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## Perspectives

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Veit Braun

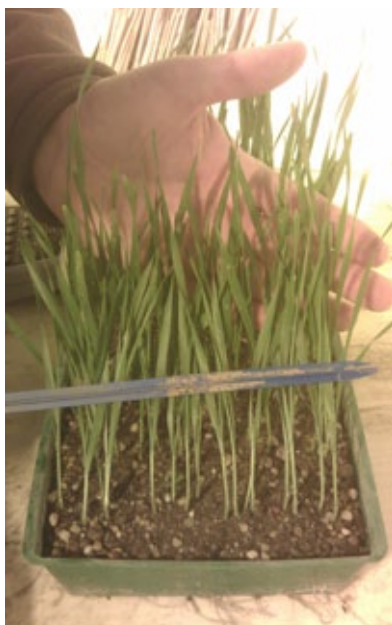
## Of Mice and Men: Ecologies of Care in a Climate Chamber

*What might it mean to care for something? And what does appropriate care demand from those who care and those who are cared for?*

The breeding station's climate chamber, located in the rural southeast of Germany, is a medium-sized room filled with damp air and metal tables. On the tables, there are hundreds of numbered plastic troughs full of wheat seedlings. The first thing Christina usually does when she goes to the climate chamber in the morning is to spray them with water, but today is different.<sup>1</sup> Earlier on, Frank had taken us down to evaluate the seedlings; he picked up a trough, put it on a small table fixed to the wall, and ran his fingers through the rows of seedlings while spreading the leaves with a blue stick. After taking a quick glance at each row, he took out his pocket computer and entered a grade number for each. Shortly afterwards, he left us alone with the remaining three hundred or so troughs to continue the work.

Now, while Christina is appraising the rows and entering the grades for each one into the computer, I am bringing new troughs and disposing of the graded ones. Most of the seedlings are in poor condition: wilted, grey, and limp. Only a few seem strikingly green and healthy. The purpose of the exercise is to evaluate the seedlings' ability to withstand powdery mildew, a common pest in wheat fields. The seedlings grow fast in their hot and humid environment, but the cozy atmosphere of the chamber is only seemingly a means of caring for the little plants; as I soon learn, it is in fact not aimed primarily at the wheat plants, but at the fungus. The conditions in the chamber are meant to enhance its growth and spread. As powdery mildew dwells not only in the climate chamber, but also in the damp wheat fields of a warm spring, the fungus is an important factor that can endanger the ecological and economic success of a wheat variety. The breeding station, however, is situated in a region with a climate rather unsuitable for mildew. What may be a blessing for local farmers is a problem for Frank and Christina: they need to prepare their precious wheat lineages for a cruel world full of pests and parasites, but what if these do not show up? The climate chamber

1 Names have been changed by the author.

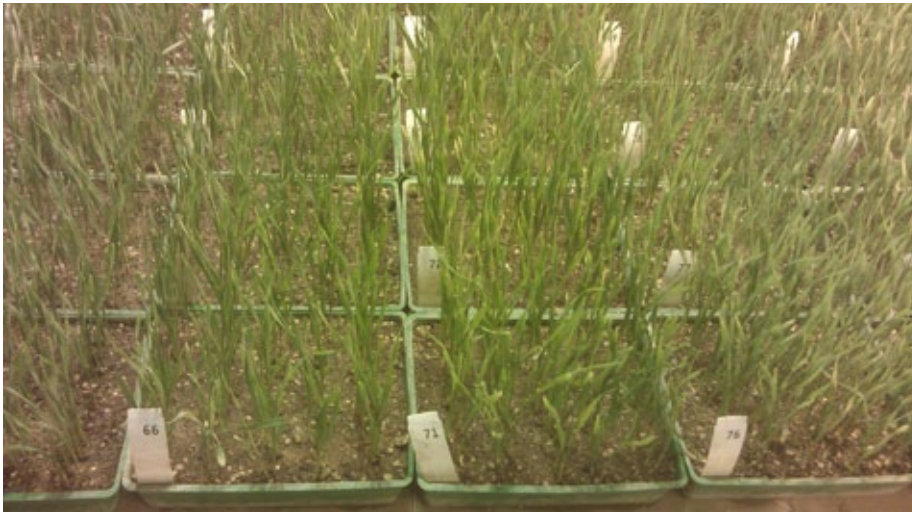


**Figure 1:**  
Frank appraising a  
row of seedlings. Photo-  
graph by author.

is therefore a way of compensating for this shortcoming. Like a conjectural prosthesis,<sup>2</sup> it offsets a “shortcoming” of the local ecology with the optimized setting of the competing breeder’s station. So while spraying the seedlings with water every morning might look like an act of caring for them (albeit a routine one), it also covers them with the spores of the fungus, which have been purposefully mixed into the water. To make absolutely sure the wheat becomes infected, a set of heavily disease-ridden plants, each of a different variety, are brushed over the seedlings in the troughs. This is a way of accounting for the different existing strains of mildew; each specialized on a different set of wheat varieties.

The entire setting is meant to provide the fungus with everything it needs, from suitable hosts to optimal growing conditions. Does this whole apparatus (including Christina and me), then, only care about the mildew? Not quite, as there are also other life-forms demanding our attention. Christina points to a series of small white spots on a leaf: “Here you can see the reproductive biology of the aphid in action.” The female lays her eggs while crawling up the leaves, producing a string of light spots along the leaf axis. Sometimes, these are hard to tell from the kind of spots mildew produces, so they force Christina to inspect the leaves very carefully. Being oblivious or ignorant to the aphid’s presence will skew the results of the evaluation. A strange paradox: in order not to take aphids (erroneously) into account, close attention must be paid to them. If aphids are not thusly taken care of (through inspection and deliberate omission), they not only drain the wheat’s vitality, but also endanger the success of the project and all the time and effort being invested into it.

<sup>2</sup> Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge, MA: Harvard University Press, 2004).



**Figure 2:** Seedlings with varying degrees of mildew resistance—from hardly infested (middle row) to severely infested (left and right rows). Photograph by author.

The aphids, however, are not the only ones to demand Christina's attention. Between fetching and juggling troughs, I also do my best to ask stupid questions. "Are these meant to keep the lice in check?" I ask, pointing towards one of several sticky sheets of paper dangling from the ceiling. "No," Christina replies, "those are for fungus gnats. They come with the soil; it's impossible to keep them out." Black-winged fungus gnats are a ubiquitous parasite of potted plants. The strips of fly paper are covered with their dead bodies, but there is no hope of eradicating them from the climate chamber, as Christina tells me. Just like the lice, the fungus gnats are parasites, selfishly drawing from the hard work of Christina, Frank, and all those working at the breeding station, without contributing anything to its success.<sup>3</sup> But unlike the lice, they do not demand more careful attention, for they do not threaten to skew the results. Rather (and like most other gnats), they are more annoying than dangerous. While the lice demand special attention, the best way of taking care of the gnats is not to care about them too much. A few dozen strips of fly paper will suffice.

Less conspicuous is yet another species that I do not get to see that day. And indeed, its members seem almost invisible: only an occasional hole in a bag of seed, a few tiny feces, and the omnipresent plastic boxes with a hole and a handful of poisoned seeds remind us of their presence. Rats and mice are not restricted from the climate cham-

<sup>3</sup> Michel Serres, *The Parasite* (Minneapolis: University of Minnesota Press, 2007).

ber, and, much like the fungus gnats, there is no hope of getting rid of them once and for all. Wherever there is food left unattended (or uncared for), they will appear sooner or later. The red seeds in the plastic boxes almost look like sacrifices to a malicious deity that haunts the halls of the station. The intent, however, is not to appease, but to keep in check. But since we almost never see them, it is hard to tell how strongly the mice are affected by the poison traps, and whether they fall for them at all. During my three-week stay at the station, I only see two or three dead mice, but I cannot tell if they died from poisoned seeds.



**Figure 3:**  
A fly paper covered in  
fungus gnats. Photo-  
graph by author.

Even though they do not take center stage in the climate chamber or Christina's work there, plant lice, fungus gnats, and mice force whoever is working in the climate chamber to take care of them in an appropriate way. "Appropriate" does not necessarily mean charitable or affectionate from the side of the carers, and neither does it imply a beneficial effect on those taken care of. The same is true for the mildew and the seedlings. Of course, the plants get the best conditions imaginable for their growth: Frank and Christina will make sure they grow up fast, so that the results of their infection can be obtained quickly. But when they have served their purpose as guinea pigs, they are transported to the testing fields and thrown into the experimental plots so that they can infect their conspecifics. Likewise, the care for the mildew is full of ambivalence. While everything seems tailored to the fungus's

needs, Frank and Christina claim their work is all about breeding wheat, not about breeding fungi. Even though mildew is the entity being addressed within the climate chamber, it is not what Christina and Frank are passionate about or what defines them as breeders. They are striving to produce varieties of wheat—ones that can survive in the field as well as on the market (in Germany, wheat is bred by private enterprises, so rigorous testing is paramount to getting profitable strains released for sale).

As they sacrifice seedlings to powdery mildew, Frank and Christina practice a peculiar kind of care: one that is not affectionate towards and compassionate about a single plant

in a plastic trough, but about a developing variety; an incredibly strange being that, once finished, will exist as part plant, part economic good, and part intellectual property. It would therefore be wrong to mistake Christina's and Frank's calm way of handling the individual seedlings for a lack of attachment or emotion, simply because one would thus be misreading the true object of their passion. Nor is the fact that other beings receive a different kind of "care" necessarily a sign of indifference. Certainly, the death of mice from poisoned seed positions them as victims, but it is also evidence of the time and effort required of the people at the breeding station, to put into design, distribution, and maintenance of the traps. It reminds us that a world where not only wheat, rats, gnats, lice, mice, and fungi, but also breeders, farmers, and consumers, miraculously get along, is doomed to remain the prerogative of fiction and theory. While many academic works focused on the interactions within multispecies communities<sup>4</sup> celebrate the ways in which diverse forms of life come to live together,<sup>5</sup> we should not forget the inherent instances of struggling, conflict, and compromise—as A. N. Whitehead has so drily put it: "Whether or no it be for the general good, life is robbery."<sup>6</sup>

There are so many words for caring and taking care of: to be passionate about, to nourish, to look after, to take into account, to take measures for, to be cautious, to worry about. . . . Likewise, there are so many things and beings that demand our care, leaving us to wonder if we are caring about the right ones. Are we being careful or careless, are we being caring, or do we just not care? Maria Puig de la Bellacasa has pointed to the importance of care for the study of science and technology.<sup>7</sup> All too often, however, it has been assumed that her emphasis on care refers only to acts of warmth, affection, and altruistic interest. Not only do I think that "care" needs to include all of the other forms of close engagement with our others—be they beneficial or harmful—but I also believe that we cannot easily distinguish one from the other. Care, as Puig de la Bellacasa stresses, is speculative: we cannot know in advance whom care will ultimately benefit, or harm.

4 For an introduction to the field of multispecies studies, see Eben Kirksey and Stefan Helmreich, "The Emergence of Multispecies Ethnography," *Cultural Anthropology* 25, no. 4 (2010): 545–76.

5 Donna Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008); Anna Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2015).

6 Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (New York: Free Press, 1978), 105.

7 Maria Puig de la Bellacasa, "Matters of Care in Technoscience: Assembling Neglected Things," *Social Studies of Science* 41, no. 1 (2011): 85–106.