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Translation from German

Jasper Barenberg: *The Kiribati Archipelago comprises 33 atolls. At their highest point, these are only two meter above sea level. The inhabitants fear Kiribati will be flooded and they see indications of it nearby. Climate change already devastates land bordering the sea and takes away their means of living because they can no longer fish in the dying coral-reefs. The availability of drinking-water has deteriorated because of periods of unusual draught. President Tong will explain the problems at the Copenhagen summit. He has already forethoughts about new land and floating islands for the inhabitants. The problems in the Kiribati archipelago illustrate what the UN conference in the Danish capital is about. Modern society produces greenhouse gases which cause global warming, and the world is heading for a climate disaster. That is how many researchers from many countries see it and that is how the Climate Council of the United Nations sees it. A few scientists however oppose this dominant opinion of the majority. The discussion has become more heated through accusations, based on e-mails, that the Climate Research Unit of the University of East Anglia has manipulated data. One of the critics is climate researcher Hans von Storch, professor at the University of Hamburg and director of the Institute for Coastal Research in Geesthacht. He does not deny climate change at all, but he cautions against a cartel of alarmists. I had a conversation with Hans von Storch about these.*

Hans von Storch: It appears from the so-called CRU-Mails that the cartel has sinned against a basic scientific principle namely the principle of transparency. Science should be practiced openly. All published results should in principle be verifiable, should be open to criticism, also to criticism from people who are not well-meaning. That is something a scientist must accept, that people who are not well-meaning scrutinize him.

The e-mails from CRU indicate that there have been attempts to keep people from publishing by contacting authors or publishers, that one lead author of the IPCC has at the least expressed the thought of keeping certain persons out of the whole process and lastly, and possibly the worst, that the data on which their research is based has not been put into the open for verification. This is not acceptable.

Barenberg: *You refer to recent accusations of manipulations at a certain research institution in Great Britain. But would you go so far as to say that the accusation about cartels and alarmists is also applicable to those scientists who are at the center of the debate on climate change?*

von Storch: Certainly, it applies more widely, only it becomes more difficult to prove. Take, for example, the German Advisory Council on Global Change, that is, the 'Wissenschaftlicher Beirat für Globale Umweltentwicklungen'. It comprises essentially only two climate scientists and both are from the Potsdam Institute for Climate Research. They have similar views and are disposed to dramatize things. I don't think that is useful for the government. But that's how it is.

Barenberg: *Why this propensity to dramatize, in your view?*

von Storch: Because there are attempts to make science subservient to politics, and, to some extent, some people try to make politics subservient to science. It has been perceived that we have here an opportunity for a real change in the way the world is being organized, namely

towards a more environmentally conscious world - and I can agree with that -, and that scientific statements should be formulated such that they support this overarching objective.

Barenberg: *Is that really a normal procedure in the relation between science, politics and also the media? We media are also involved.*

von Storch: I hope it is not so. Climate research is in a stage which is often called postnormal. That means a stage where statements are highly uncertain because of the issue and the difficulty of the situation, and where at the same time a lot is at stake. That leads to a situation where all kinds of statements are being made and all kinds of people participate in the discussion and where excesses occur such as we now see. A similar characterization about ancient Egyptian languages would certainly not fit. But we have of course seen similar things with the dying forests where science had also prostituted itself.

Barenberg: *Mr von Storch, does that also have to do with the fact that we like to make unambiguous statements, for example, about the impact of climate change or about harmful effects, whereas science itself cannot make such precise statements?*

von Storch: Yes, that has certainly to do with it and that is in itself not so bad. The arguments for an active climate protection policy have a solid scientific basis, namely, CO₂ makes the earth distinctly warmer, has done so in the past and will do so in the future. That influences of course other characteristics such as precipitation and the like.

All that puts pressure on society and on ecosystems and how that goes on in detail is then no longer so important. It is clear these changes are challenging and we have to cope with them. We also know that the less we emit the smaller these changes will be. But we also know that climate already poses risks and possibly even more a risks in a few decades. We have to make sure that man and nature can cope better with this risk.

Barenberg: *Politicians and most of those who are involved agree on the target of limiting global warming to two degrees. That is also at the center of the news and of the negotiations in Copenhagen. Is that the right agenda, the right target?*

von Storch: Society has decided to adopt this target. It is not up to me, as a scientist, to say whether that is right or not. Personally and speaking as a citizen I think that is a good decision. Whether it is attainable is another story. As a rule, one should only adopt objectives that are realizable. But the number of two degrees is not a scientific datum, as is sometimes claimed. It is a social agreement.

Barenberg: *You deplore a narrowing of the debate. In other words: if we limit ourselves to the two-degrees target, then other things that must be done may not receive the attention they deserve.*

von Storch: My criticism is essentially this: if we focus only on the reduction of the emissions, for example the two-degrees target, then we lose sight of the problem of how to cope with the present risks and possibly even more acute risks in the future. That way, the whole issue of adaptation is not discussed and not at all in the public.

That, of course, is a reduction of the available options. And that one should not do under any circumstances. We should discuss in public how to mitigate climate change - as we can no longer avoid it; only mitigate it - and also how to cope with that part of climate change that has become unavoidable. The two-degrees target has to do with the former. But we should

also think about what to do when the two-degrees target is not realized and when we end up with 2,5 or 3 degrees.

Barenberg: *What are the options that we should think about?*

von Storch: We must place think about adaptation. When one and a half years ago, 100.000 people in Myanmar where killed by the impact of the typhoon Nargis, that was mainly due to the fact that there were no preparation and measures to deal with such an impact. There were no preparatory measures, no protective building, nothing. They drowned without warning. Here, of course, something must be done urgently. In Germany also we should think about whether it makes sense to build in flood plains, or if we should rather create retention spaces, so that in the end the water does not find its way into Leipzig's railway station.

All these discussions do not take place in the public, or hardly so, and that is certainly an impoverishment. Finally, there is the issue of the so-called Geo-Engineering. That is, how can we change the environment so that the manifestation of climate change is reduced either locally or globally? It is a bit like the request for life-boats that no one wants to enter, but it is good know that the life-boats are there. So we should also do some research on life-boats.

Barenberg: *To conclude, Mr. von Storch, you will not be present in Copenhagen. Do you wish the conference success?*

von Storch: Of course, because it is important for all of us that we take climate change seriously. What I wish in the first place is that an agreement on the problem is reached. Such an agreement is the acknowledgement that there is indeed a problem and that the emissions must be reduced.

How far they will go down and how binding the agreements will be, remains to be seen. I have also doubts that such a binding agreement will succeed. I have also doubts that in the end the two-degrees target will be realized. But what I hope is that there will be a serious discussion about the impacts of climate change, the impacts that have already emerged and those that will happen in the future, a discussion that will result in better adaptation. The whole should be realistic so that it does not disappear in fireworks of good intentions.

Translation: Marcel Hendrickx