generation between 24 and 30 years has much similarity to my views on the problems.

MAUNDER: Do any of the students who are now looking at the curriculum, they're looking at the catalogue of the courses they're going to be asked to take in the three, four, five, six years that they're going to be in college. And they look at this and they say to you, "What's this nonsense that I've got to take here, I don't need that, I don't want that, that's not what I want to go to college for, "I don't see that that has any value to me and the kind of education I want to get." Sometimes this is a lack of good sense on their part, they don't do enough, they don't fully understand. I mean your point is well taken; before we need to take all this at full value, on the other hand, some of the criticisms are valid. It is true that a lot of what is being put forth in the realm of education today really has lost its significance in a way for the contemporary scene. It has not kept pace with change.

PLOCHMANN: You know, didn't I express it quite clearly before when I said we are working today with a system we developed eighty years ago under an idea of 120 years ago. I believe that this system has to be changed, has to be brought up to date. You know one problem which you don't have but which we have, in the typical German university, stemming from the ideas of W. von Humboldt who had the idea of the community of teachers and students and of the combination of teaching and research in the person of the teacher, of the professor of the German university. It was a humanitarian ideal of studying, to get what we call "Bildung" (culture), humanitarian weight or humanitarian volume. It was the ideal of research to find the truth. This system could educate only a very small elite of the nation, a very small number. Today we try to apply the same system,

this same ideal to a university with 25,000 students as Munich at the moment, which is just a place of mass education and not of education of an elite anymore. And so in our university which is completely different from yours, as you know, we have this problem besides, that this idea and the different circumstances don't fit together anymore. The full professor of our university is a powerful man, I would think. Our students and our public feel this has to be changed and we talk now since twenty years about a reform of our universities. But this reform of our universities cannot come out of the universities themselves because the circle of men who carried out this university were the full professors and the reform of the university could only mean that the rights and the advantages of these full professors would have to be cut down. You can't expect of any circle who carries an institution that you cut your own nose off yourself. I myself am one of these people now, so I think I can face this without being looked at in the wrong way. I'm positive that a reform of the university can only come from outside, not from inside. Our problem is that this reform which is urgently needed, is now over pushed, over fast because of political pressure from the students, from violent students and from politicians who are afraid of many things. I believe that now we are just at the best way to ruin our institution of the university by not reforming it, by revolutionizing it by political pressure from the outside which stems from daily needs, you know, from daily needs and fears, and which doesn't stem from a new concept of the university at the moment and for the future.

MAUNDER: It's your belief that if the change is to be a proper one, and you admit that a change is necessary, desirable, overdue, has got to be one that is made from inside the professors of the university rather than any other...

PLOCHMANN: No, I think I didn't get it through. I believe that the professors inside will never be able for evolution of the university. I believe evolution has to come from outside by a new concept of education which has to be formed in connection from educators, politicians and sociologists.

MAUNDER: The concept then of the university as a community of scholars has to be restated...

PLOCHMANN: Restated and that has to come from outside. But it should be an evolution and not a revolution. I believe that at the moment what is happening here in Germany is a revolution from outside under pressure of violating students and fearful politicians which fear for their next selection.

MASON: Dick, could I comment as an outsider, because I have long been outside the university. I have to make it from the point of view of what we think is happening in the United States. As an outsider I have the impression that is to a great degree, in universities in general, the full professors and maybe even below that feel that their research work is very, very important and that is the thing their attention is on, and the actual teaching is a minor affair which they turn over to young graduate students perhaps and these professors do not meet the students in any way. They may give a lecture to a class of 1200 or something of that kind, but we have the saying in the United States that for a man to get ahead in the university he must either publish or perish. My personal point of view is that there is a great overdoing of the idea on the part of the heads of the institutions, who in effect promote the ones that do lots of publishing. And pay entirely too little

attention to men who are very good teachers, but maybe are not doing much publication work, that is my personal feeling, now I don't know whether that fits in with all your discussion here.

PLOCHMANN: It fits in, yes.

MAUNDER: Right on the target, Dave.

PLOCHMANN: That's a point, that's a very strong point, and we have very similar conditions here. I just would ask you to see that by our feeling, by our idea of a university, and here I believe myself that this idea is right, there should be a combination of teaching and researching. A man who is only on a teaching job and is not in a lively connection with the research, with the advance of his field anymore, always will tend to sterility. You know what I mean? Sterile? It must not necessarily be, but he always tends and the danger that such a man will get sterile, that's great. So I believe there must be a lively contact, a lively combination between teaching and research. But it should be balanced and it shouldn't be like it is, as you said, that very often is so, that research is the main part. Because by doing research you can have success, you can build a lot of glory around you, you can't build any glory around you by teaching. So I...

MASON: Only with the students.

PLOCHMANN: Only with the students...So you have a strong point there.

MAUNDER: Do you feel that there is any confusion among the professors here today over what should be done in the face of the challenge that is now being brought?

PLOCHMANN: I think you heard already what I said. Yes, there is great, very great confusion. Confusion set up by the different angles of approach and view and by the difference between full professors, assistant professors, what we call the upper and the middle level. You know we say the upper level are the full professors and students in the lower level and the middle level is always in between; and there is a problem of generations. Age.

MAUNDER: As you look back, do you see any parallels at all in what's going on at the present time in the university and what happened in the university before World War II?

PLOCHMANN: No, no parallels at all. It is a completely different situation now.

MAUNDER: And in the same way, there is no parallel between what's happening in our country and what was happening in your country...

PLOCHMANN: Yes, there is a strong parallel. There I see a strong connection between these two.

MAUNDER: At the present time or between what's happening in our country...

PLOCHMANN: At the present time. Especially in the problem between the generations. The critical young people and their revolting against the establishment, and professors of the university belong to the establishment. They have to be established, you know.



MAUNDER: It's been said by some writers that there is a front and a tail end in every national society, and that the front end labors always on the frontiers of knowledge and is connected with big government, big industry, big labor and with the new elite of science. In your country and in mine the front end is very often pictured as having gone ahead very rapidly in the last twenty or thirty years in particular and especially the Sputnik went up and set everybody to gyrating about the sudden rise of Russia in the firmament of world power. Do you feel that this so called front end has prospered in any disproportionate way in this rapid growth or in so prospering if it has, taken a qualified larger share of your natural resources here in this country than perhaps the others of the tail end. If this is a valid judgment, is the university related to this in any way. You said it was part of the establishment.

PLOCHMANN: That's a question very hard to answer. I just lack now the knowledge and the range to feel myself even able to clearly express a judgment. I'm sorry, Woody. I think that overestimates my abilities a little bit. For this question you would have to...

MAUNDER: Talk to somebody who's been in the university for many years.

PLOCHMANN: For many years, yes. You would have to study quite a lot...

MAUNDER: Well, let me ask another question that relates somewhat to it. Do you think that grading systems and advanced courses that are part of our higher education system, both here and in America, contribute wittingly or unwittingly to being sort of gatekeepers to success in the new world of affluence or professional management?

PLOCHMANN: That is true for at least part of our society. You see, a doctor's diploma or doctor grade helps quite a lot to achieving success. Even if it is cheaply earned. Nobody asks later how you got it and what you did, it just matters whether you have it.

MAUNDER: You've got a union card and now you cash in on it.

PLOCHMANN: Yes. You see, for a doctor that is today just a must to have a doctor's degree. Let me say, at the University of Munich, study 25,000 students. Of these about 1500 or 2000 are in medicine. The university turns out every year 800 doctorates, of these 800, 550-600 are in medicine. So, you can say in medicine to make a doctorate, it takes you one fourth to one half year, it's very easy. You go to the faculty of natural science and you try to make a doctorate in physics or chemistry, and you will find out it takes you four or five years to do it and in forestry it takes you at least two to three years to make a doctorate. You see there is already by these examples a tremendous difference between the time needed and the real grade quality of work.

MAUNDER: Well, now, you said that the medical doctorate can be acquired in a shorter time.

PLOCHMANN: Oh, yes, much easier. In one half a year you can make a doctorate.

MAUNDER: But isn't this in a sense, what you may have suggested earlier on in the interview, when you said we've got to somehow or other shorten this...

PLOCHMANN: No, no, no, don't get me wrong. I said for a doctorate in medicine, it is a must to have a doctorate between his name, so I believe it would be much better to give him a doctorate with his diploma like they do in Austria.

MASON: Well, in the United States, my daughter graduated from the {query author} Medical School and immediately had the degree of doctor. Of course the medical school came after the college, but she had to put in another year as an intern before she could practice.

MASON: Well, the doctor of medicine, as I understand it, has not had to do any research work at all.

PLOCHMANN: In our country, yes.

MASON: Not in ours.

PLOCHMANN: In ours yes. But only, let me say, they tell him, now you look at these 50 cases and make up what you find out there and...

MASON: As far as I know we don't have to do that in our country. They train the person, they school him and assume that after his internship he can practice.

PLOCHMANN: I think this is a much better system than we have because by us it is not what we understand under a doctorate or dissertation anymore, you know. Yes, Woody, did that cover your question?

MAUNDER: I think so. Of course, this is a subject that you could go on talking all night about. We could talk about the manifestations of student unrest that have developed in your country, in France and in other countries all over the world. When we talk about forestry and how it relates to the mainstream of history, you've got to talk about it in terms of these things. These things are a big part of the mainstream. How is forestry being affected by this kind of phenomena.

MASON: My own impression is that there's been very little of the kind of unrest that's gotten into the newspapers among forestry students.

PLOCHMANN: There is none at our school and none in my school in Germany. Besides, their number is so small and their possibilities for the future are so restricted to state services that there is no unrest. It may be inside but it doesn't turn outside.

MAUNDER: Well, they can't afford to let it show.

PLOCHMANN: No, they can't afford to let it show.

MAUNDER: They'd be blackballed for life.

PLOCHMANN: Yes, exactly. But besides, I don't really believe that there is an inside, deep unrest.

MASON: I don't believe they're the kind of people that get this unrest.

PLOCHMANN: No, they don't tend to it.

MASON: I understand the unrest. It's largely people that have a feeling that things aren't the way they ought to be, that haven't any plan of their own. They just seem to want to be destructive. They want to destroy what exists but they haven't anything to put in its place.

PLOCHMANN: Exactly. I would say so, too. We see it at our University at Munich. That's a hard core, about 500 men, probably only 300 men, probably only 300 out of 25,000 and of these, let's say 500 are true revolutionists and they raise hell and don't have any idea for the future. They just want to destroy what is existing. They are anarchists, true anarchists.

MAUNDER: I have very little sympathy really for this element, but I think there is a great number of students who don't fall in that category, but who react and who have deep doubts in their minds about present conditions in the world, the present human condition, and how our established institutions are meeting this human condition. And when the Establishment meets head on, clashes with the anarchists and uses violence to crush their violence, the student group that is in the moderate area sides not with the establishment but with the radical students. Almost invariably, and so does a considerable number of the faculty, in our universities, anyway. I don't know whether they do in Europe. There is a great tendency, I think, for a lot of moderate people in the faculty to be more denunciatory of power used by the Establishment rather than of power used by radicals, although they criticize both.

PLOCHMANN: I absolutely agree on your first point that a large bulk of students associate with the anarchists. As for our country, it is not true of the faculty. The faculty in our country are to a large extent, I would say, conservative. Conservative probably in a good sense and probably in a sense of being backward tendent. You know what I mean, leaning too much on their past.

MAUNDER: Here we get back into the whole business of the generation gap, because each generation looks at it a little differently. But this is one of the critical questions of the times in which we live along with the atomic threat which we're already under, but it is a very social problem right now and how we are to reform our institutions so as to help us better meet some of these other problems is really a knotty problem.

PLOCHMANN: Woody, I believe myself, or I hope that I myself am open-minded to any discussions and open-minded to any reforms. I think I have said quite, maybe even some revolutionary ideas, but I must say I am not willing to discuss or maybe you cannot discuss problems with people who just don't agree on rules, basic rules of contract, of democracy, of discussion. That's impossible and is just a waste of time.

MAUNDER: I agree. These anarchists, for example, want to rip the place apart and then insist on exoneration. They don't want to pay any price for their...

PLOCHMANN: No, they are not willing to stay within the laws and rules of our society but they start to cry and holler if they are pinched, and if they are attacked in the same way that they always offend, you know.

MAUNDER: I think they're getting at these people now in an effective way by the use of court injunctions instead of by police power.

PLOCHMANN: You see, my feeling is that the real problem is to make the large bulk of students clear, to make them understand that as long as they associate with these radicals there cannot be any discussions and any reform and any advance because there is no possibility to discussions. And we must make them feel that they have to separate from this very small number of anarchists, to be able to come into a discussion again.

MASON: And they must not be giving demands. To my mind discussion is all right. If I were on a faculty, if I were a college president, I'd say, "Yes, I'm going to discuss with anybody, anytime any problems, but I'm not willing to have demands. If you demand something you are in effect being unwilling to discuss and therefore you are, as far as I am concerned, sure to get an answer of 'no.'"

PLOCHMANN: Dave, that's the typical problem we are faced with, quite often. The radicals come and demand and we say, "no, we won't answer your demands." Then comes the large bulk and says, "Here you see it again, they're not even willing to talk to us. They say 'no' from the beginning on." You see that is the difficult problem, steering the right course to separate the radical from the large bulk of students which has, I feel, a well founded criticism in many things, of our Establishment.

MAUNDER: And that's where I think we lend them support, when we say that we will discuss and that we will enter into a free discussion of this problem. And then nothing else ever comes of it but just talk. Maybe a report is written but it is filed away somewhere and forgotten and no action ever takes place. This is, I think, part of what feeds the fuel of this thing. And then the anarchists come screaming in and say, "Ha, ha, ha! All they want to do is talk, they won't do anything about change. And we've talk, talk, talk, talked for years and years and years about this reform and that reform and where have you got with all your talk? The only way you're going to change things is to knock this thing down, destroy it, and build up something new in its place. This is their whole thing. And so long as the Establishment in the university, that is, the professors, will only talk, talk, talk, and not really make any changes, they lend credence to revolutionary discontent.

PLOCHMANN: I must say, Woody, that this student violence had, in our country, one effect, that things started to move, they really started to move. It is only the question whether they start to roll too fast now and whether there can be some brakes put to it anymore or whether there will be now a revolution which throws over the whole thing. I'm afraid we are in Germany, pressured not from students, but from our politicians.

MAUNDER: You feel the pressure more strongly from that quarter.

PLOCHMANN: At that moment, yes.

MAUNDER: Would you explain that?

PLOCHMANN: Now, you see, we have now in many of our provinces, new university legislation introduced which would turn over our whole system of the university. And I am much afraid that by this many things would be torn down which still are of value today and which keep this very touchy organization of a university going, and make it sufficient in teaching and researching. And that this new way of organizing this university and this new way of building up its bodies; we have now so much talk about one third professors, one third middle layer, one third students, in the bodies of the university, that's what we call the parity of three. Each part has the same number so the students have the same right to discuss who will be the next professor in a chair, as the professors themselves. You know, I see by this way we will found a new organization which just can't live.

MAUNDER: Well, the experience of the South Americans...

PLOCHMANN: It just gets out of balance.

MAUNDER: The experience of the Latin American universities ought to be a warning. There the students did, in many instances, achieve a power that they hadn't had anywhere else and they destroyed, they made their universities rather poor by comparison with the rest of the world.

PLOCHMANN: The student has a lively interest whether a professor is a good teacher or not. He may, I even agree that he has the ability to judge about it. Put a student within this institution of the university an ever changing and fast changing member; how can he have the same right to decide whether a professor should be hired or not as the old member of such a faculty? How can a student decide about the research programs and such things? He never in his life did any research and probably doesn't know anything of the profession. He is still a learner and not a master and he wants and by our legislation will be given the same numbers and the same vote as the full professors.

MASON: Is the legislature espousing that?

PLOCHMANN: Yes, it's turned into legislation.

MASON: That's amazing!

MAUNDER: And do you think there is any real likelihood that this indeed will be passed?

PLOCHMANN: By God, I don't hope so, because that would ruin our organization.

MAUNDER: I know you don't hope so, but how do you think public opinion...

PLOCHMANN: It's already, it's already through...let me say, at Hamburg. And you know what will happen? The professors from this university will go because they are tired to fight for days and days together with students about what their research is. And these students say, "Oh, we want

this done elsewhere and we don't want to buy this book, we want to buy that book for our library, you know."

MAUNDER: That's a perfectly ridiculous idea.

PLOCHMANN: That's the end of any professional judgment and any able work, you know. Then you just sit in some bodies of the university and yack and too much of your time is eaten up with lots of nonsense.

MASON: Perfect nonsense. Well, I would say...

MAUNDER: That's well-stated, I think and I'm surprised to hear that this prospect is so imminent. Already in...

MASON: Maybe if it's tried in a few places it'll be a good lesson.

PLOCHMANN: But it's not tried! Practically every one of our states turned in a new university law and you know, our federal government hasn't any possibility to coordinate this.

MASON: Well our state universities of course have control, the federal government can't tell them...

PLOCHMANN: No, we have only, we don't have any private universities, all of our universities are state universities.

MASON: Well, we have each individual state that has its own state university and that state legislates for it. But our legislation, legislators and also our populace in general feels here we've taken tax money to set up a university and are we going to let a few students come and destroy it? Why no, we tell the legislators to say to the presidents of those universities, "You run that university effectively and do not let these radicals take charge," and the thought is, from the taxpayer's point of view, who provided the money to have the university, if people come to the university and don't like it, they can go somewhere else where they do like it, but don't tolerate such people in the university.

PLOCHMANN: Yes, that would be a good point of view. I'm sorry it isn't in our country like this. That's what I thought, what I wanted to make clear before, that professors talked over 20 years about reforming the university and they didn't come to an end. Then the students started to riot and now suddenly things are just turning upside down. Now the politicians believe they don't do it, and now we will do it without asking the professors anymore because they proved they aren't able to reform the university. Now we will do it for good; now we turn it upside down. And they do and I'm just afraid they will ruin it by...

MASON: They would...That is destructive.

MAUNDER: The issue always is whether or not the Establishment has the good sense to change in a slow, evolutionary way that will take the teeth out of the criticism and there I think we fall down;

we're always too reluctant to make even modest change in time. Then we get faced with this confrontation with the radical left.

MASON: Yea, but the radical left, they're not satisfied even if you are willing to do something reasonable, oh, that's not "we'll burn down your administration building or we'll take it over, destroy the records," that kind of thing. You can't satisfy people like that.

PLOCHMANN: No. But you know, it's really something if you have the feeling that your own public or your elected representatives are in the best way to ruin your

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