

On the other hand, one other academic (who also worked in more inclusive, trans-disciplinary research projects) reported that this was much more complicated than often assumed, and this was very difficult to convey. She said that in relation to this, she faced a lot of scepticism towards science with people saying that what she was doing was completely irrelevant.

It was also criticised that currently, ministers were ignoring even their own expert panels (expert 2 at federal environmental agency), pointing towards science also sometimes lacking efficacy and assertiveness. Furthermore, on numerous occasions it was pointed out that messages were heard most where there already was established concern for climate action.

In line with all these presented incongruences between responsibility attributions and efficacy estimations, one of the academics came to the following testament:

So, there is actually this cut between the action and its effect that I can take responsibility for. [...] And I believe this holds true for both directions, so on the one hand I take responsibility for things that others could indeed for once also see themselves responsible for. And also, I am being made responsible for things that I cannot even fathom what they are about. [...] So I think it is really difficult to establish this nexus between action and responsibility [for action].

Academic (sociology and sustainability)

Furthermore, it was emphasised that climate action remained a topic exceptionally difficult to communicate as it was firstly so abstract and secondly there was this problematic uncoupling of cause and effect with respect to climate change. This was exacerbated by the fact that carbon emissions could not be experienced directly by people's senses:

... the further away or the more abstract or the more invisible a danger is, say poison for example, fertilizer, in small amounts CO₂ is harmless anyways, is part of nature, all this makes us less and less able to react to this danger...

Chairperson socio-ecological think-tank

4.4 Statements about knowing

This relates to the dominant view that the public needs to be provided with more detailed information about the threat of climate change in order to act responsibly

(information deficit thinking). This perception also featured prominently in some of these interviews. For example, one of the conservative politicians (member of the Bundestag, CDU) affirmed that if the public were only informed better, there would generally be more effort to protect the climate.

Turning back to the topic of responsibility attribution, one interviewee responded as follows:

Of course it lies with politics, as politicians are the ones who hold the most leverage and who by definition of their occupation are supposed to have the most information density at their disposal as they are sufficiently advised by scientists, there are enough committees to all sorts of topics [...] and thus it is on the politicians if they do not listen to this advice or are turning a deaf ear to it or prioritise other matters...

Head of environmental NGO

This excerpt thus epitomises that just as responsibility cannot be contemplated without concomitantly considering the agency or efficacy an actor holds, both concepts are at the same time also deeply intertwined with the notion of knowing. More precisely, it must also be asked if and under what circumstances people are motivated to act on the information they have at their disposal.

As one of the experts (academic sociology and sustainability) remarked, consumers are often, and in her eyes unfoundedly, ascribed responsibility with the argument that they would have had every opportunity to inform themselves about their actions' consequences for the climate. One other academic (sustainable consumption) stressed that carrying responsibility entailed that the actor *actually knew* what the right course of action was – a prerequisite that can be difficult to meet given the complexity of climate change. These statements indicate that responsibility cannot be considered without asking about power. Since we have known since Bacon and Hobbes that *knowledge is power*, responsibility and efficacy both cannot be considered without asking to what extent it is knowledge and information that causes people to behave in certain ways:

... I think responsibility lies with everyone who knows [about the threat of climate change].

Head of environmental NGO

The link between responsibility and knowledge also surfaced in the following statement:

... so I think, I am deeply convinced that the responsibility is greatest where there also is the most opportunity; that means someone well-educated has more responsibility than who is uneducated, someone rich has more responsibility than someone poor because everybody who is well-off and educated has the means to inform themselves...

Chairperson socio-ecological think-tank

Nevertheless, this same participant did not ascribe to a call for more information about climate change:

Honestly, I think what we lack the least is more knowledge!

Like this expert, several of the interviewees believed that people were currently well aware, for example about the impact of flying on the climate and that this awareness had increased in recent years. However, expert 1 at the federal environmental agency found that while attitudes towards climate action were overall very positive, yet when compared with actual market data, there appeared a relatively large gap between both aspects (i.e., between value and true action).

Another point related to knowledge and information was repeatedly mentioned, namely the problem of people being confronted with contradictory messages. One expert (academic sociology and sustainability) remarked that people often felt demoralised when the information they faced was too heterogeneous. Another participant put it like this:

... but it is also extremely difficult to be completely informed. If today I decide from now on I will only buy organic, then tomorrow I read in the paper that organic meat has much greater emissions than conventionally produced meat, at least with beef this is the case. And I immediately feel hard done by because I actually want to be doing the right thing...

Head of environmental NGO

4.5 Statements pointing towards denial

From this it follows, firstly, that even though knowledge and information are essential for combatting climate change, they are not sufficient. Secondly, this indicates that more information can even be counterproductive, as it often overwhelms and demoralises people: