also deflects attention away from the responsibility for instigating climate action that is in fact afforded by the efficacy of truly influential societal actors. Both, influential agents' high efficacy and individuals' miniscule efficacy, by comparison, are denied in this instance. Yet, this almost non-existent efficacy of the individual is also often cited as justification for not acting: what difference does it make in a world with 7,7 billion carbon-emitting individuals if I leave my car today and cycle to work? "There is the problem that some people […] feel powerless as they are such a tiny cog in a big wheel" (Blake, 1999, p. 266). Messages that appeal to the morality or 'green conscience' (cf. e.g., Geo Magazin, 2000; Jonas, 2018) of individuals can cause frustration as the effect of foregoing consumption will remain unnoticeable. "Reducing your own carbon footprint to zero is a noble gesture, but it's less than a drop in the bucket" (Wagner and Weitzman, 2015, p. 130f.). This results in the paradox that "any individual act of responsibility can feel *ir*responsible, an act of complicity in a collective dance of self-delusion" (Szerszynski, 2007, p. 338, orig. emph.).

2.3 Efficacy

Renowned social psychologist Albert Bandura defines *self-efficacy* as "the belief in one's capabilities to organise and execute the causes of action required to manage prospective situations" (1977, p. 2). Feelings of helplessness or powerlessness also play a particularly decisive role in the realm of climate action:

> People's beliefs about their capabilities affect what they choose to do, how much effort they mobilize, how long they will persevere in the face of difficulties, whether they engage in self-debilitating or self-encouraging thought patterns, and the amount of stress and depression they experience in taxing situations.
>
> Bandura, 1994, p. 2

Heidbrink also underscores the need to consider responsibility *together with* efficacy in his demand for a substantial re-examination of the notion of responsibility according to the practical efficacy agents hold (2003).

Efficacy denied by corporate agents

When wondering who else in society holds the power to truly make a difference for climate action one necessarily arrives at the group of corporate agents, as they significantly contribute to greenhouse gas emissions (and if they changed their ways, society would achieve considerable progress): "The relationship between the industrial corporation and the earth is almost purely exploitative" (Ikerd, 2005, p. 55).

Here, too, blatant decoupling between responsibility and efficacy unfolds: corporate decision-makers carry a lot of responsibility due to the power they hold, yet they are almost unequivocally portrayed as being too self-interested to meet this responsibility.

Jamison here refers to Andrew Rowell who speaks of a so-called *green backlash*, where the powerful players within global processes of institutionalisation have had enough of environmental matters, as they "are unconvinced that ecology will ever be particularly profitable" (Rowell, 1996, cited in Jamison, 2001, p. 20; see also Beder, 2001). Opponents of more climate action exploit climate change's complexity and concomitant indeterminability, for working against an ecologically conscious culture: "The aggressive resistance to increased taxes on diesel fuel that spread across Europe in the summer of 2000 is only the most visible sign of this tendency" (Jamison, 2001, p. 20f.).

However, there is currently growing awareness that climate action must become an inclusive project involving the whole of society, including the corporate sector: "Due to companies' increased scope of action and design potential, societal actors demand stricter (moral) means of controlling corporate behaviour" (Hardtke and Kleinfeld, 2010, p. 78). Ongoing globalisation renders economic interactions increasingly complex. If you turn one screw in this deeply intertwined global system, this can send out shock waves in multiple directions, the extent of which is impossible to predict beforehand: "This is the downside of a highly collaborative economy, whose operational performance results from everything being connected to everything" (Paech, 2012, p. 21). Economic processes have also become much more closely intertwined with societal structures, because the control authority of politics has been dismantled. Arnd Hardtke and Annette Kleinfeld conceptualise that multinational corporations are attested a special responsibility when they operate in less economically developed regions as the public is becoming increasingly aware of this institutional vacuum. Thus, "increasingly, it is being asked **how** companies are making their profits" (2010, p. 160, my emph.).

However, John Ikerd deems it unlikely that companies will meet this increasing public call for responsibility due to limited investor tolerance for profit impinging environmental matters, especially in those sectors that rely heavily on extractive resources. Hence, he concludes that "the only effective constraint to corporate environmental exploitation is for people to act collectively, though laws and government regulations designed to protect the environment" (2005, p. 56). Achieving more climate action therefore depends on the emergence of a new culture that is "committed to caring for each other and caring for the Earth" (ibid.). Also needed is an evolution in our perception of corporate entities (and our demands thereof) "from an exclusively profit-oriented organisation to a socio-economically motivated institution of society" (Brown, 1979, p. 6, cited in Hardtke and Kleinfeld, 2010, p. 160).

NGOs, responsibility and efficacy

One further disparity between responsibility and efficacy surfaces in relation to non-governmental organisations (NGOs). This directly contrasts the situation in the corporate sector just described: compared to corporations as well as politically legitimised institutions, NGOs carry much less responsibility; their efficacy is however often substantial (see also, Dryzek et al., 2003, p. 154):

> The fact that volunteer organisations are controlled by neither the state nor the market makes them potentially important sites where people can get together, share their experiences, and from this sharing develop their own narratives about the causes, consequences, and potential solutions to problems in their lives.
>
> Habermas, 1984, cited in Norgaard, 2011, p. 44

Since the 1990s, Michael Aßländer has observed the formation of global interest groups parallel to multinational corporations, that harbour the aim of responsibilising the latter and demonstrating to them how they can operate in more moral ways. Here, Aßländer (2011, p. 69) builds on what Beck (1998, p. 39f.) called a *non-politics politics*, namely that NGOs which have transnational scope but no political legitimisation are disproportionately involved in decisions:

> They are all seen as apolitical, but act in a new central sense politically, since they profoundly help shape power relations, legal norms, lifestyles, ways of work and imaginary worlds of the global societal landscape – and with it also those of the national societies.
>
> Beck, 1998, p. 39f., cited in Aßländer, 2011, p. 31

Because of increased global political deregulation, NGOs hold transnationally operating companies responsible as politics is failing to do so and regulate for climate action. Consequently, Aßländer terms NGOs "the new authorities for responsibility" (2011, p. 60), as they point to companies' misdemeanours and make use of their way of sanctioning them by calling out *buy-cott* or instigating bashing campaigns. "At the same time, NGOs have a legitimacy surplus within public perception" (ibid., p. 61), which ultimately does endow them with considerable efficacy.

Responsibility according to efficacy

Having shown the stark discrepancy between responsibility attributions and efficacy considerations in the cases of the individual, the state, the corporation and

the NGO, it is now turned to approaches that already consider responsibility in connection with efficacy. For example, Michael Bilharz suggests classifying recommended climate actions according to their respective efficacy level. In his view, it comes down to "highlighting those tips for consuming sustainably that *really* make a difference with respect to conventional, non-sustainable consumption. To do so, a strategic priorisation is indispensable" (2007, p. 131, orig. emph.). In his theory, he speaks of actions that have proven to be *hot potatoes* in climate change communications as the observed consumer aversion vis-à-vis the accompanying behaviour changes makes these changes particularly unlikely. Bilharz deems it improbable that there will be willingness in society to, for example, forego flying since this carries such high significance in terms of realising a cosmopolitan way of life. Consequently, Bilharz makes responsibility attributions dependent on efficacy: where the potential for behaviour change remains low, in his view politics is responsible to "provide the collective framework conditions to make unsustainable consumption less resource-heavy" (ibid., p. 132).

Yet, where the potential for behaviour change is already high, the consumer can willingly be attributed responsibility. Here, "the current framework conditions […] allow already sensibilised consumers to reap personal advantages through such consumption that can also be perceived as such by third parties" (ibid.). In Bilharz's theory, these are the types of consumption that display the highest efficacy, which is why he argues for their priorisation as *key points* of climate action. Whilst acknowledging the role of social valuation and integrating responsibility with efficacy are certainly steps in the right direction, this approach however still falls short on two accounts: first, it continues to mainly hold individual consumers responsible and second, they are expected to attain the necessary information to determine what the key points are, which may simply be impractical in everyday life. Even people who already practice various forms of climate action are not immune to being limited by dominant neoliberal cultural worldviews:

> Even as they saw climate change and other environmental risks as symptoms of immoral systems, the cultural frames in which they were embedded made it difficult for them to move beyond centring on a free, rational autonomous individual as the solution to the very problems this worldview is implicated in creating. […] the fact that individualism remained the guiding community value limited the collective political potency of the movement.
>
> Ford and Norgaard (in reference to the community within their own investigation), 2019, p. 232

'Perceived' versus 'lived' responsibility and efficacy

Divergences also exist between official attributions of responsibility that are often abstract, and people's lived (experiences of) responsibility, as well as between expectations of efficacy and actual experiences of influence. For example, the idea that individuals can make a difference by 'consuming differently', that is, by buying 'green' products (as opposed to consuming less) may fly in the face of those who are struggling to make ends meet and for whom shopping is mostly about extending already limited financial resources[5]. Similarly, appeals to individual consumers to 'read the labels' and 'make the right choices' may prove to be utterly impossible for people who are time-poor and who may feel squeezed between precarious work, unpaid domestic duties and responsibilities to care for others.

Considering climate action practices in the daily lives of ordinary citizens also highlights the limitations of individual-level efficacy. Here it must be differentiated between the efficacy we attribute to ourselves (self-efficacy), the efficacy we attribute to others and lastly the actual power someone holds over something, i.e., their actual efficacy. This latter type can be determined through an investigation of material practices and how they manifest collectively within one climate culture as opposed to another.

Self-efficacy, the attitude towards one's own competency to manage prospective situations, is a wholly individual concept. This study however also focuses on the difference between ascribed efficacy (to different societal groups) and actual power. Pointing to the link between responsibility and efficacy, Jonas proclaims: "The nature of human action has de facto changed, and […] an object of an entirely new order – no less than the whole biosphere of the planet – has been added to what we must be responsible for because of our power over it" (1985, p. 7). Here, he does not refer to attributed, expected efficacy but to actual 'lived' efficacy.

Yet, it must still be recognised that a perceived lack of self-efficacy is often experienced as particularly demoralising. Important for this study is the realisation that collective action can present an effective antidote to this: "People who have a sense of collective efficacy will mobilise their efforts and resources to cope with external obstacles to the changes they seek" (Bandura, 1982, p. 143f.). In contrast to most conceptual considerations so far, this study therefore crucially conceives of efficacy in

5 This is a different divergence to the aforementioned discrepancy between responsibility and efficacy (e.g., of consumers). Here, official attributions of responsibility and lived responsibility diverge, because in this instance consumers actually do **not** see themselves responsible for acting in a climate-friendly manner. Here, their (extremely limited) efficacy plays a contributing (to an extent they are inefficacious because the pressures of daily life are not recognised), but secondary role (the main reason lies in them not realistically and adequately being addressed by these responsibility attributions).

its collective sense. "A strong sense of starting together instead of waiting for others to act first will reduce the fear of individual sacrifices" (Stoll-Kleemann and O'Riordan, 2020, p. 12). People often consider themselves more influential and efficacious when deliberating what they can achieve collectively with the like-minded members of their climate culture than when contemplating their individual-level efficacy. When *united by a common cause*, groups of people have been found to gain an impetus that is much more powerful than the sum of their individual efforts. A collective approach that is delimited by shared cultural aspects may prevent us from arriving at what Norgaard (2011) cautions against when speaking of feelings of powerlessness, denial and resignation, when pondering how to make a difference as only one out of seven billion people on the planet. Shared ideas, conventions and interests, and their translation into collective action, can protect people against these negative feelings and experiences. "In getting things done collectively, perceived efficacy is concerned with people's beliefs in their joint capabilities to make [*a certain matter, e.g., climate change*] a national priority" (Bandura, 1997, p. 33).

2.4 Ways of knowing

As shown, responsibility should be considered in connection with efficacy. Importantly, however, both of these notions must also be contemplated in relation to knowing: Jonas writes that as human beings and because of the freedom we are endowed with through consciousness, we are able to take responsibility. Therefore, we also have a duty to educate ourselves. It is our knowledge about the impending catastrophe that obligates us to conserve the planet for future generations. Or in other words: "The responsibility weighs on those who know" (Tammer, 2009), and, by contrast: feliciter ignoravit – *ignorance is bliss*. And blissful it must indeed be to board a flight for a short trip and not find anything wrong with it today. An agent's efficacy is also influenced by their knowledge: "Is there anything science should not try to explain? Science is knowledge and knowledge is power – power to do good or evil" (Davies, 2012). Thus we see an *intertwining* or *concatenation* between the three concepts of responsibility, efficacy and knowledge, the last of which is attended to now.

In *The imperative of responsibility*, Jonas ascribes knowledge quintessential importance for moral considerations (1979, p. 28): "Power can only accrue when the options for action are distributed unequally, which in turn results from differentially distributed stocks of knowledge" (Tammer, 2009). Those who know carry a special integrative responsibility as it is their duty to involve all citizens in decisions concerning future courses of action (ibid.). However, in Jonas' view, this relation between responsibility and knowledge is bidirectional: knowledge is an obligation and Jonas holds the public responsible to inform itself about technological innovation's potentially detrimental consequences because in his eyes it is increasingly escaping