# Vincent Zonca

Translated by Jody Gladding

## Lichens

# Lichens Toward a Minimal Resistance

## Vincent Zonca

Translated by Jody Gladding Preface by Emanuele Coccia

polity

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## **Symbiosis**

"Back to nature, then! That means we must add to the exclusively social contract a natural contract of symbiosis and reciprocity in which our relationship to things would set aside mastery and possession in favor of admiring attention, reciprocity, contemplation, and respect. [...] Rights of symbiosis are defined by reciprocity: however much nature gives man, man must give that much back to nature. [...]"

> Michel Serres The Natural Contract

Arthur Bus

"Like a runaway horse, [the mind] takes a hundred times more trouble for itself [...] and gives birth to so many chimeras and fantastic monsters, one after another [...]"

Michel de Montaigne "On Idleness" Essais (1571)

"In our moments of confusion often I feel the need to contemplate a lichen. Bring me a mountain and I'll show you what I mean."

Hans Magnus Enzensberger "Braille" (1964)

## Illustrations

This table lists the black-and-white illustrations in the text, called "figures," followed by their corresponding numbers. The color illustrations in the plate section are called "illustrations," followed by their corresponding numbers.

Figures 5 and 12 come from an art project presented by Nathalie Ravier in 2014 at the School of Art and Design in Orleans. Figures 13–16 and illustrations 15 and 16 are microscopy photographs made in 2017 and 2018 by Pascale Gadon-González in collaboration with the scientific imagery platform of the Center for Applied Electronic Microscopy in Biology at the University of Toulouse III – Paul Sabatier (CMEAB).

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## Preface Beyond Species

From the beginning, life has seemed to us to be divided into incompatible forms: the dandelion (*Taraxacum ruderalia*) has nothing in common with the squirrel (*Sciurus vulgaris*); the butterfly (*Morpho menelaus didius*) can't be compared to a cork oak (*Quercus robur*). Life immediately appears multiple, dispersed into incompatible and irreconcilable forms. The diversity of species and forms is both obvious and threatening: no sooner is it established than it seems to show both diachronic instability (evolution) and synchronic instability (the struggle between species and competition, ecological disasters).

Yet this multiplicity that divides life in a formal and ontological way is not all that obvious after all. The division of life is always problematic. Plato was the first to understand this, as in one of his best-known myths. In Protagoras (320d-322c), he tells how the immortal gods wanted to create forms of mortal life and charged two giants, Prometheus and Epimetheus (literally: the one who thinks of things first and the one who thinks of them later) with the task of granting each species appropriate powers. Epimetheus asked to be allowed to do the distributing, giving some creatures "strength without speed," and others speed with less strength; some were armed with weapons, while others were able to hide, being small, or to protect themselves because of their large size. In the distribution of attributes, Epimetheus sought balance and made extinction impossible for any species. He gave them fur to withstand the cold, hoofs, and tough skin. He appointed different sorts of foods for different species, and arranged an order by which one could eat another, establishing procreative rates accordingly. But he had forgotten one species,

#### Preface

humankind: "All the animal species were well off for everything, but man was naked, unshod, and defenseless." So Prometheus stole from Hephaestus and Athena their technical skill, as well as fire (which allowed for the use of this skill), and he gave these to man.

Plato adds three notes to this myth. First, the wisdom of Athena and Hephaestus did not include politics. It was Zeus who later gave this knowledge to men, with Hermes as intermediary, and it was only then that humans were able to make war with other species, "because the art of war is part of the art of politics." The gift of technical skill also established human kinship with the gods. That's why only the human species makes altars and images of the deities. And finally, thanks to this skill, humanity was able to "discover articulate speech and names, and invent houses and clothes and shoes and bedding and get food from the earth." Language is only a consequence of this wisdom and not its foundation. In other words, technical skill precedes reason and is its basis, the condition of the possibility.

The first point to emphasize in this myth is that the war among the species originates in an unjust division. Or rather, what we call biodiversity, the plurality of species, is itself a form of injustice. It is a matter of a division carried out by an imprudent and incapable deity (Epitheus) who unequally distributes the characteristic powers of each species. Already there is something extremely radical in this act: species are not characterized according to what they are but according to what they have; any identity is not inherent nature but arbitrary gift. The division of the species is intrinsically arbitrary, resulting from a political form of distribution of what, by nature, belongs to no one. In addition, this division produces a sort of non-species, a sort of proletariat of living beings. For all species, identity is defined by the possession of powers. But humanity, on the contrary, is without possessions, without powers. It is this resentment that defines the war. On the other hand, this resentment prompts a sort of Bovaryism: the desire to be like other species.

Faced with the injustice caused by one god, the myth continues, another god tries to compensate. But his solution produces another, double, injustice: the non-species, the most proletarian of species, receives through theft a quality that belongs only to the divine – the possessors of qualities that other species received in usufruct. This additional gift – skill and fire, considered together as the power that allows materials and reality to be manipulated – permits humanity to establish itself in a relationship of hierarchical superiority. The act that was supposed to correct the inherent injustice in the division of powers produces another, even more radical, injustice.

Plato's myth describes the multiplicity of species as inherently arbitrary: a distribution carried out by a minor god, following criteria not the least bit rational, and with a kind of thoughtlessness or disregard (one of the possible translations for the name *Epimetheus*). But, precisely because it is arbitrary and profoundly unjust, and is then followed by a second injustice - which religion and then politics sanction - this division calls for its own suspension. What is called into question is not so much, or at least not only, human nature, but rather the nature of all species. In opposition to the acquiescence that biology, politics, various theologies, but also and especially ecology has shown in the face of the supposed obviousness of the ontological separation of all species, we must offer less conciliatory discourse. The existence of species is not an ontological fact, it's a practical one. That's why the question of taxonomy - the order that separates one species from another, that defines the reciprocal positions of different living species within the tree, or rather the network, of life - as it's appropriate to speak of it now, following the discovery of horizontal genetic transfer, must become a purely political and no longer a genealogical question.

From this perspective, lichens are players in a new politics of the living: as opposed to the ontological subdivisions of life, they define identity through association, not division. They struggle – throughout their lives – to overcome the division of species. The Preface

life that traverses all is always one and the same. That is the only way it becomes possible to commune with beings so far removed in terms of taxonomy and genealogy.

It is this kind of biological communism that Vincent Zonca's book affirms by locating lichens – "living beings situated on the margins, in resistance" – at the very core of the thinking about a new biology. These beings, often described as "leprous," "pustular," "tubercled," which are neither plants nor animals, nor singular, require us to rethink the rules regarding the distribution of identities. They also require us to consider any species as a contingency, which the existence of any individual being – and the encounters to which it gives rise – is destined to go beyond. Life belongs to all the species, and the powers that define each of them must be held in common.

Emanuele Coccia

## Part 1 FIRST CONTACTS

"The botanist's magnifying glass is youth recaptured." Gaston Bachelard, *The Poetics of Space*, 1957

#### Origins

From the very beginning there was this fascination for strange, unusual words with mysterious meanings and barbaric sounds. Lichen. But also: tundra, wrack, cercus, elytron, dolmen, maelstrom, inlandsis, fjord, permafrost, ubac, adret, axolotl, cortex, pollen. An abecedary of nature, its music marked by the etymology of origins: Greek, Latin, or borrowed from other languages. Those words that, as soon as they are pronounced, create a kind of air current, a moment of suspension. Silex, granite, mitochondria, sphagnum, vraic: lichen. The hardness of the central "ch," the strangeness of the final "en."

Victor Hugo is one of the rare francophone poets to have dared elevate lichen to the rank of verse. He rhymed it with a fabled monster of Norwegian origin: the "kraken."<sup>1</sup>

It was also a kind of fascination with what is neglected, rejected, denigrated. Adolescence of the accursed poet and lichen, of wild grasses and garden sheds, wandering in search of what lay forgotten off the beaten paths, far from what everyone could see, in search of a territory, a "no man's land." Arborescence of the accursed poet who was trying to construct himself by cutting through fields, gleaning, endlessly branching into a sinuous and ever uncertain verticality.

I made lists of everything, lists of word scraps, backbones for supporting an encyclopedic and solitary imagination as I sought refuge in difference, rarity, the unknown. I investigated the most mysterious pharaohs and dinosaurs. I examined the most repulsive insects, the grubbiest worms; I dissected the blisters on trees in search of inner parasites.

Lichen belonged to the imaginary world of my childhood and adolescence. It inhabited the north faces of the deep forests of my native Burgundy and my lonely dreams. It became conspicuous during those winters that lasted forever, swallowing autumn and stretching into spring, when it was the last visible sign on the bark of the Austrian black pines, in a melancholy landscape of gray and fog, the trees displaying only "their agony of strings," no more leaves or colors – skeletal calligraphy reduced to the elemental.

#### Winters

If there is a season particularly favorable to lichens, it is truly winter. "Supple physiology allows lichen to shine with life when most other creatures are locked down for winter," writes David George Haskell.<sup>2</sup> While many trees lose their leaves and most of the higher forms of plants disappear, they burst forth in all their colors and extravagant forms. Lichens are the "leaves of winter," wrote Henry David Thoreau. A few pixels forgotten on a canvas.

This is the season that inspired the magnificent descriptions of lichens in Thoreau's *Journal* from the mid-nineteenth century and the northeastern US woodlands – or those of Marcel Proust, Francis Ponge, the haiku poets of Japan. For botanists, this is the fallback – or vexing – solution, for lack of anything better when there's nothing left to study. To the aptly named Malesherbes, Rousseau claimed that "winter has [...] its collections of plants that are specific to it, for learning the mosses and lichens." It is also the season when, during the botanical walks that they so loved, the artists George Sand and John Cage, in the respective company of the botanists Jules Néraud and Guy Nearing, temporarily abandoned plants and mushrooms to let lichens take them by surprise.

I stared at those balls of disheveled usnea found on a cherry tree in the family garden. They resembled nothing identifiable, lumps of grass or pale mops of hair so dried out they seemed almost mineral. What were they saying to me?

Lichen is what persists when almost all trace of life has disappeared, in the eternal winter of the poles and the high mountains as well. They become visible, appear, in adversity. Lichen: a critical force?

#### Weeds

Lichen is familiar to everyone, known to no one. You need only ask those around you: everyone sees, more or less, what the word designates; everyone has already set eyes on those aberrant patches on walls, those strange growths on tree bark. It falls into the order of the "infra-ordinary" to adopt Georges Perec's term; it is "what happens every day and what reappears every day, the banal, the quotidian, the obvious, the common, the ordinary, the background noise, the habitual."<sup>3</sup> But no one has lingered over it or is capable of saying anymore about it: language stops there.

In botanical gardens and parks, no signs ever point out lichens or explain them. A laughable, useless presence on walls, tree trunks, and rocks, even downright repulsive, calling up in the imagination a stain, a kind of eczema or leprosy, pruritus, the idea of an unhealthy, oozing excretion, a disheveled parasite sucking the lifeblood from its host. In 1743, the Chinese poet Qianlong wrote:

This ravenous parasite which, disdaining the earth whose sap it rejects, will go seeking above it a more abundant and better prepared food: countless filaments, which we might mistake for so many strands of gold, bind it indissolubly to the plants that it devours.<sup>4</sup>

At best it is confused with moss or tree bark in the forests, in cities, with guano on the walls or rubbery debris on our sidewalks.<sup>5</sup> It seems not to have its own identity or to be reduced to a matter of "secretion": it is *what comes out*, what the body rejects, what nature produces that degenerates and proliferates if we are not careful. Something neglected, a deviance.

In this period I was somehow absent from my body, refusing to support it in any way, to the point of letting this beard grow, like mold, like lichen, which would prove each day to be less and less my style.

Jean Rolin<sup>6</sup>

For the ancient Greek scholar Theophrastus, lichen grew from bark. For others, it is "cliff snot" (the Canadian poet Ken Babstock) or "excrement from earth" (*oussek-el-trab* or *ousseh-el-ard* in Arabic, most likely naming the lichen *Leconora esculenta* with its suggestive brown curves). In natural history, (de)classified first among plants labeled "inferior," it was long treated with disdain and discredited. For Albert the Great, Dominican friar and thirteenth-century philosopher, lichen, located at the bottom of the "vegetable" hierarchy, was the product of putrefaction.

Few bother to worry about the loss of this invisible companion. Because of its size and appearance, it does not have the same charisma as seals, tigers, or orchids. It is part of what, for decades, the scientific community has called "neglected biodiversity." This

#### Weeds

expression was coined and democratized following marine and terrestrial expeditions by the French National Museum of Natural History in Paris.<sup>7</sup> It points to the fact that a large part of the natural world, which is least well known to the general population, of least interest to the media, and often least studied by the scientific community, is also the part richest in still undiscovered species. It is estimated to represent no less than eighty percent of living species: insects, planktons, mushrooms, lichens, and so on.

In 2016, Emanuele Coccia rebelled against a veritable "metaphysical snobbery," by which the living world and plants in particular had been forgotten by philosophy (at least recently) and condemned to "vegetate."<sup>8</sup> It is possible to be interested in ornamental plants (because of the wholly relative power of beauty) and those considered "useful" (the ones that have nutritional or medicinal "properties"). One might also notice those labeled "superior," higher, to better distinguish them from "inferior" plants, lacking flowers, without lures, subterranean, and lowest on the scale of values: "weeds" and "wild grasses." Hence the dubious honorary chair granted to Jean-Baptiste de Lamarck in 1790, as a snub at the end of that great naturalist's unappreciated career, when he was named the Jardin du Roi's Professor of Natural History of Insects and Worms.

Faceless, mineral and inert in appearance, lichen poses a moral and political problem: it inspires no spontaneous empathy. Like other "lower" beings, it has a hard time accommodating anthropomorphism. Unsurprisingly, scientific studies show that the species for which we feel the most empathy are those closest to us from an evolutionary perspective – and with regard to their appearance.<sup>9</sup> For Emmanuel Levinas, it is through the face and body of the other – "otherwise than being" – that a sense of ethics develops, that it's possible for us to take measure of our humanity.<sup>10</sup> Lichens, insects, planktons: so many organisms that offer nothing to hold our gaze, no spontaneous reflection; so many living beings that we can't "look in the face" to question ourselves (even though the naturalist lexicon for describing them, as is so often the case,

#### First Contacts

relies on metaphors drawn from the human body; see below, p. 10). Sylvain Tesson writes:

To love is to recognize the value of what one will never be able to know. And not to celebrate one's own reflection in the face of a similar being. To love a Papuan, a child, or a neighbor – nothing could be easier. But a sponge! Lichen! One of those little plants roughed up by the wind! That is truly difficult.<sup>11</sup>

A sense of ethics based on anthropomorphic identification can be a start but cannot be the only vantage point from which to act. And the very species least known to us count among those most in danger. This problem of identification is a real challenge on the level of political action. How to engender an active awareness of the environment without easy recourse to empathy, without the emotional appeal of an imploring look or a heartbreaking cry? How to learn from this quiet, immobile life? Neglected biodiversity: poorly known and about to disappear? Must lichen be condemned to the scholarship of specialists or to our idealization of the marginal and compassion for antiheroes?

In Europe and in France, where I'm from and which is the point of departure for my obsession and my intended inquiry, how to explain this paradox of the familiarity and invisibility of lichen? It has no common function or market value. We do not eat it, use it, or sell it; thus we do not see it. An almost total eclipse, except in the eyes of a few initiates. The only books I've found that discuss it are specialized botanical manuals. Until the early twentieth century, these were written in Latin – carrying that distinction of language, knowledge, and power.

Lichenology has never descended to the level of the lay person for the simple reason that lichens are not, in our country, of any use, at least since medicine abandoned the doctrine of signatures.<sup>12</sup>

Democratic by its very nature – present and visible almost everywhere, even in cities – it is, at the same time, unpopular.

Someone who takes an interest in lichen, who takes the time and trouble to stop in front of a wall, to circle a tree trunk, to climb a roof, and to approach it close up, is thus seen as eccentric, enlightened, unnerving. Imagine: a passerby who stops in the middle of Paris to examine a vague spot, yellowish and scaly, on the far side of a plane tree! Or who suddenly starts scraping the stones of a historic monument – while the tourists have stepped back far enough to admire it or to take selfies with it! A lichenologist can spend an entire day with the same rock. This is the experience of alienation that the novelist and lichenologist Pierre Gascar recounts in the 1970s, while gathering lichen in the Jura countryside:

What, this scab, these kinds of aborted mushrooms? And probably poisonous to boot. No creature in the world dares touch it, and haven't you noticed how it makes the trees it grows on wither? Now the vague suspicion that my prowling ways seemed to have planted in these villagers' minds became clear. I would be accused of black magic.<sup>13</sup>

Lichen has long been considered a repulsive, parasitic, morbid organism, "the pallid gray of old stone," as Émile Zola wrote, unworthy of interest unless it had some use for industry or survival. For evidence, we can cite the long history of its definition and its classification, as well as the original double meaning of its name, which associates it with a skin disease.

Let us take a glance at Shakespeare:

ADRIANA [...] Come, I will fasten on this sleeve of thine:/ Thou art an elm, my husband, I a vine,/ Whose weakness married

#### First Contacts

to thy stronger state/ Makes me with thy strength to communicate./ If aught possess thee from me, it is dross,/ Usurping ivy, brier, or idle moss ["bearded lichen," "usnea"];/ Who all for want of pruning, with intrusion/ Infect thy sap and live on thy confusion.<sup>14</sup>

TAMORA Have I not reason, think you, to look pale?/ These two have ticed me hither to this place,/ A barren detested vale you see it is;/ The trees, though summer, yet forlorn and lean,/ Overcome with moss and baleful mistletoe./ Here never shines the sun; here nothing breeds, [...]<sup>15</sup>

In these two scenes, lichen is evoked in a negative way to describe characters or their surroundings. It is viewed as a parasite that maliciously kills the tree on which it lives.

From the beginning (and this is still the case today), in ancient Greek, the word "lichen" (*leiken*) designated by visual analogy both the organism (or the organisms resembling it) and dartre, a skin disease, "*feu volage*" ["fickle fire"] as it was once called in French, that leaves colored lesions and dry, scaly patches (see Ill. 1):

We gradually see the dermis become infiltrated by embryonic elements, thicken, and turn hard and rough; the papillae hypertrophy and sometimes even group in a way that simulates quite irregular and uneven papules. [...] Soon the skin presents a very singular aspect, characterized by the exaggeration of its natural folds, forming a sort of checkered pattern of more or less wide and regular weave. [...] This is the morbid process to which I give the name *lichenification*.<sup>16</sup>

The image described here by Doctor Louis Brocq is striking. It evokes the *thallus* of the lichen – that is, its exterior tissue that includes no leaf, stem, or root, and which is the *form* we see with the naked eye. We find this "vegetalized" image of the body again in another disease, canker, called "the tree disease."

#### Weeds

Portraits by naturalist writers have always struck me with their power and richness. Joris-Karl Huysmans and Zola cannot resist playing with the double meaning of "lichen" to describe the physical and moral decadence of their characters by "vegetalizing" them, by reifying them. These lines are particularly memorable:

The monk entered.

He was the most senior member of the monastery, even older than the Father Priest, because he was over eighty-two years old. *Thus, as on the forgotten stump of a very old tree*, lentils, lichens, and burrs were growing on his head.<sup>17</sup>

There was no end to the train of abominations, it appeared to grow longer and longer. No order was observed, ailments of all kinds were jumbled together; it seemed like the clearing of some inferno where monstrous maladies, the rare and awful cases which provoke a shudder, had been gathered together. [...] Well nigh vanished diseases reappeared; one old woman was affected with leprosy, another was covered with impetiginous lichen *like a tree which has rotted in the shade*.<sup>18</sup>

Conversely, scientific descriptions of lichens have continually used nosographic metaphors to characterize different genera. Lichen is very frequently called "leprous" (there is one family of *Lepraria* – the Latin word *lepra* was used by ancient Christian writers to designate sin and heresy, which attacked and damaged objects), or "pustular," "tubercled."

Patch of eczema, an itch the rock can't scratch though the wind's scouring pad of grit and sleet brings some relief.

from "Lichen" by Lorna Crozier19

Two motives for these metaphors: crustose and foliose species of lichens seem like so many dermatological manifestations on