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Days Are as Grass. On Karel Miler's "Felt by Fresh Grass," Plant Intelligence and Expanded Aesthetics

Karel Miler's *Felt by Fresh Grass* (1976) is a performance-photograph in which the artist lies down on a bank of grass, temporarily addressing the sensory world of the grass. This article invites a consideration of Miler's work via theories of plant communication and intelligence, the photographic time of the camera as a medium, and the question of how it might contribute to an expanded ecological aesthetics.

Aesthetics
Ecology
Environmental Becoming
Photography
Plant Intelligence



FIG. 1
Karel Miler, *Felt by Fresh Grass*, 1976, silver gelatine print, 14.2 × 21.1 cm

On a warm day in 1976, the artist Karel Miler lies down on some grass. A black-and-white photograph records the act. The grass is not mown but shaggy. The earth on which it grows is formed into three non-parallel berms, a line of trees sits at the upper horizon of the image. At the photograph's very center is Miler, boots, jeans, jacket, face down, arms raised and bent, perhaps to pillow his face. Posed on the sward, Miler's body is almost incidental in the middle distance of the image titled *Felt by Fresh Grass* (1976).¹ A shallow grass-lined ditch sits between Miler and the berm upon which stands his tripod and camera. The camera's timer ticks a few seconds off whilst the man moves to arrange himself. The grass starts feeling.

Karel Miler is an artist who developed a subtle vocabulary of simple movements, positioning himself in places that reveal complexes of association. The coding of behavior, the poise of a body that is there for an indeterminate amount of time, the address of a body to the immediate surroundings. In the four images in *Grating* (1974), he kneels and places his hands around a section

of metal grating embedded in a concrete floor. *Limits* (1973) is a pair of images. One shows a crouching body curled in on itself. In the other, the same person reaches up to their maximum extension, both poses are set against a wall showing holes for the insertion of some kind of apparatus. In *Either–Or* (1972), Miler lies face downwards on a curb between a weedy bed of grass and a road. In the paired photograph he lies snugly in the gutter that runs along next to it.²

Miler's micro-actions or performances were, at this point, staged for the camera rather than directly for an audience.³ In post-1968 Czechoslovakia, during the 'normalization' period, and in the wider area of Eastern Europe, with its topological interconnections with other zones, artists were making works for small groups of friends and associates.⁴ The work took place in public space, in apartments or attics. In turning actions into photographs, the performance, by being epitomized in a particular moment rather than carried out over a longer duration, became crystalline, a koan in movement: where a koan is a brief but potent meditation on the principles of reality through the recognition of the oneness or mutual inherence of things considered to be opposites, and where things seen as being one may be recognized as multiple.⁵ A moment becomes the work, but by combining an action with the action of a camera, its terms change, it can become transmuted into one or a series of images. In the paired or multiple images, the transition between one place and another can be carried out in the mind of the viewer, implied or rendered virtually. The action of the photograph cuts time—we don't have to see the artist getting up and moving from one position to another as we might in a live performance. The photograph's ability to cut or edit time becomes part of the work. More than this, in the pairs and series, the subtle shifts in position are not about a cut in an otherwise continuous movement, but establish a relationship between two new entities, the images.⁶ They are somewhere between a diagram and a documentation. The work is not so much a performance in the direct sense of live art, but something that might be called a camera-action. In this there is a doubling of the function of the image, as both a recording of the event of lying down on the grass and being felt by it, and the image as an event in itself that is, however, not disconnected.

Relationships to truth in art come about through the formation of the particular work, but also through the work's relationship to a wider network of artworks.⁷ The broader terrain of conceptual actions being carried out by artists, particularly in Eastern Europe, at that time shows exceptional thought articulated with minimal means.⁸ One modifies behavior, tweaks a process, perhaps imagines a metaphysics that transposes reasons for actions so that one may act with a set of parallel logics. Much of this work involves communication with sincerity and humor. The artist is not presented with the option of much grandeur or self-importance, nor do they exist in the dimension of market-value because it is not present. This humor has range and depth, appearing in many forms. Intensifying life, understanding social and existential

forms, renewing, or taking a distance from, socialism, changing it by shifting the terms, seizing modernity, reckoning with being a body, escaping the present by being in the moment. Many actions were played out that entailed no recording or no parallel life as a photograph or film, but we can be glad some did, as they assist the passage of a work across generations.

There is a fundamental shift of common subject-object relations set up in art. In *Felt by Fresh Grass*, Miler proposes that an action can be carried out for the sensory world of the grass. The assumed addressee of art is usually *anthropos*, the imaginary, constructed, enacted human being.⁹ What might it mean for a performance to have grass as its primary audience? One might begin by thinking that 'audience' is the wrong word, it registers the reception of the action in terms of audition, hearing, which is already to anthropocentrically miss the point. Indeed, the active verb of the title places the action on the side of the plants, who are doing the feeling. The work suggests that we, who are overly accustomed to being so addressed by art, might have to shift register, to try to imagine ourselves into other modes of perception and at the same time to sense the contours of the limits to that possibility, to address ourselves to something beyond our capacity that, at the same time, can be achieved by the simple act of lying down on the grass.

This work thus offers something other than the illusorily-sought 'mastery of nature' and, in turn, of the kind of perception that is proper to understanding a work. It suggests another mode of art, one not satisfying the subject-object relation, not being addressed solely to the human. Yet because it is photographed it does not simply aim at the direct rediscovery of a lost primal or spiritual link to nature but stages itself through another series of layers, also relaying this argument to the viewers of the image. A new kind of relation is offered, to plants as feelers: feeling and cognizing beings.

Photography and Plant Movement

In scientific work or nature documentaries, the behavior of plants is often 'captured' by time-lapse photography. A video might be composed of an image taken every minute of a runner bean plant moving up and around a cane, with the plant probing the space around it, or of a seed breaking its coat to thrust out the radicle, to start a root and then turn to jut out of the soil, thrusting the cotyledon (the two halves of the seed) upwards and producing the first leaf. Our understanding of plants as dynamic living entities making selections from possible behaviors has been expanded by the development of the medial forms of photography. Indeed, the camera is a primary piece of the experimental apparatus of contemporary, but also historical, biological concerns with plant intelligence and behavior.

In *Planta Sapiens* by the philosopher and biologist Paco Calvo, a chapter is

devoted to reflection on the means of thinking with the problem of plant perspectives.¹⁰ He discusses the ingenious pre-photographic means of drawing an image of plant movement used by Charles and Francis Darwin in their study of plants, and also talks about his own use of techniques such as pinhole cameras, a device with unlimited depth of field.¹¹ In other work, he has used a stereo-vision system with one camera above a plant, another lateral to it to capture the three-dimensional movement.¹² Or he used a combination of cameras above and to the side of a plant.¹³ This work sits amongst a larger field of research using photography and computer vision techniques to elicit more detailed information on plant movement than can be easily perceived by the unequipped eye.¹⁴ Here, the mediation of the cameras—their resolution, the rate at which they take images, the use of a Gaussian filter to smooth the data captured on the position of the plant tip—interacts with data drawn from the way the plant explores its situation.

The relationship of scientific knowledge of plants to photography is a long one, something explored through a media archaeological approach in Abelardo Gil-Fournier and Jussi Parikka's book *Living Surfaces* that maps the two-way conceptual exchange between vegetal and photographic surfaces, where one is conceived in terms of the other. Plants are understood as lively beings in relation to light, something akin to various kinds of photography's emergence through the play of light on surfaces. *Living Surfaces* maps cultural techniques in the late nineteenth and early twentieth century that measure light as a means of understanding the appetites and variations of plants. Further, the botanists concerned read "vegetal growth as an image,"¹⁵ with each kind of plant rising to meet the rays from the sun in its own way, something, in turn, discernible by photographic means. Our knowledge of plants is entwined with the predilections of the devices that record them, but plants were also seen as being a certain kind of expanded photograph themselves.¹⁶

The stakes of scientific photography are somewhat different from those adopted by Miler. These are several according to the task. Some approaches to the formation of scientific images attempt a complementary kind of humbleness to that assayed by Miler. One aim can be to create conditions in which the plant's movement can be graphed, registered against as neutral a background as possible. In another kind of work, the plant is relocated from an ecological multi-dimensional relationship to the world into one in which one variable of that world is under scrutiny. Alternately, a device is devised to pick out one such variable, or in combination with other devices to capture the interplay of more, whilst the plant remains in its state 'as found.' Properties that arise relationally in the environment are analyzed using properties that emerge through the manipulation of more or less predictable, more or less constant, variation. These properties arise in relation to other patterns of emergent relation taking variant compositional form in media ecologies.¹⁷ In turn, the elements of behavior and intelligence that are sought to be understood may rarely be learned directly, but instead through interpretative

work on several layers of interactions.

One variable that is produced differently in each of these sets of emergent conditions is time. The times of the camera, of grass, of an action, of lives, of the inter-referentiality of art in relation to the ongoing formation of time. Each of these, or processes within them, embodies one or more relation to time and timings. Selecting a moment in their inter-relation is part of what forms the work.

Time

In the photograph, we encounter Miler as a young man, lying down, he is seemingly engrossed in an ephemeral gesture, made for the plant that itself stands for ephemerality.¹⁸ A plant exists in the dimension of time as much as in the three seemingly fixed dimensions of space. Time, itself produced in the flows of energy/matter described as thermodynamics in work initiated by Boltzmann, is inhabited, produced and mediated, locally reworked, by different organs (such as roots, leaves, flowers and so on) or systems (such as those of transpiration or of the circulation of coordination information from auxins and other hormones) in plants that interact to produce its living substance.¹⁹

Plants rework multiple temporalities and their inter-relation in arriving at themselves. In doing so they produce time. What is spring without the opening bud or the shoot? What is autumn without harvests and then falling leaves? In far longer terms, the oxygenation event in the early phases of the evolution of life on earth is ascribed to the genesis of early plants and their flooding of the atmosphere with oxygen, a curious revenge for which, by loading the atmosphere with carbon dioxide and methane in climate damage, has been a long time coming.

At more micro-levels, different processes, varied across species, negotiate and entail different forms of time and timing. Time as different for plants is one sustained trope in discussions of plant behavior and intelligence.²⁰ Because most plants have roots, tethering them to a location, they are constrained to inhabit time and space differently to animals, for instance, by maximizing their different surfaces, of leaves or roots, but also by the invention of 'long-distance relationships' that may involve air, pollinators, the growth of multiple organs of reproduction, and varying kinds of dissemination. Seed banks, accumulations of seeds in soil, for instance, present means of negotiating time in different ecological conditions.²¹ As Stella Sandford argues, the imaginary of plants as sexuate relies on interpretative differentiations in formation but also on the way the transformations of the plant and ideas about it are handled through time.²²

Equally, photography does something to time. To see Miler's image today, is to

know that the situation depicted has changed. We know that the artist is not still there as the image is disseminated across decades, but photography threads uncanny links across time. Plants too are composed in part by their inhabitation of different temporalities. It is difficult to tell from the resolution of the photograph what time of year the photograph was taken. The natural cycles of the seasons play their part in the composition, yet the grass is addressed by a member of an industrial society, one of linear production, whose artists were often sensitive to the formation of consumerism, of a waste in which no accounting was made for a future. There are different temporalities in tension with each other held in humble but tangential togetherness between the human and the plants in the picture, a being together in time, at least for a moment, but also being woven into different temporalities and modes of life.

When discussing the movement and changing growth patterns of certain mosses according to their interaction with imperatives for reproduction and the affordances of their location, Robin Wall Kimmerer talks of a "landscape of chance" inhabited and produced by these organisms.²³ This landscape is produced by the interplay of organisms, their patterns of growth and spreading, the opportunities produced when, for example, a tree falls, changing the levels of light reaching a patch of ground, and providing a new growth surface. Each species in a habitat responds to such an event differently according to its structure, but also in relation to the chance opportunity presented to it. For one species, a fallen tree may encourage fungi which texture the wood in a way that encourages its growth. For another, the deadfall may prompt the passage of chipmunks, whose fur picks up and carries brood branches from the moss. Time is undergone and reworked as a condition of luck and of the variation of possibilities by the formation of different temporalities and their intersection with those of others (here, those of fungi or chipmunks and their own tangles of involvements). The reproductive arrangements of plants address their embeddedness in temporal formations at the level of the organism and the ecology of which it is part. Seasons and their fluxes of heat or cold play a role in processes such as vernalization, where a period of cold followed by one of warmth is necessary for the germination of some seeds. And these temporalities are multiple: Chronobiology is a field that studies the incorporation of time and timings across biological systems, its attention helps in the discernment of subtle and interwoven chronological formations at different scales of the organism and their ecologies.²⁴

One appalling but fascinating phenomenon in relation to plants' inhabitation of kinds of time is that the absence of predators or pollinators due to the abusive use of pesticides and the predominance of monocultural farming has created a gap that the morphological capacities of some plants answer with a change in shape, to attract different pollinators than those with which they had co-evolved.²⁵ Others answer it with extinction. Here, time becomes fused with history, where the state of nature is no longer natural.

Plant Sensing and Experience

The 'target' of Miler's action is the sensory world of the plant, so what is it? Further, how might a plant be said to experience his performance? Since the time of his performance, there has been renewed scientific interest in plants as active and intelligent inhabitants and shapers of ecologies.²⁶ The late nineteenth and early twentieth centuries saw a surge in such work, and after a long-time in the scientific doldrums, it has been emphatically renewed by scientists, such as František Baluška, Paco Calvo, Monica Gagliano, Stefan Mancuso, Anthony Trewavas, and others.²⁷ This work is accompanied, at a certain amount of disciplinary distance, by the philosophical explorations of writers, such as Emmanuel Coccia and Michael Marder, who elaborate discussions of philosophical concern inspired by forms of vegetal life, and in the wider thinking of ecology via the work of Erich Hoerl and others.²⁸ A further line of enquiry links researchers, such as Forensic Architecture, Jennifer Gabrys, Susan Schuppli, Paulo Tavares, and others working on social and political questions through aesthetic enquiry into the way plants react to and carry traces of evidence of pollution or violence.²⁹ Plants act as witnesses to such events in the way that their leaves or limbs may carry direct forensic traces, react to changes in the environment by different patterns of growth or water storage, and act as agents in response to changes by regrowth or the opportunistic growth of new species. Further work, in decolonial thought, such as that of Françoise Vergès and Malcolm Ferdinand, assays the way in which ecologies have been and continue to be the very grounds of colonialism.³⁰ Decolonial theory, such as that of Dénètem Touam Bona, and indigenous reasonings, sometimes translated and reworked via anthropology as with Eduardo Kohn and Eduardo Vivieros de Castro, but also developed in the botanical work of Robin Wall Kimmerer, trace differential understandings of being amidst plants and wider contexts.³¹ Here, different ontological figurations often come into play and the status of plants as participants in the world, as ancestors or as exemplary beings are developed. These participants create refractive opportunities for imagining and enacting other ways of life.

The present time contains many examples of insistence on the possible simplification of the world. This is especially the case when there is the alluring chance of doing so with brutality and in the face of overwhelming evidence to the contrary. At the same time, there are countervailing attempts at recalibration, at finding wider filiations of alliance and attunement, of finding new modalities of solidarity amongst forms of life. The revaluation of plants and ecologies, the recognition of ourselves amidst them in multiple ways, is in some respects part of this second tendency. There are other logics to the present than the spasms and fulminations that are most readily recorded.

To this end, this article draws inspiration from aspects of these currents to focus on how ephemeral contact with the scientific work on plant behavior and intelligence may help us read Miler's *Felt by Fresh Grass*, and what a conjoint

imaginary of these fields might yield in terms of an expanded aesthetics. Such an approach is, of course, overdoing it: Miler's gesture is minimal, humble, one that is concrete and simple. But there are pointers that this simplicity is also complex.

There is a tangle of complementarities between plant sensing understood through the observation of behavior and sensing mechanisms understood via anatomy and chemistry, but there are also points of cross-over between these. Behavior is understood as a response to an environmental condition indicated via signals. Plants respond to such signals at various scales, from the molecular level to that of their overall shape. Anthony Trewavas surveys the literature to show that, overall, plants can sense up to 22 different biotic and abiotic vectors.³² Different plants, which are self-evidently highly varied in structure, develop different sets of senses due to evolutionary need and opportunity. They sense and interact with external forces, such as temperature, gravity, circadian cycles, nutrient and water availability, or the presence of damaging chemicals or obstacles. They move towards or away from different levels of light and make selective choices about where to move or grow roots, tendrils, branches, leaves, and other parts. Plants may also sense predation, such as grazing by animals, insects, or the actions of other plants that attempt to feed on them, through direct recognition of physical damage or through sound, which they may feel through roots, stems, or leaves, and react by moving, changing patterns of growth, or releasing chemical signals to other plants.³³

Plants interact with obstacles or opportunities in their environment by, for instance, differential cell growth at different points in a stem, producing curves and coils. More momentarily, they may achieve movement by changing the turgidity levels of cells, bending, or seeming to 'wilt' away from a difficulty, such as a grazing animal. They make such actions at several scales, at cellular levels, in terms of internal coordination in and between different systems, and in relation to their wider ecological context, of the environment and other organisms.³⁴ Intelligence does not need to be routed through a brain but can take place through numerous kinds of body structure. Indeed, there is a profound sense that the formation of bodies is a sensual and aesthetic activity, and one in which the evolutionary fitness landscape is in part formed by aesthetic capacities.

The Feelings of Fresh Grass

What kind of feeling might Miler's action have evoked? It is likely, if the patch of land is in a partially natural state, that the community of grasses will be of several different types. Each will respond slightly differently to his action. The settling of his body on the grass would have had immediate effects in terms of the removal or limitation of access to sunlight and the imposition of physical

pressure. A few minutes of such a change would have done little to prompt a physiological reaction.

Beyond the immediate responses, however, the grasses feeling Miler will also be making an estimation of the new situation. It is not yet known whether grasses have a sense of the absurd, but the question of play, or the probing of a condition for the probabilities it entails, is something that has long been attributed to plants more generally. In the last two letters of *The Aesthetic Education of Man*, Friedrich Schiller argues that something akin to "play" can be found whenever there is an abundance of resources: Animals play when they have excess energy and there is no threat; plants send out more shoots than necessary when they are adequately nourished, squandering energy, in "the carefree disposal of life in joyful motion."³⁵ Indeed, such play, as Schiller calls it, can be found not only during abundance, but also during times of depletion, when a move towards the unexpected might be the best available option (as in the case of old fruit trees that often produce vast amounts in their last seasons). Circumnutation, the 'nodding' movement by which a plant navigates its spaces of potential growth, might also be seen in this way. For Georges Bataille, such exuberance in relation to energy is part of his proposition for a general economy, of the movement of energy and forms of life, but also connects to his ongoing interests in the understanding of the erotic and the sacred, broadly conceived as forms of immediate communion.³⁶ The question of the sumptuary runs through life, as a politics, and in the wider formations of lusciousness. It is in its many kinds of movement, nodding and spiraling, tracking and anticipating light, foraging for nutrients, evaluating conditions, and others, that a plant takes part. But this is not simply a question of conditions that pertain only when there is a surplus, as Schiller implies, but of a more general condition across life more fully. Here, the capacity to sense is that of a being wedged into the world in a perspectival formation in amongst time transmuted into history and in the symphony and cacophony of ecological individuation and becoming. Dénètem Touam Bona argues that poetry and dance are essential to life, but that certain dances also entail preparation for blows.³⁷ Being alive entails the imperative to explore, but also to abstract, formed in the probing of conditions and in learning from them.

This abstraction is thickly ecological, material, formed in the mediation from one organ or sensing system of the plant to another through, for instance, hormones, or structured by the architecture of plant systems. The dimension of time in relation to resource expenditure is one way in which this formation is contoured by various interacting variables, chance, energy, plant structure, momentary or longer-term affordances, and the way in which these are sensed by a plant in a way in which it may have the capacity to respond and regulate the movement or other change necessitated by the condition.³⁸ Each of these dimensions involves the navigation of the interplay of virtuals in which the plant is addressing the landscape of chance, but also the deeper forces that compose what rolls out as chance.

Miler's body changes several factors for the grass. In tune with the work, these effects are simple. We can note that he distributes his weight evenly, not even standing, and not, for contrast, by wearing down the grass by repeated walking as another noted artist of the era was doing.³⁹ The lowering of his body onto the feelers of grass changes the levels of light that they are receiving, momentarily affecting the transpiration process and slowing the action of the plant. They receive the pressure of the weight of his body which they accommodate by the bending of stems and the folding of leaves. It may be that the plant begins to anticipate further pressure, becoming habituated to the presence of the body that it feels. A momentary change to temperature can perhaps be anticipated, but one not produced in tandem with sunlight, placing the plants in an unusual situation. Finally, the nose and mouth of the artist are releasing small amounts of carbon dioxide in slightly greater concentrations than would be found in the open air.

An Expanded Aesthetics

To lie down on a patch of grass as the feelers of the work is to address reception by an entirely different field of processes, of sensual responses that are unencoded in your experience or organism, yet which may, as in the notions of movement and the inhabitation and formation of time, also entail abstractions that cross between organisms. We can imagine, to take two popular recent themes in cultural theory, Jacques Rancière's notion of aesthetics as the *partage du sensible*,⁴⁰ translated as the distribution of the sensible, but also implying the apportioning or dividing of the sensible, being combined with the notion of the more-than-human proposed by David Abram.⁴¹ This would be an aesthetics spread across—and differentially arranged between—the gamut of participants in a conjunction of *Umwelten* (*Umwelt* being a term for the way in which each organism perceives the world).⁴² At the same time, the work brings together another layer, that of the processes of trying to understand the sensory world of the plant, that is, the variable modes of scientific understanding of plant behavior and intelligence. This is something outside the direct scope of Miler's action but that conditions how, via its photographic recording, it can be understood in the present. There is one process at work that is doubled by another: Miler's action, the record of it made by the camera, and the systems of circulation entailed by the photograph, is the first; the sensory world of the plants, and the means by which we may know them, entail a second multiple layer running through the 'feeling' of the first.

Equally, there is the physical process of living side by side, even for a moment, of the grass and the artist entailed by the simplicity of the gesture. This in itself has a matter of fact unity and completeness to it. Everything in the image is figuring out a relation to everything else, even if obliquely or at multiply layered removes. Everything is, in its own ways, sensing everything else. The work,

both in photographic time and as the action depicted, exists as a whole; it creates its own territory.⁴³ Equally, it is also a proposition of a particular moment or of a wider ecology as a community of incommensurables who are nevertheless inherently mutually implicated. An unlikely community no doubt, but one that is happening.

This formulation is amplified by the iteration of the work through some of the recent scientific literature on plant behavior and intelligence. Miler's work combines a wholeness of the image and of the moment it records: a momentary continuity of grass and artist via a reversal of the routine of subject-object relations in which grass becomes the feeler. At the same time, related to its similarity to a koan, it maps a paradoxical incommensurability between the participants in the event. The grass feels, but it does so in a way that is alien to the commonly assumed feelers of art. This quality is reiterated through the formation of plants as collective organisms. The biological research referred to above examines how wholes, such as organisms, emerge from the interaction of parts that themselves have their own sensorial and ecological modes of formation. By placing himself amidst such a process, Miler gently invites us to think both grass and human at the same time, and to multiply that condition by thinking through camera, time and the passage of moments and sensations in the movement between ecological multiplicities and actions that produce subtle but tangential filiations.

Please cite as follows: Mathew Fuller: "Days Are as Grass. On Karel Miler's 'Felt by Fresh Grass,' Plant Intelligence and Expanded Aesthetics." In: INSERT. Artistic Practices as Cultural Inquiries, Issue 7, Plant Intelligence – Towards a Vegetal Aesthetics, 2025, URL: <https://insert.art/ausgaben/plant-intelligence/days-are-as-grass/>, DOI: <https://doi.org/10.5281/zenodo.15768436>. This contribution is licensed under the CC-BY-NC-ND License 4.0 International (Creative Commons, Attribution, Non Commercial, No Derivatives). The reuse of material from other sources may require further authorizations for use by the respective copyright holders.

NOTES

- 1 An image of this performance can be found on: <https://www.memoryofnations.eu/en/miler-karel-1940/> (accessed: 01/15/2025)
- 2 Images of these performances can be found on: <https://artlist.cz/en/dila/either-or/> (accessed: 01/15/2025)
- 3 In some collaborative (with Jan Mlčoch and Petr Štembera) and solo performances, the audience is human as well as photographic. See documentation in Pys 2023, pp. 190–191.
- 4 See for context Kemp-Welch 2018.
- 5 In curatorial texts (such as the ones accompanying the websites in footnotes 1 and 2), Miler is often said to be interested in Zen. The Zen scholar Hori mentions an apposite koan, "Look at the flower and the flower also looks." Hori 2000, p. 289.
- 6 See Epstein 2015.
- 7 See Groys 2014.
- 8 See Irwin 2006.
- 9 Cf. Fuller 2009.
- 10 See Calvo/Lawrence 2022, pp. 43–64.
- 11 See Darwin/Darwin 1880.
- 12 See Ruiz-Melero/Ponkshe/Calvo/García-Mateos 2024.
- 13 See Calvo/Raja/Lee 2017.
- 14 Indeed, the availability of easy-to-use commodity computing, such as tablets with cameras, and time-lapse apps, such as *Lapse It*, have encouraged such work. The methods sections of articles from such research often show plant science as a media practice. See, e.g., Zhao/Brenner 2021.
- 15 See Gil-Fournier/Parikka 2024, p. 64.

- 16 A theme also taken up by Howard Caygill in his article on the work of Harold Wager: Caygill 2021, pp. 505–519. See for a wider material discussion of photography and its histories the special issue of *Photographies*, "Light sensitive material. An introduction," edited by Michelle Henning and Junko Theresa Mikuriya: Henning/Mikuriya 2021, pp. 381–394. For a remarkable survey of vision in plants bacteria and algae, see Yamashita/Baluška 2022.
- 17 See Guattari 2014, Blom 2016, Fuller 2007.
- 18 Psalm 105, v. 15. King James Bible, "As for man, his days are as grass: as a flower of the field, so he flourisheth."
- 19 See Prigogine 1980.
- 20 See Halle 2002.
- 21 See Boschen 2022, Saxby 2024.
- 22 See Sandford 2022.
- 23 Cf. Kimmerer 2003, pp. 82–90.
- 24 See Fuller 2018.
- 25 Cf. De Jong 2011, pp. 28–43.
- 26 See Fuller/Goriunova 2019.
- 27 See Calvo/Lawrence 2022, Mancuso 2018, Mancuso/Viola 2015, Trewavas 2008, Witzany/Baluška/Gagliano 2018.
- 28 See Coccia 2018, Marder 2013, Hoerl/Burton 2017. For an anthology making some interdisciplinary connections, see Gagliano/Ryan/Viera 2017.
- 29 See Badano/Percival/Schuppli 2023, Forensic Architecture 2024, Fuller/Weizman 2021, Gabrys 2016, Molavi 2024, Schuppli 2020, Tavares 2017, pp. 20–35, Weizman 2017.
- 30 See Vergès 2017, Ferdinand 2022.
- 31 See Touam Bona 2023, in particular the brilliant chapter "Lianas Dreaming," Viveiros de Castro 1998, pp. 469–88, Kimmerer 2003, Kohn 2013.
- 32 See Trewavas 2008.
- 33 See Wasternack/Hause 2013.
- 34 See Reber/Baluška/Miller 2023.
- 35 Cf. Schiller 2016, pp. 106–107.
- 36 See Bataille 1993, Bataille 1991, Bataille 1986.
- 37 See Touam Bona 2023.
- 38 See Calvo/Raja/Lee 2013.
- 39 See Richard Long, *A Line Made by Walking*, 1967.
- 40 See Rancière 2000.
- 41 See Rancière 2006, Abram 1996.
- 42 See Uexküll 2010.
- 43 See Deleuze/Guattari 1988.

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CREDITS

Fig. 1: © Karel Miler, courtesy of the artist

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